

APPENDIX B

Pacific Ocean Shoreline, Dana Point HSA

Water Body Sampling Location: 1000 Steps Beach (S4)

This site is located at 1000 Steps Beach at Pacific Coast Highway and 9th Street. It is one of four sites within the Dana Point HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 1). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 1. A total of 2,521 analyses were performed from 1999 through 2006. Of these, there were 29 exceedances of the bacterial standards for all three indicators. There were 26 exceedances for enterococcus, two exceedances for total coliform and one exceedance for fecal coliform. The majority of exceedances at this site occurred from 1999 through the beginning of 2001. A total of 29 exceedances out of 2,521 samples was well below the number of exceedances allowed by the SWRCB guidance document based on the single sample criteria. In addition, there were no exceedances based on the rolling geometric mean and monthly geometric mean criteria.

Table 1. Summary of bacteriological data at 1000 Steps Beach (S4) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Dana Point (HSA)	1000 Steps Beach	S4	2,521	2,492	29	418	1.15
Rolling Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	1000 Steps Beach	S4	2,880	2,880	0	477	0.00
Monthly Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	1000 Steps Beach	S4	96	96	0	15	0.00

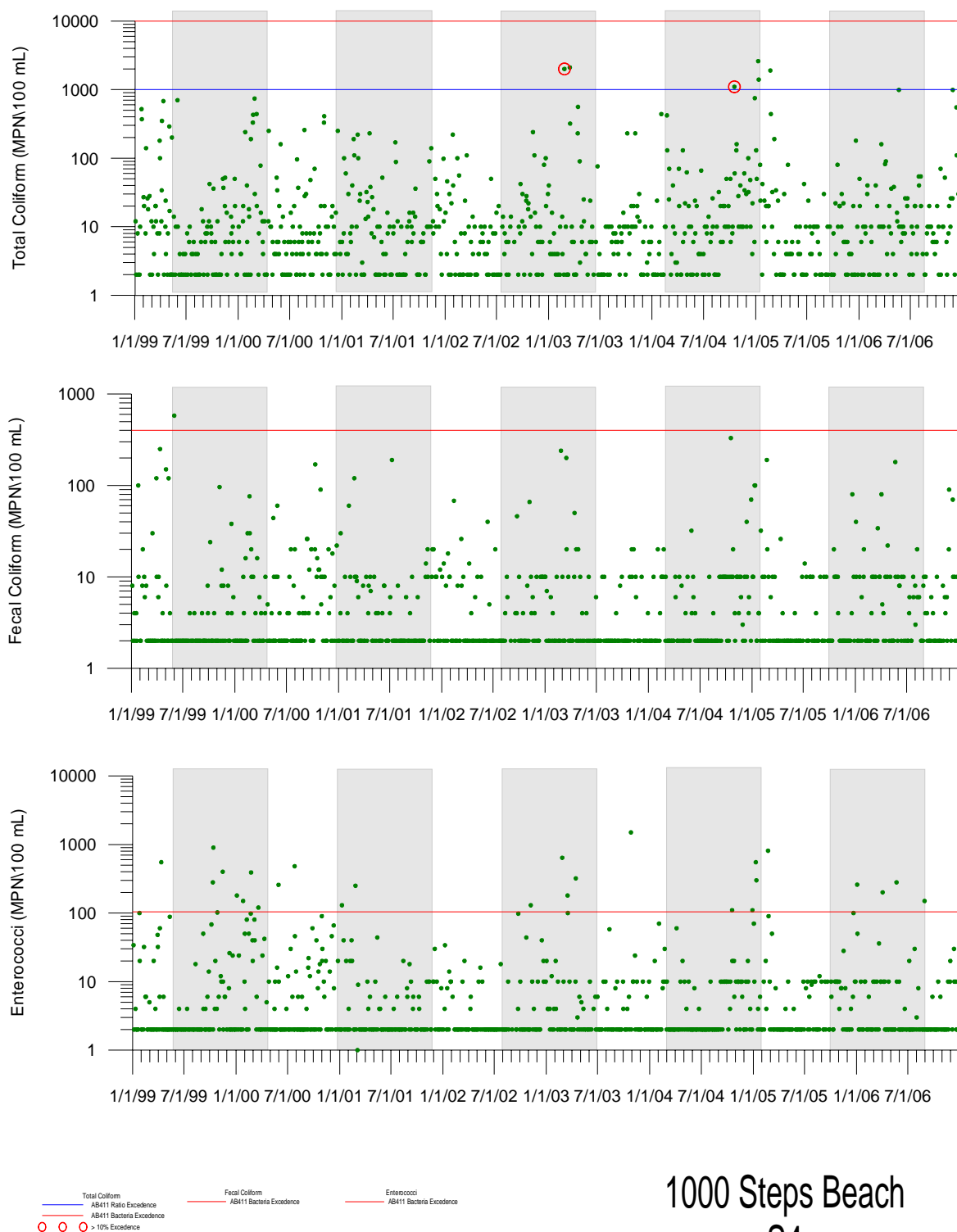


Figure 1. Summary of bacteriological water quality data collected from the 1000 Steps Beach monitoring site from January 1999 through 2006.

Water Body Sampling Location: Laguna Lido (S5)

This site is located at the southern end of Laguna Beach upcoast below Seacliff Dr. It is one of four sites within the Dana Point HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 2). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 2. A total of 2,517 analyses were performed from 1999 through 2006. Of these, there were 67 exceedances of the bacterial standards based on single sample criteria (the enterococci standard was exceeded 45 times, total coliform exceeded eight times, and the fecal coliform standard was exceeded 14 times). The majority of exceedances occurred from 1999 through the beginning of 2001. The total of 67 exceedances out of 2,517 analyses was well below the number of exceedances allowed by the SWRCB guidance document based on the single sample criteria. In addition, the percent exceedance values based on the rolling geometric mean and monthly geometric mean were also low (4.69% and 2.08%, respectively).

Table 2. Summary of bacteriological data at Laguna Lido (S5) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Dana Point (HSA)	Laguna Lido	S5	2,517	2,450	67	417	2.66
Rolling Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Laguna Lido	S5	2,880	2,745	135	477	4.69
Monthly Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Laguna Lido	S5	96	94	2	15	2.08

