

**REPORT SUMMARIZING COMMENTS FROM THE PORT OF SAN DIEGO
REQUESTING DELISTING OF THE SAN DIEGO BAY SHORELINE, POINT
LOMA HYDROLOGIC AREA (908.10) AT SHELTER ISLAND SHORELINE
PARK FOR BACTERIA INDICATORS**

January 24, 2006

Prepared for:

PORT OF SAN DIEGO
3165 Pacific Highway
San Diego, CA 92101

Prepared by:



9665 Chesapeake Drive, Suite 201
San Diego, California 92123

Introduction and Background

San Diego Bay Shoreline, Point Loma Hydrologic Area (908.10) at Shelter Island Shoreline Park (Shelter Island Park) was listed on the 2002 Clean Water Act Section 303(d) list as being impaired due to bacterial indicators. The Port of San Diego (Port) has conducted a review of historical indicator bacteria data collected at this location and has determined that the data are clearly adequate to support delisting of the site for total and fecal coliform and may also be sufficient to delist for *Enterococcus*. The following document presents a review of these data and associated analysis in support of delisting of this site for all three bacterial indicators.

AB411 Bacterial Indicator Monitoring

Beginning in 2000, the San Diego County Department of Environmental Health (DEH) has been testing beaches for bacterial indicators as part of compliance under Assembly Bill 411 (AB411). Between April 1 and October 31 of each year, the DEH conducts weekly sampling along recreational beaches throughout the county, including Shelter Island Park beach. Samples are analyzed for total and fecal coliform and *Enterococcus* with the specific purpose of protecting public health and improving the accuracy of public notification regarding beach water quality. Based on the results of the analyses, DEH may choose to close or post a beach. Specifically, if single sample standards of any applicable water quality criteria are exceeded, then the beach may be closed. DEH also closes beaches following sewage spills. DEH may issue a General Advisory and post the beaches due to urban runoff for 72 hours following storm events. DEH also has the discretion to post a beach if the rolling 30-day geometric mean criteria are exceeded.

The applicable water quality objectives for indicator bacteria (from AB 411) include:

Single Sample Standards

- Total Coliforms - 10,000 organisms per 100 ml (1,000 if Fecal/Total ratio ≥ 0.1)
- Fecal Coliforms - 400 organisms per 100 ml
- Enterococcus* - 104 organisms per 100 ml

30-day log mean standards (based on 5 weekly samples)

- Total Coliforms - 1,000 organisms per 100 ml
- Fecal Coliforms - 200 organisms per 100 ml
- Enterococcus* - 35 organisms per 100 ml

State Water Resources Control Board Solicitation of Public Comment

The State Water Resources Control Board (SWRCB) is soliciting public comment on its draft 2006 revisions to the Section 303(d) list. The comments are due to the SWRCB by January 31, 2006. The public data solicitation period over which the SWRCB has specifically requested the data is between 2001 and March 2005. DEH submits all AB411 bacteria monitoring data to the Regional Water Quality Control Board (RWQCB) annually and also provides this information to the SWRCB during each 303(d) List data

solicitation period. As such, it is believed that the data presented herein are already part of the data record for the Draft 2006 update. Additionally, the Port is providing more current data (through August 2005) to confirm that bacteria levels at Shelter Island Park continue to be low, further supporting the recommendation to delist. The following report documents the data collected over the period from April 2002 through August 2005, while clearly showing the findings specifically limited to the requested data period.

SWRCB Listing/Delisting Policy

The SWRCB's *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List* (Policy) became effective in December 2004. The Policy identifies the process by which the SWRCB and RWQCBs will comply with the listing requirements of CWA Section 303(d). The Port has therefore used this approved policy document in analyzing the data available from this location.

Section 4.3 of the Policy (Table 4.2) lists the maximum number of measured exceedances allowed to remove a water segment from the Section 303(d) list for conventional or other pollutants. The minimum sample size is 26 to 30, but guidance is provided for sample sizes up to 121 samples, and an equation is provided for calculating the number of allowable exceedances for sample sizes greater than 121.