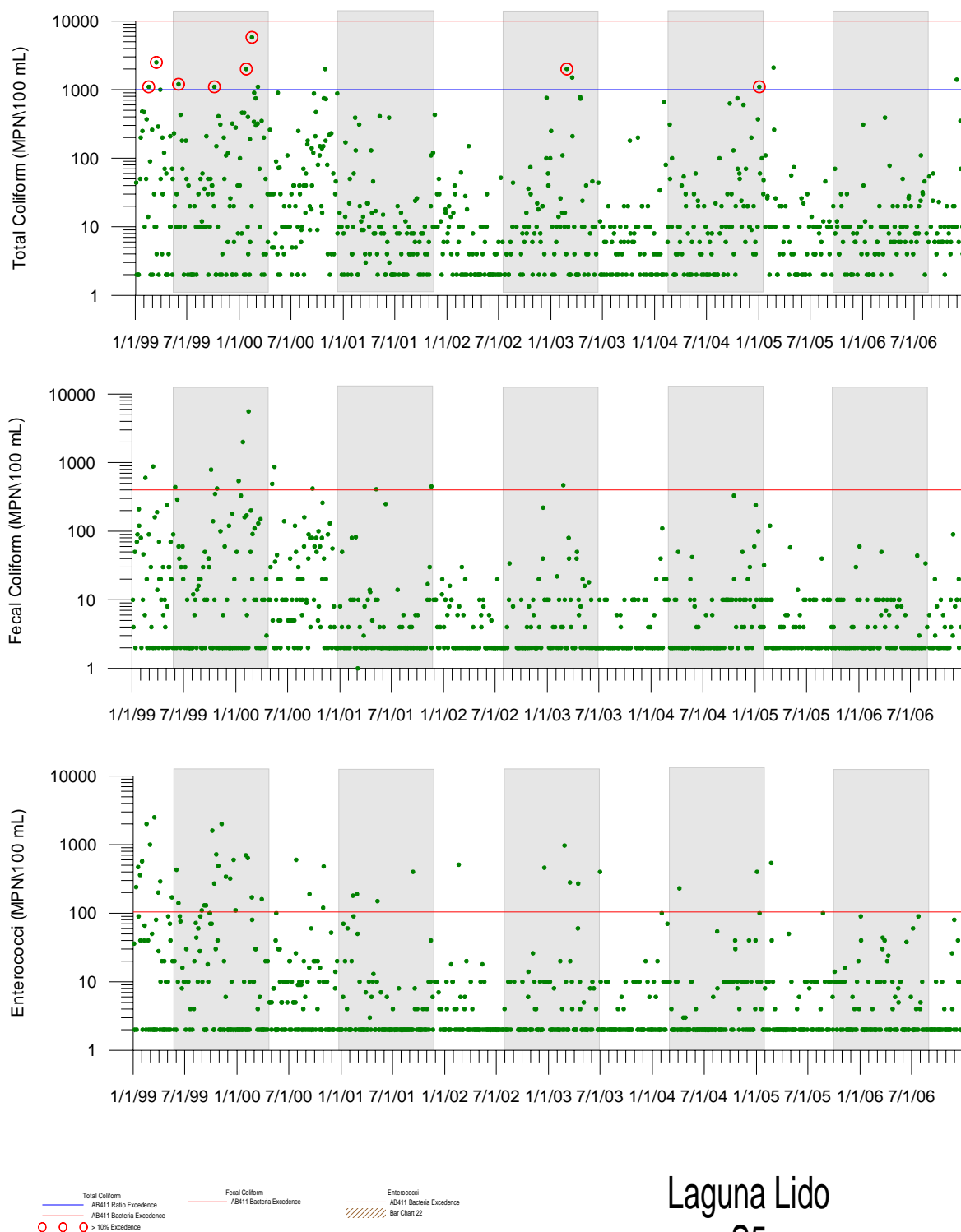


Figure 2. Summary of bacteriological water quality data collected from the Laguna Lido monitoring site from January 1999 through 2006.

Water Body Sampling Location: Table Rock (S6)

This site is located in South Laguna Beach at Table Rock Drive. It is one of four sites within the Dana Point HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 3). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 3. A total of 2,523 analyses were performed from 1999 through 2006. Of these, there were 29 exceedances of the bacterial standards for all three indicators. The majority of exceedances occurred for the enterococci criterion, which was exceeded 19 times. There were only seven exceedances for total coliform and one exceedance for fecal coliform during this period. The total of 29 exceedances out of 2,523 analyses was well below the number of exceedances allowed by the SWRCB guidance document based on the single sample criteria. In addition, the percent exceedance values for the rolling geometric mean and monthly mean values were also very low (0.76% and 1.04%, respectively).

Table 3. Summary of bacteriological data at Table Rock (S6) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Dana Point (HSA)	Table Rock	S6	2,523	2,494	29	418	1.15
Rolling Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Table Rock	S6	2,880	2,858	22	477	0.76
Monthly Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Table Rock	S6	96	95	1	15	1.04

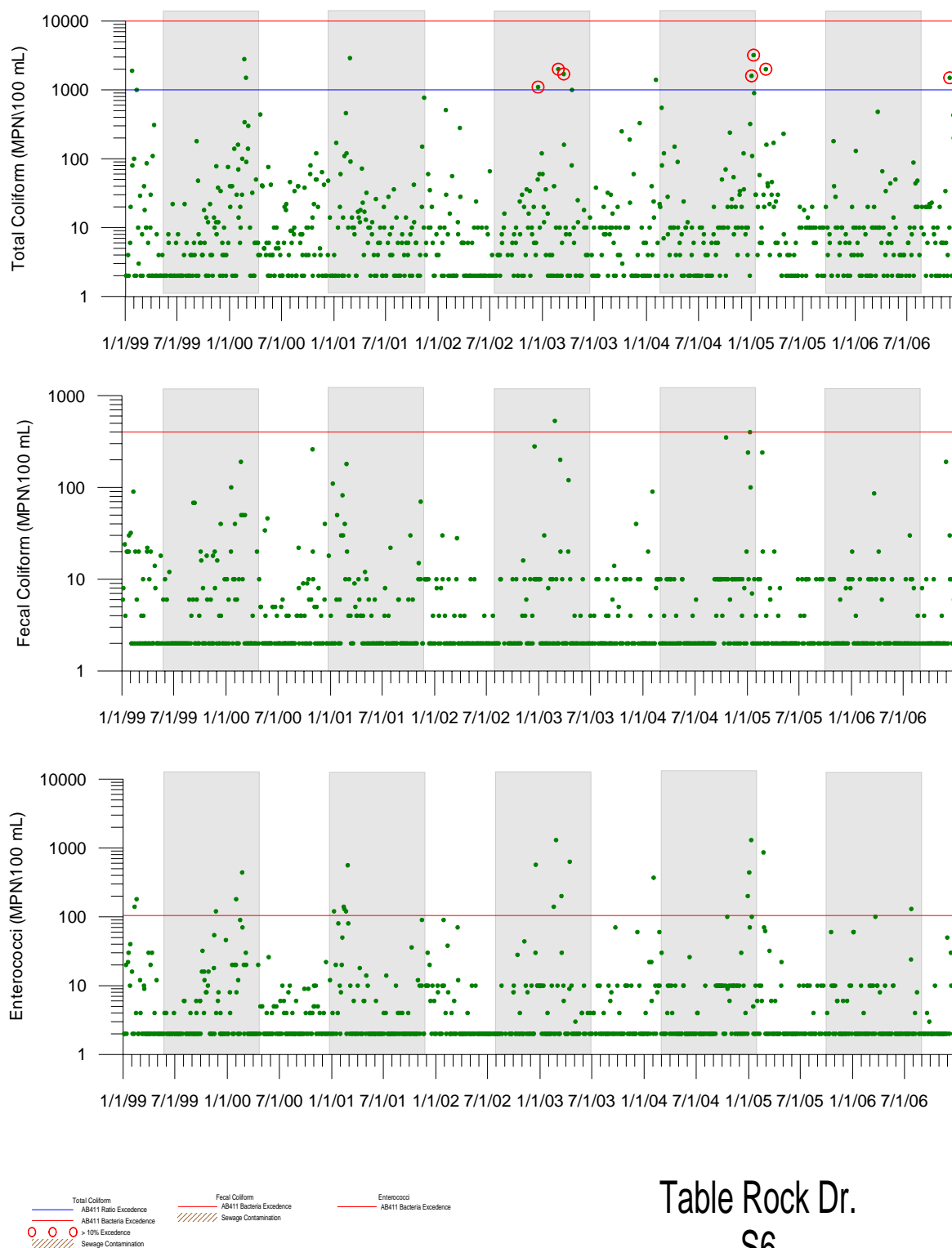


Figure 3. Summary of bacteriological water quality data collected from the Table Rock monitoring site from January 1999 through 2006.

Water Body Sampling Location: Camel Point (S7)

This site is located at Camel Point on South Laguna Beach. It is one of four sites within the Dana Point HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 4). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 4. A total of 2,688 analyses were performed from 1999 through 2006. Of these, there were 76 exceedances of the bacterial standards for all three indicators. The majority of exceedances occurred for the enterococci criterion, which was exceeded 60 times during this period. There were nine exceedances for fecal coliform and seven exceedances for total coliform. The majority of exceedances occurred from 1999 through the beginning of 2001. The total of 76 exceedances out of 2,688 analyses was well below the number of exceedances allowed by the SWRCB guidance document based on single sample criteria. In addition, the percent exceedance values for the rolling geometric mean and the monthly geometric mean were also low (3.96% and 3.13%, respectively).

Table 4. Summary of bacteriological data at Camel Point (S7) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Dana Point (HSA)	Camel Point	S7	2,688	2,592	76	442	2.85
Rolling Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Camel Point	S7	2,880	2,766	114	477	3.96
Monthly Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Camel Point	S7	96	93	3	15	3.13

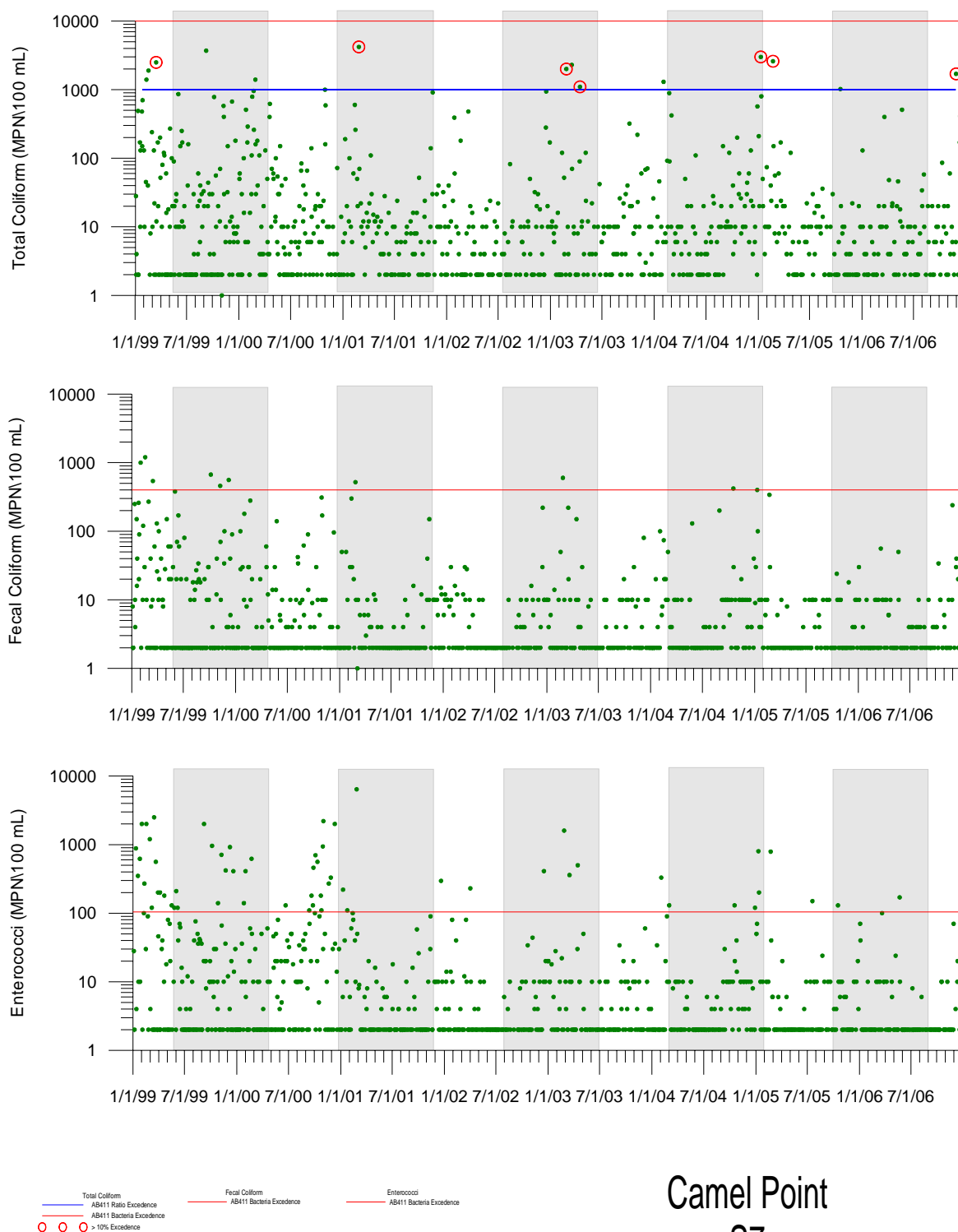


Figure 4. Summary of bacteriological water quality data collected from the Camel Point monitoring site from January 1999 through 2006.

Pacific Ocean Shoreline, Aliso HSA

Water Body Sampling Location: Aliso Beach – South (S8)

This site is located at the southern end of Aliso Beach. It is one of four coastal sites within the Aliso HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 5). Samples were taken throughout the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 5. A total of 2,641 analyses were performed from 1999 through 2006. Of these, there were 72 exceedances of the bacterial standards for all three indicators (48 for enterococci, eight for fecal coliform, and 16 for total coliform). The total of 72 exceedances out of 2,641 analyses was well below the number of exceedances allowed by the SWRCB guidance document based on single sample criteria. The percent exceedance values for the rolling geometric mean and the monthly geometric mean were also very low (1.28% and 0.00%, respectively).

Table 5. Summary of bacteriological data at Aliso Beach – South (S8) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Dana Point (HSA)	Aliso Beach-South	S8	2,641	2,569	72	438	2.73
Rolling Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Aliso Beach-South	S8	2,880	2,843	37	477	1.28
Monthly Geometric Mean							
Pacific Ocean Shoreline, Dana Point (HSA)	Aliso Beach-South	S8	96	96	0	15	0.00