Analysis of Bacteria Data, Shelter Island Park

A considerable amount of data have been collected at the Shelter Island Park site as a result of DEH AB411 monitoring. Indicator bacteria have been analyzed in water samples from Shelter Island Park between April 10, 2002 and March 2005 (within the period of time specifically requested by the SWRCB for the purpose of the Section 303(d) list update). During this period, a total of 605 individual analyses were conducted (202 *Enterococcus* samples, 202 fecal coliform samples, and 201 total coliform samples). However, since some of these samples were collected on the same day, each day of data was evaluated as a single data point. If any of the samples collected on a single day exceeded the water quality objectives, the day was identified as exceeding for that respective indicator. Since March 2005, DEH has continued to collect data. The full data set available to the Port (through August 31, 2005) is also presented and analyzed herein. The additional data include 55 analyses (22 *Enterococcus* samples, 11 fecal coliform samples, and 22 total coliform samples).

Data from the Shelter Island Park identify some exceedances of indicator bacteria. However, given the large sample size, both total and fecal coliform are below the number of allowable exceedances specified in the Policy, as follows:

Table 1. Summary of Indicator Bacteria and Number of Exceedances Observed During SWRCB Public Data Solicitation Period (2002 through March 2005).

Analysis	Sample Size (April 2002 through March 2005)	Number of Exceedances (April 2002 through March 2005)	Allowable Number of Exceedances (Per SWRCB Listing Policy)
<i>Enterococcus</i>	144	38	23
Fecal Coliform	143	15	23
Total Coliform	147	1	24

Based on analysis of this data set, the data directly support delisting of the site for total and fecal coliform. However, the number of exceedances for *Enterococcus* (38) is above the allowable number of exceedances for that data set size (23) per the SWRCB Policy.

It should further be noted that the levels of *Enterococcus* appear to have decreased over time, particularly since January 2003. A summary and analysis of the collected during the SWRCB public solicitation period between January 2003 and March 2005 is presented in Table 2. These results clearly show that all three indicators, including *Enterococcus*, are well below the number of allowable exceedances.

Table 2. Summary of Indicator Bacteria and Number of Exceedances Observed During Between January 2003 and March 2005 (end of Public Solicitation Period).

Analysis	Sample Size (January 2003 through March 2005)	Number of Exceedances (January 2003 through March 2005)	Allowable Number of Exceedances (Per SWRCB Listing Policy, Table 4.2)
<i>Enterococcus</i>	77	9	12
Fecal Coliform	77	5	12
Total Coliform	78	0	12

The exact reason for this decrease cannot be specifically identified. One possibility is that the previously high number of exceedances may have resulted from a moored boat illegally discharging pollutants which has subsequently moved. Also, because the period of analysis corresponds with the issuance and subsequent implementation of a new NPDES Municipal Stormwater Permit, it is possible that BMPs that have been implemented have resulted in a decrease in indicator bacteria levels over the past 2-3 years. Examples of such BMPs include regularly occurring street sweeping of nearby streets and parking lots, Port maintenance improvements such as regularly scheduled trash removal which eliminates the potential for overflowing trash receptacles, inspections of irrigation systems to prevent over-irrigation, and the placement of pet waste bags in the park. Nevertheless, bacteria levels were reduced as of January 2003.

While it is understood that this draft update only considers data from the requested data solicitation period, the Port is including data through August 2005 into this final table (and in the raw data attached) to clearly show that the bacteria problem no longer exists at Shelter Island Park. The most recent data continue to support levels that are consistent with a recommendation to delist. Table 3 presents the full data set collected between January 2003 and August 2005.

Table 3. Summary of Indicator Bacteria and Number of Exceedances Observed During Between January 2003 and August 2005).