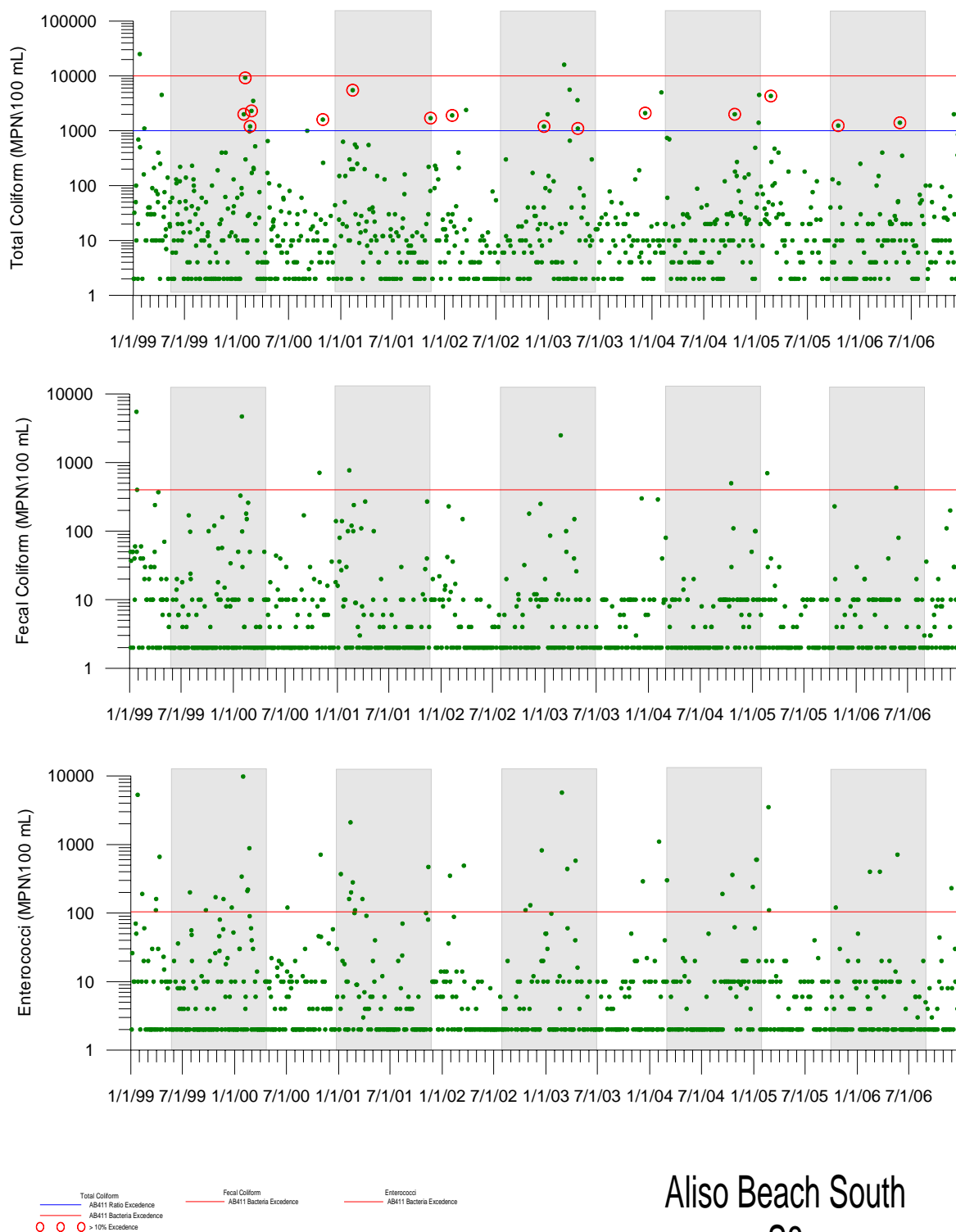


Figure 5. Summary of bacteriological water quality data collected from the Aliso Beach – South monitoring site from January 1999 through 2006.

Water Body Sampling Location: Aliso Beach – Middle (S9)

This site is located in the middle section of Aliso Beach in the Aliso HSA. It is one of four coastal sites within the Aliso HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 6). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 6. A total of 2,704 analyses were performed from 1999 through 2006. Of these, there were 192 exceedances of the bacterial standards for all three indicators. The majority of exceedances occurred for the enterococci criterion, which was exceeded 114 times. There 36 exceedances for total coliform and 42 exceedances for fecal coliform. The total of 192 exceedances out of 2,704 analyses was below the number of exceedances allowed by the SWRCB guidance document based on single sample criteria. However, the results of the rolling geometric mean and monthly geometric mean analyses contradict those of the single sample analysis. The percent exceedance value was 21.91% for the rolling geometric mean and 16.67% for the monthly geometric mean. The rolling geometric mean value is well above the number of exceedances, where as the monthly geometric mean is closer to the number of exceedances allowed by the SWRCB guidance document.

Table 6. Summary of bacteriological data at Aliso Beach – Middle (S9) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Aliso (HSA)	Aliso Beach – Middle	S9	2,704	2,512	192	448	7.10
Rolling Geometric Mean							
Pacific Ocean Shoreline, Aliso (HSA)	Aliso Beach – Middle	S9	2,880	2,249	631	477	21.91
Monthly Geometric Mean							
Pacific Ocean Shoreline, Aliso (HSA)	Aliso Beach – Middle	S9	96	80	16	15	16.67

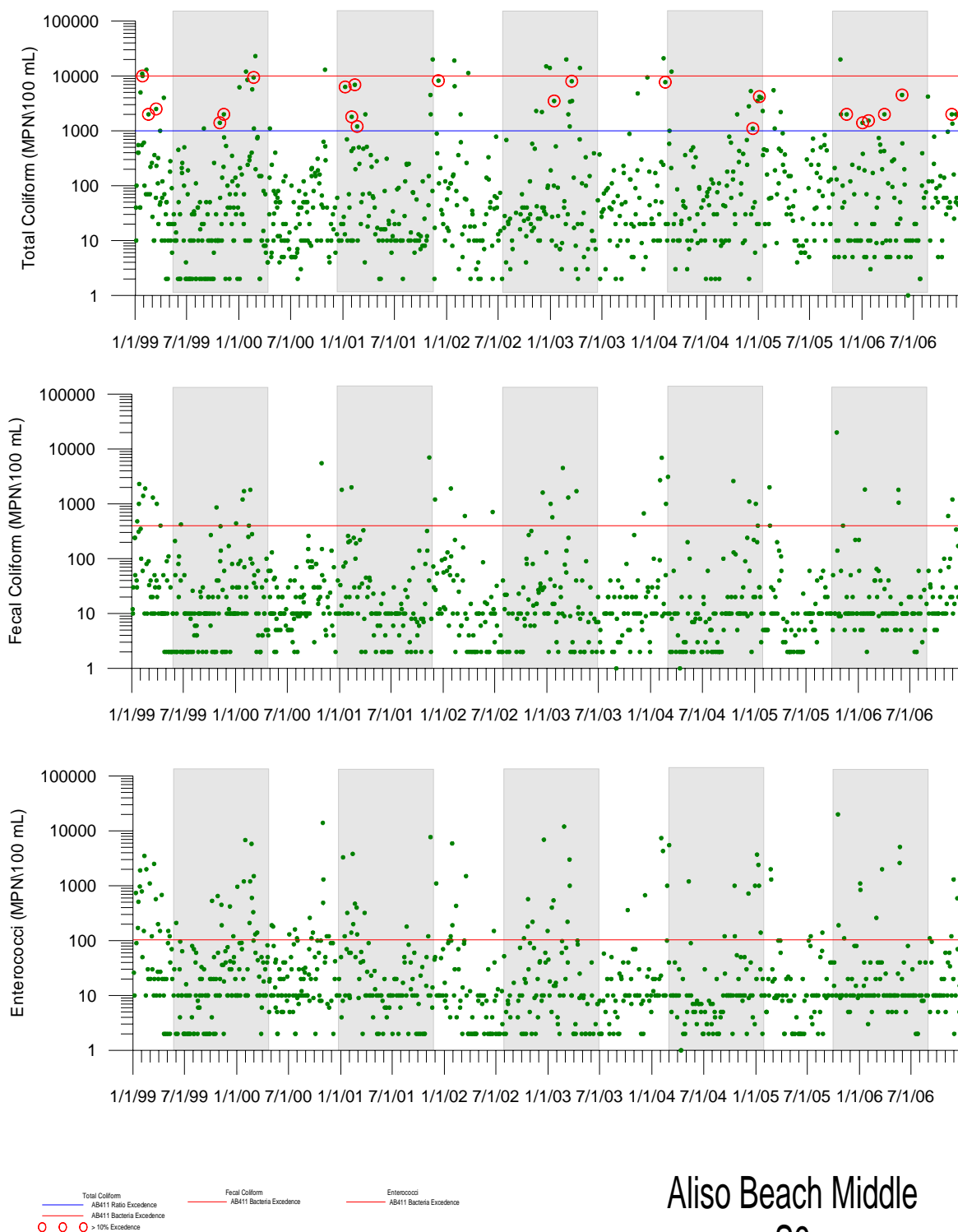


Figure 6. Summary of bacteriological water quality data collected from the Aliso Beach – Middle monitoring site from January 1999 through 2006.

Water Body Sampling Location: Aliso Beach – North (S10)

This site is located at the northern end of Aliso Beach. It is one of four coastal sites within the Aliso HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 7). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 7. A total of 2,643 analyses were performed from 1999 through 2006. Of these, there were 60 exceedances of the bacterial standards for all three indicators. The majority of exceedances occurred for the enterococci indicator, which was exceeded 33 times during this period. The fecal coliform standard was exceeded thirteen times and the total coliform standard was exceeded fourteen times during this period. A total of 60 exceedances out of 2,643 analyses is well below the number of exceedances allowed by the SWRCB guidance document based on single sample criteria. The percent exceedance values for the rolling geometric mean and the monthly geometric mean analyses were also low (1.74% and 1.04%, respectively).

Table 7. Summary of bacteriological data at Aliso Beach – North (S10) from January 1999 through 2006

The table includes the total number of analyses performed at the site for all three indicators combined (Total The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Aliso (HSA)	Aliso Beach – North	S10	2,643	2,583	60	438	2.27
Rolling Geometric Mean							
Pacific Ocean Shoreline, Aliso (HSA)	Aliso Beach – North	S10	2,880	2,830	50	477	1.74
Monthly Geometric Mean							
Pacific Ocean Shoreline, Aliso (HSA)	Aliso Beach – North	S10	96	95	1	15	1.04

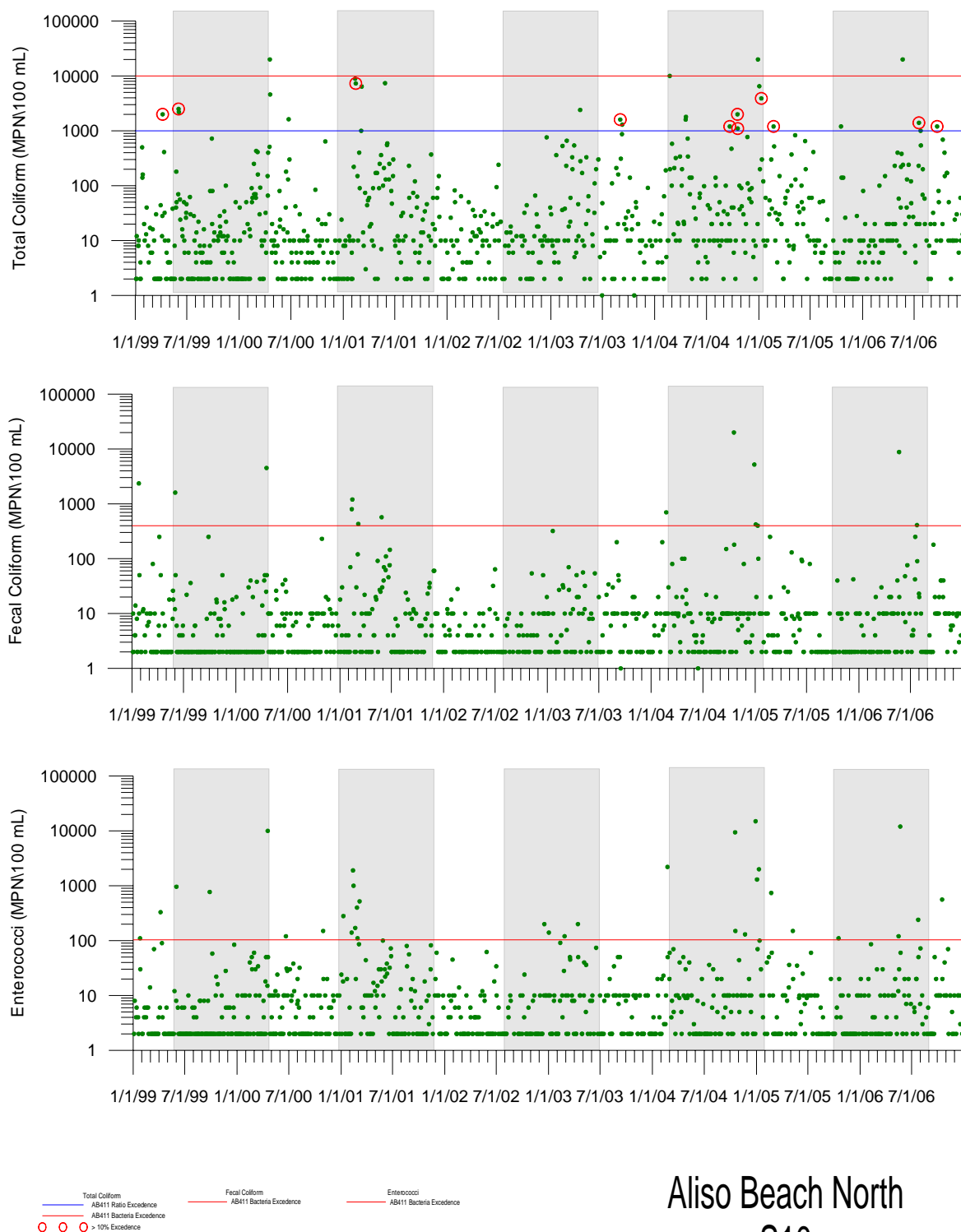


Figure 7. Summary of bacteriological water quality data collected from the Aliso Beach - North monitoring site from January 1999 through 2006.

Water Body Sampling Location: Lagunita Place/Blue Lagoon (S13)

This site is located on Laguna Beach at Lagunita Place/Blue Lagoon Place. It is one of four coastal sites within the Aliso HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 8). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 8. A total of 2,537 analyses were performed from 1999 through 2006. Of these, there were 58 exceedances of the bacterial standards for all three indicators with the majority occurring for the enterococci indicator, which was exceeded 47 times. There were four exceedances for fecal coliform and seven for total coliform. The majority of exceedances occurred from 1999 through the beginning of 2001. A total of 58 exceedances out of 2,537 analyses is well below the number of exceedances allowed by the SWRCB guidance document based on single sample criteria. The percent exceedance values for the rolling geometric mean and monthly geometric mean analyses were also very low (3.13% and 1.04%, respectively).