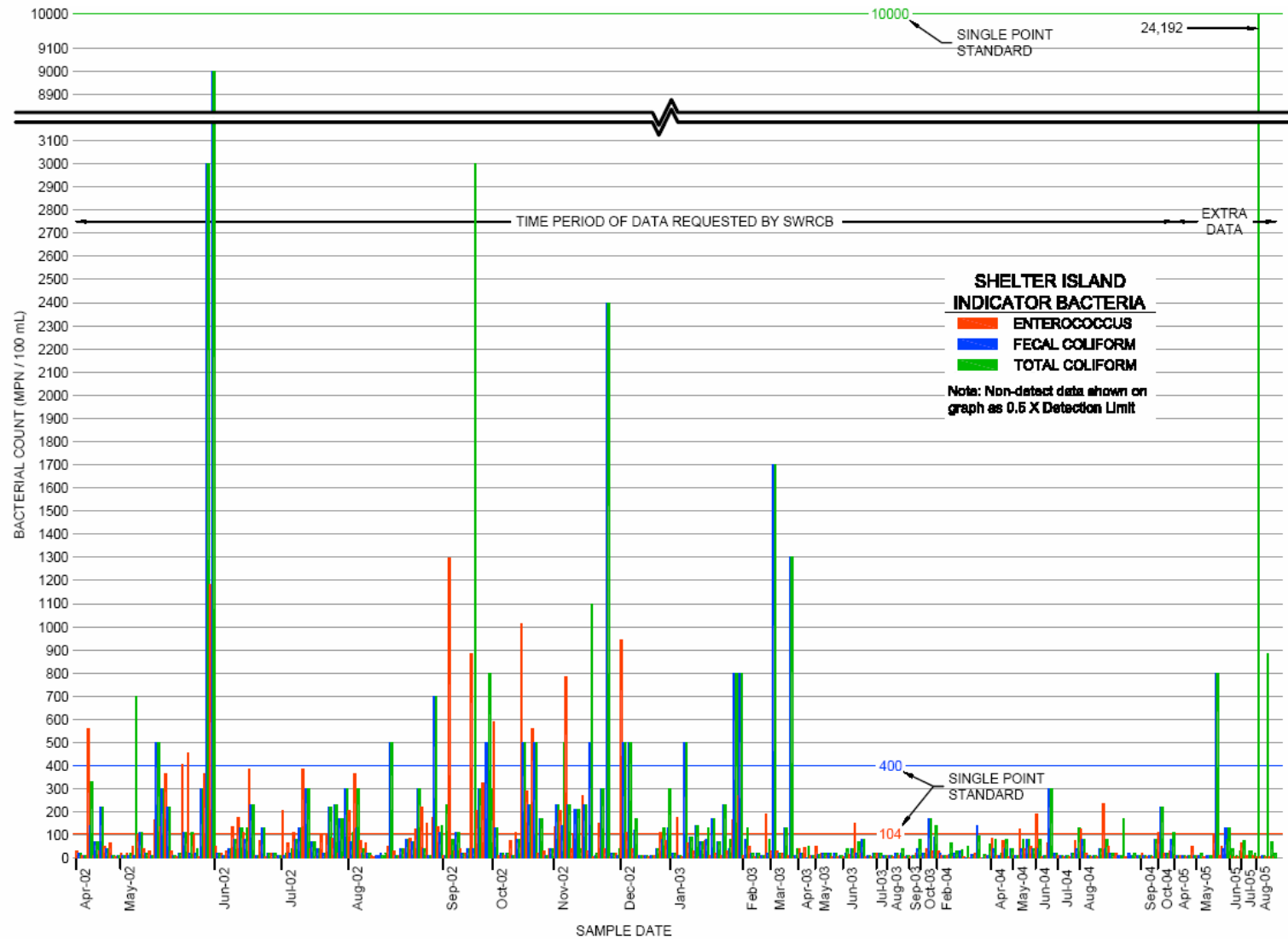
Analysis	Sample Size (January 2003 through August 2005)	Number of Exceedances (January 2003 through August 2005)	Allowable Number of Exceedances (Per SWRCB Listing Policy, Table 4.2)
<i>Enterococcus</i>	96	9	15
Fecal Coliform	87	5	14
Total Coliform	97	1	15

Based upon the data presented herein, that is currently in the SWRCB record, it is clear that the only instances in which *Enterococcus* levels exceed the SWRCB Delisting Policy's allowable exceedances is prior to January 2003. Therefore, given the substantial size of the data set, the fact that the latter **two years** of the data solicitation period show reduced *Enterococcus* levels, and the continued trend toward reduced counts of *Enterococcus*, the data support delisting of all three indicator bacteria: total and fecal coliform and *Enterococcus*.

The data have also been analyzed graphically, by plotting results relative to the single sample standards for each bacterial indicator. A summary of all data is presented together on Figure 1. Data for *Enterococcus*, fecal coliform, and total coliform are also presented separately on Figures 2 through 4, respectively. The graphs clearly indicate that the majority of analyses fall well below the single sample standards for the three indicators. In particular, the graphs illustrate that the levels of all three indicator bacteria appear to be lower from 2003 onward than prior to that time. Note that the elevated level of total coliform observed on August 1, 2005 may be an outlier caused by laboratory contamination. The Port is investigating this possibility.

Based on the analyses presented above, the data support delisting Shelter Island Park for all three indicator bacteria in 2006. As such, the Port respectfully requests that the SWRCB and RWQCB consider delisting this site as part of the 2006 Clean Water Act Section 303(d) list update.