Table 8. Summary of bacteriological data at Lagunita Place/Blue Lagoon (S13) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Aliso (HSA)	Blue Lagoon Place	S13	2,537	2,479	58	420	2.29
Rolling Geometric Mean							
Pacific Ocean Shoreline, Aliso (HSA)	Blue Lagoon Place	S13	2,880	2,790	90	477	3.13
Monthly Geometric Mean							
Pacific Ocean Shoreline, Aliso (HSA)	Blue Lagoon Place	S13	96	95	1	15	1.04

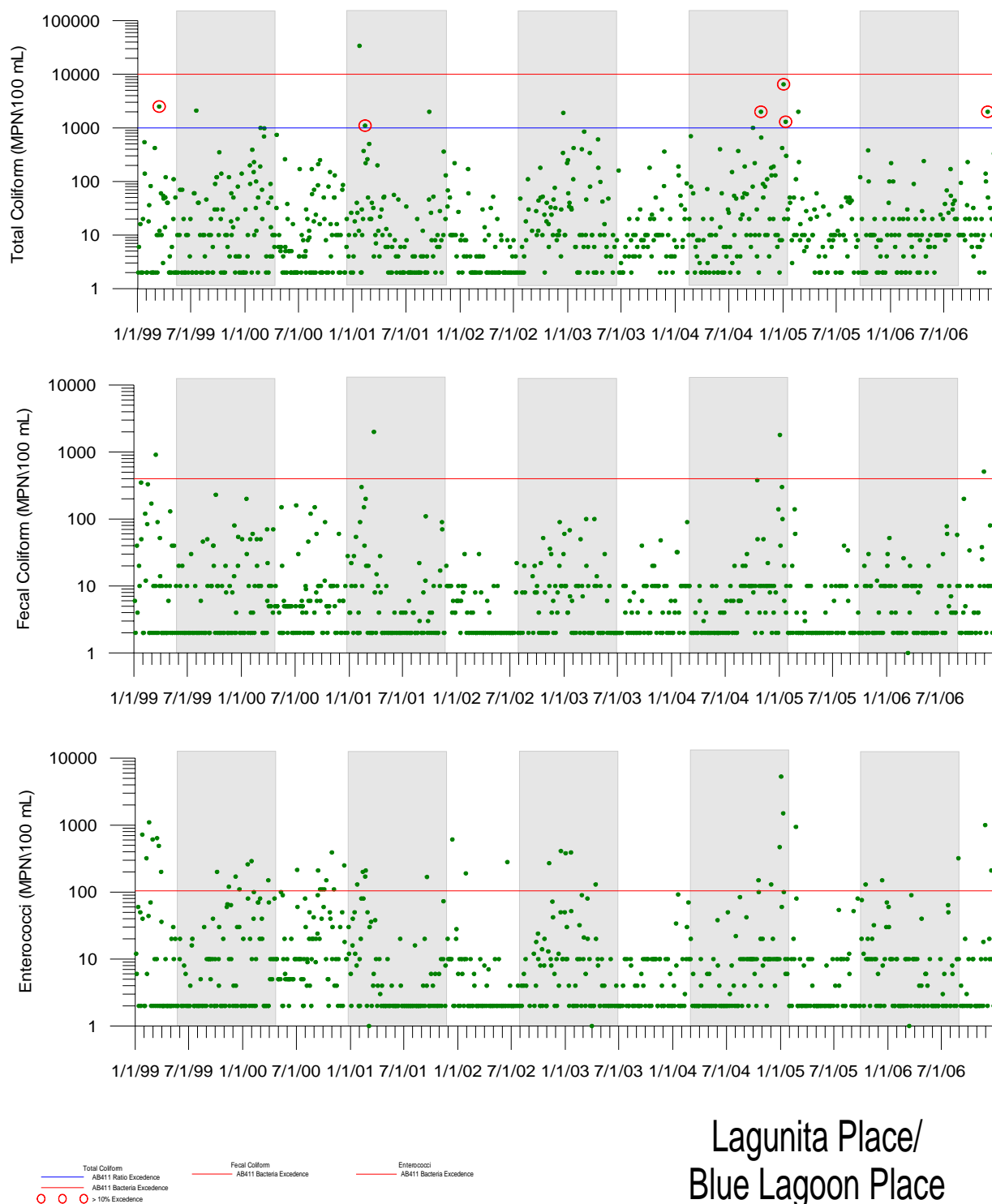


Figure 8. Summary of bacteriological water quality data collected from the Lagunita Place/Blue Lagoon monitoring site from January 1999 through 2006.

Pacific Ocean Shoreline, Laguna Beach HSA

Water Body Sampling Location: Dumond Drive (S14)

This site is located at Victoria Beach at Dumond Drive. It is one of four sites within the Laguna Beach HSA on the §303(d) List.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 9). Samples were taken throughout the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 9. A total of 2,467 analyses were performed from January 1999 through 2006. Of these, there were only 55 exceedances of the bacterial standards for all three indicators. The majority of exceedances occurred for the enterococci indicator, which was exceeded 45 times during this period. There were only four exceedances for fecal coliform and six exceedances for total coliform. A total of 55 exceedances out of 2,467 analyses is well below the number of exceedances allowed by the SWRCB guidance document based on single sample criteria. In addition, the percent exceedance values for the rolling geometric mean and monthly geometric mean analyses were also very low (2.15% and 1.04%, respectively).

Table 9. Summary of bacteriological data at Dumond Drive (S14) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

§303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Dumond Drive	S14	2,467	2,412	55	409	2.23
Rolling Geometric Mean							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Dumond Drive	S14	2,880	2,818	62	477	2.15
Monthly Geometric Mean							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Dumond Drive	S14	96	95	1	15	1.04

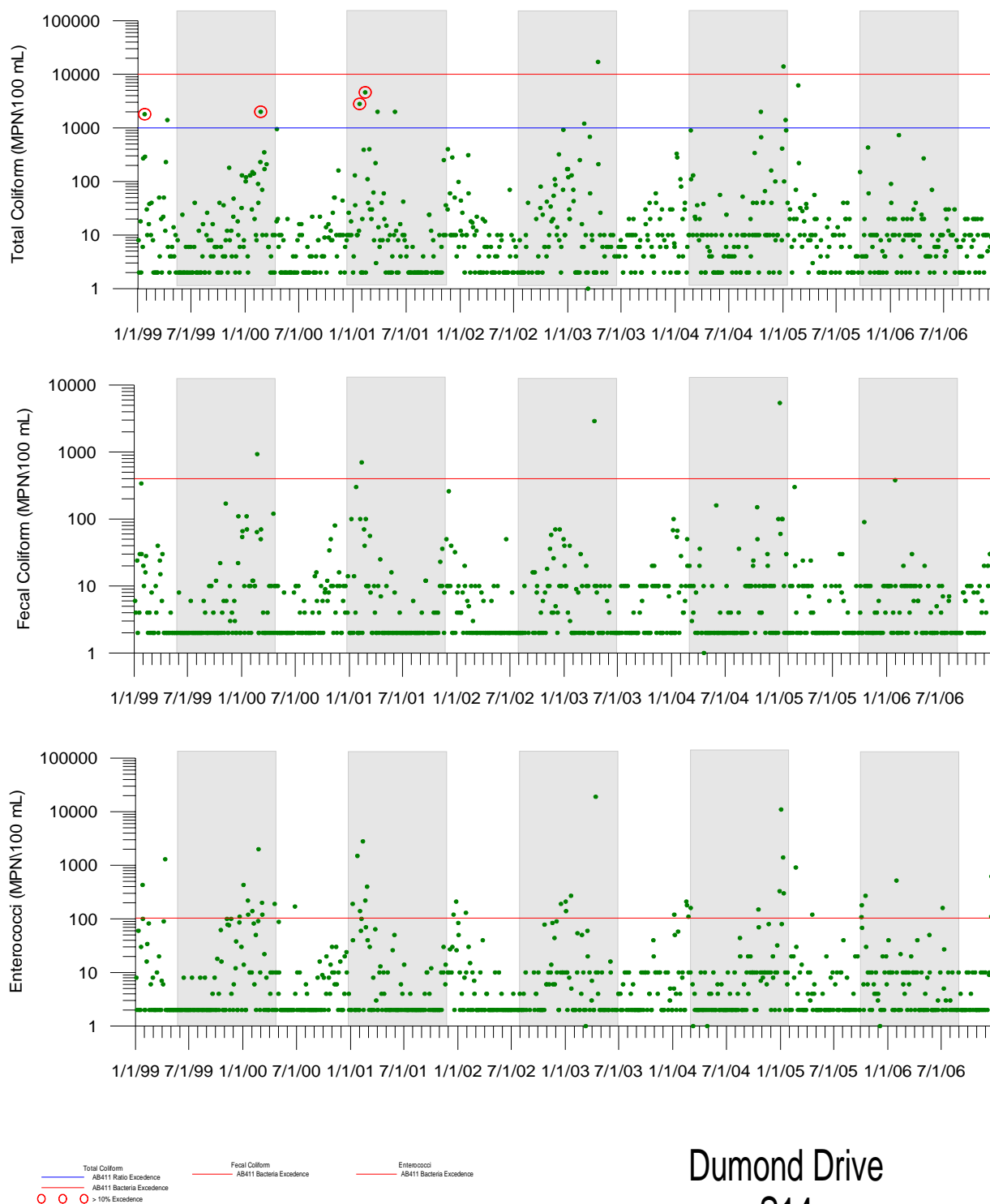


Figure 9. Summary of bacteriological water quality data collected from the Dumond Drive monitoring site from January 1999 through 2006.

Water Body Sampling Location: Bluebird Canyon Road (S15)

This site is located at Arch Cove at Bluebird Canyon Road. It is one of four sites within the Pacific Ocean Shoreline, Laguna Beach HSA.

Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 10). Samples were taken throughout the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 10. A total of 2,551 analyses were performed from 1999 through 2006. Of these, there were 131 exceedances of the bacterial standards for all three indicators with the majority of exceedances for the enterococci indicator, which was exceeded a total of 104 times. There were 13 exceedances for fecal coliform and 14 exceedances for total coliform. A total of 131 exceedances out of 2,551 analyses is well below the number of exceedances allowed by the SWRCB guidance document. The percent exceedance values based on the rolling geometric mean and monthly geometric mean analyses were higher than those at most other sites (13.65% and 10.42%, respectively). However, the number of exceedances was still less than the number allowable for both analyses

Table 10. Summary of bacteriological data at Bluebird Canyon Rd. (S15) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

\$303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Bluebird Canyon Rd.	S15	2,551	2,420	131	423	5.14
Rolling Geometric Mean							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Bluebird Canyon Rd.	S15	2,880	2,487	393	477	13.65
Monthly Geometric Mean							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Bluebird Canyon Rd.	S15	96	86	10	15	10.42

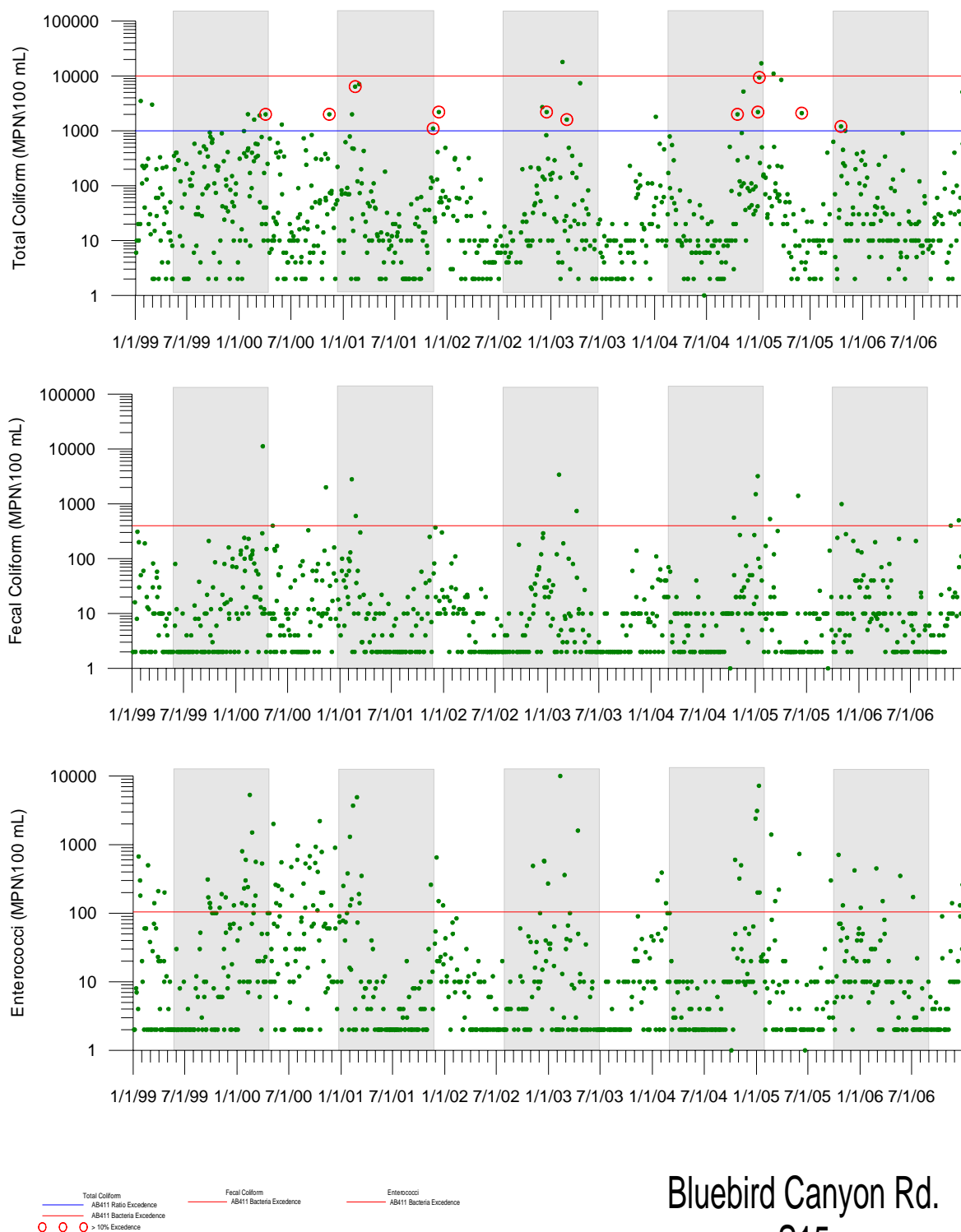


Figure 10. Summary of bacteriological water quality data collected from the Bluebird Canyon Rd. monitoring site from January 1999 through 2006.

Water Body Sampling Location: Hotel Laguna (S16)

This site is located on Laguna Beach at the projection of Hotel Laguna. It is one of four sites within the Pacific Ocean Shoreline, Laguna Beach HSA.

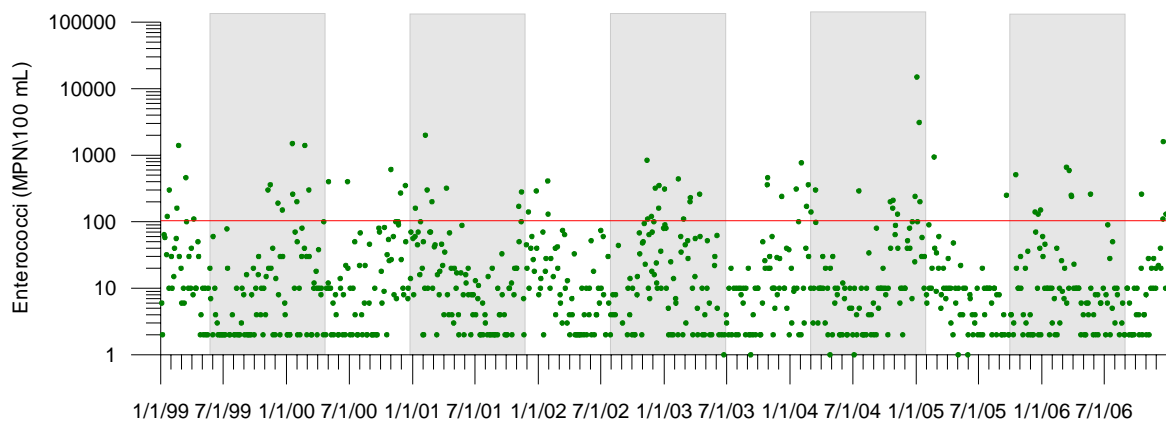
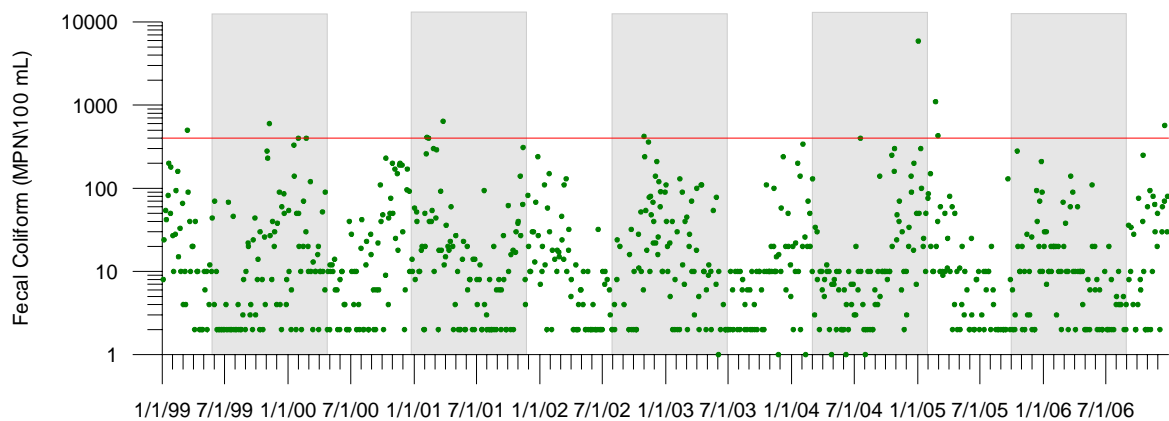
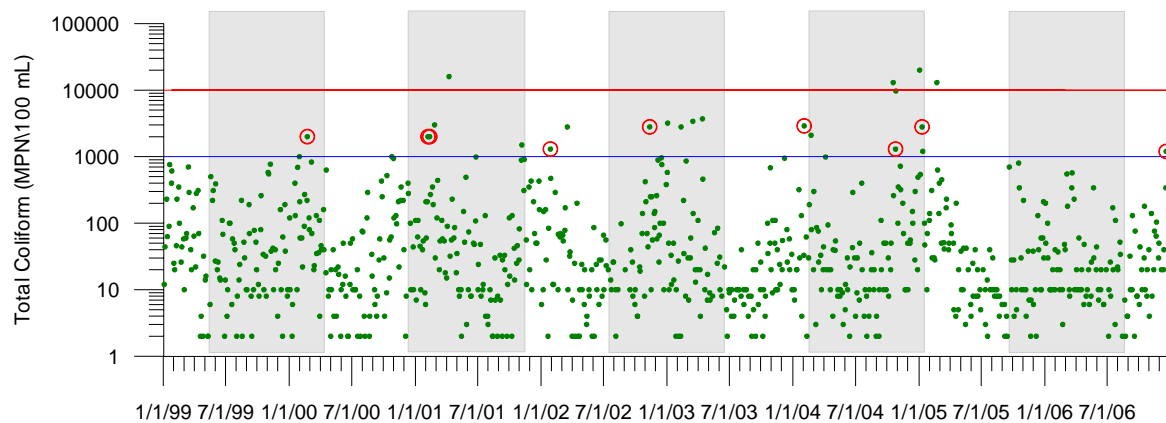
Temporal Representation: Data were available for this assessment from January 1999 through 2006 (Figure 11). Samples were taken during both the wet and dry seasons.

Individual Site Analysis Results: The number of exceedances of water quality standards at this site is presented in Table 11. A total of 2,486 analyses were performed from 1999 through 2006. Of these, there were 98 exceedances of the bacterial standards for all three indicators. The majority of exceedances occurred for the enterococci indicator, which was exceeded a total of 76 times during this period. There were thirteen exceedances for total coliform and nine fecal coliform exceedances. A total of 98 exceedances out of 2,486 analyses is well below the number of exceedances allowed by the SWRCB guidance document. In contrast, the percent exceedance values based on the rolling geometric mean and monthly geometric mean analyses were higher for this site than most others (11.9% and 12.5%, respectively). However, the number of exceedances was less than the number allowable for both analyses.

Table 11. Summary of bacteriological data at Hotel Laguna (S16) from January 1999 through 2006

The table includes the total number of analyses analyzed for each criterion (single sample limit, rolling geometric mean, and monthly geometric mean) from 1999 through 2006 (Total Analyses), the number that did not exceed water quality criteria (No), the number that did exceed criteria (Yes), the number of exceedances allowed by the SWRCB (Allowable), and the percentage of exceedances relative to the total number of analyses (Percent).

\$303(d) List Site Name	Location	Station	Total Analyses	No	Yes	Allowable*	Percent (Yes/Total)
Single Sample Limit							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Hotel Laguna	S16	2,486	2,388	98	412	3.94
Rolling Geometric Mean							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Hotel Laguna	S16	2,874	2,532	342	476	11.90
Monthly Geometric Mean							
Pacific Ocean Shoreline, Laguna Beach (HSA)	Hotel Laguna	S16	96	84	12	15	12.5



— Total Coliform
— AB411 Ratio Exceedence
— Fecal Coliform
— AB411 Bacteria Exceedence
— Enterococci
— AB411 Bacteria Exceedence
○ >10% Exceedence

Laguna Hotel
S16