Figure 1. Summary of All Bacteria Data Collected at Shelter Island Park, April 2002 through August 2005.



NOTE: DATA FOR AUGUST 1, 2005 ARE QUALIFIED PENDING INVESTIGATION OF POSSIBLE LABORATORY CONTAMINATION.

Figure 2. Summary of *Enterococcus* Data Collected at Shelter Island Park, April 2002 through August 2005.

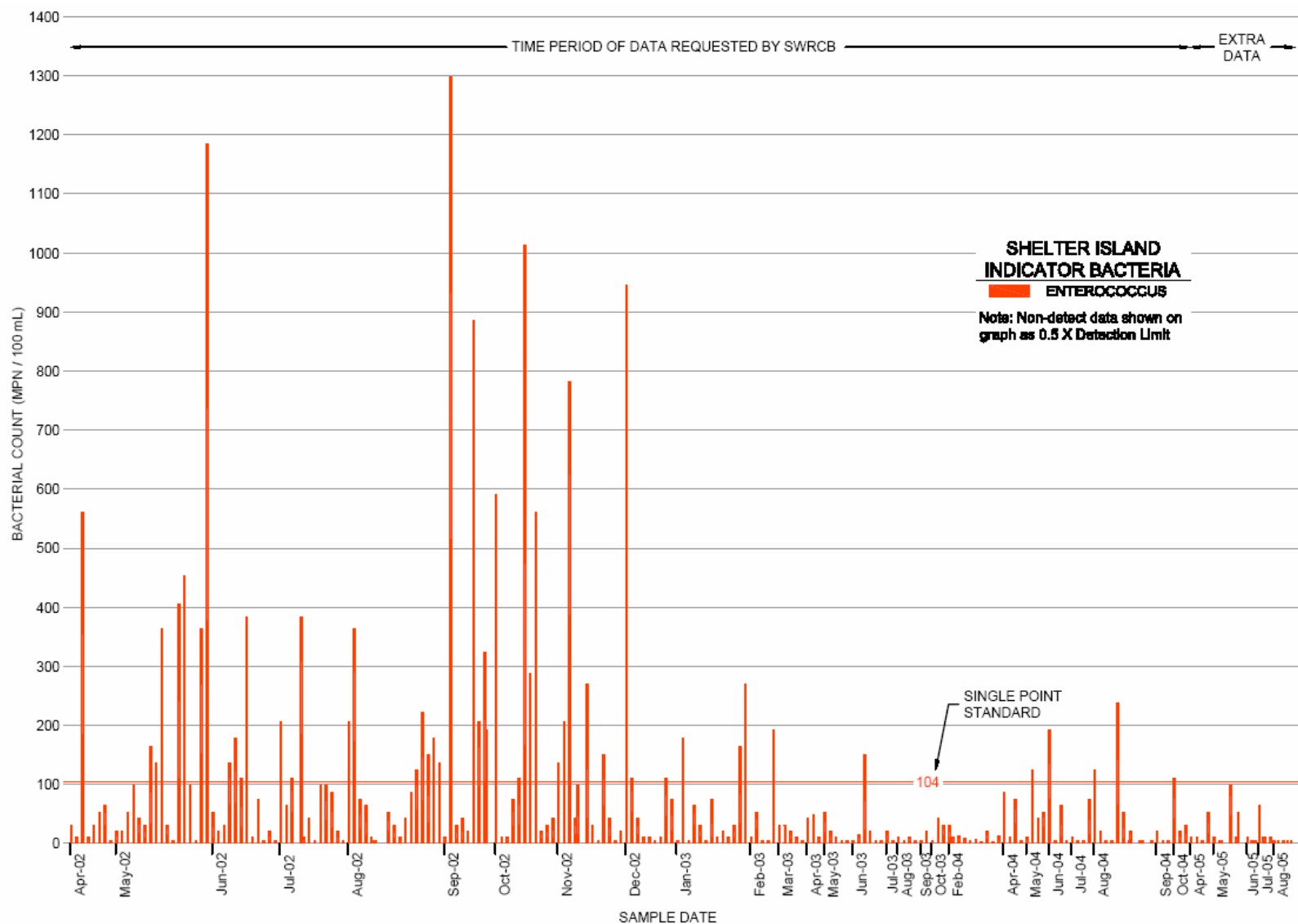


Figure 3. Summary of Fecal Coliform Data Collected at Shelter Island Park, April 2002 through August 2005.

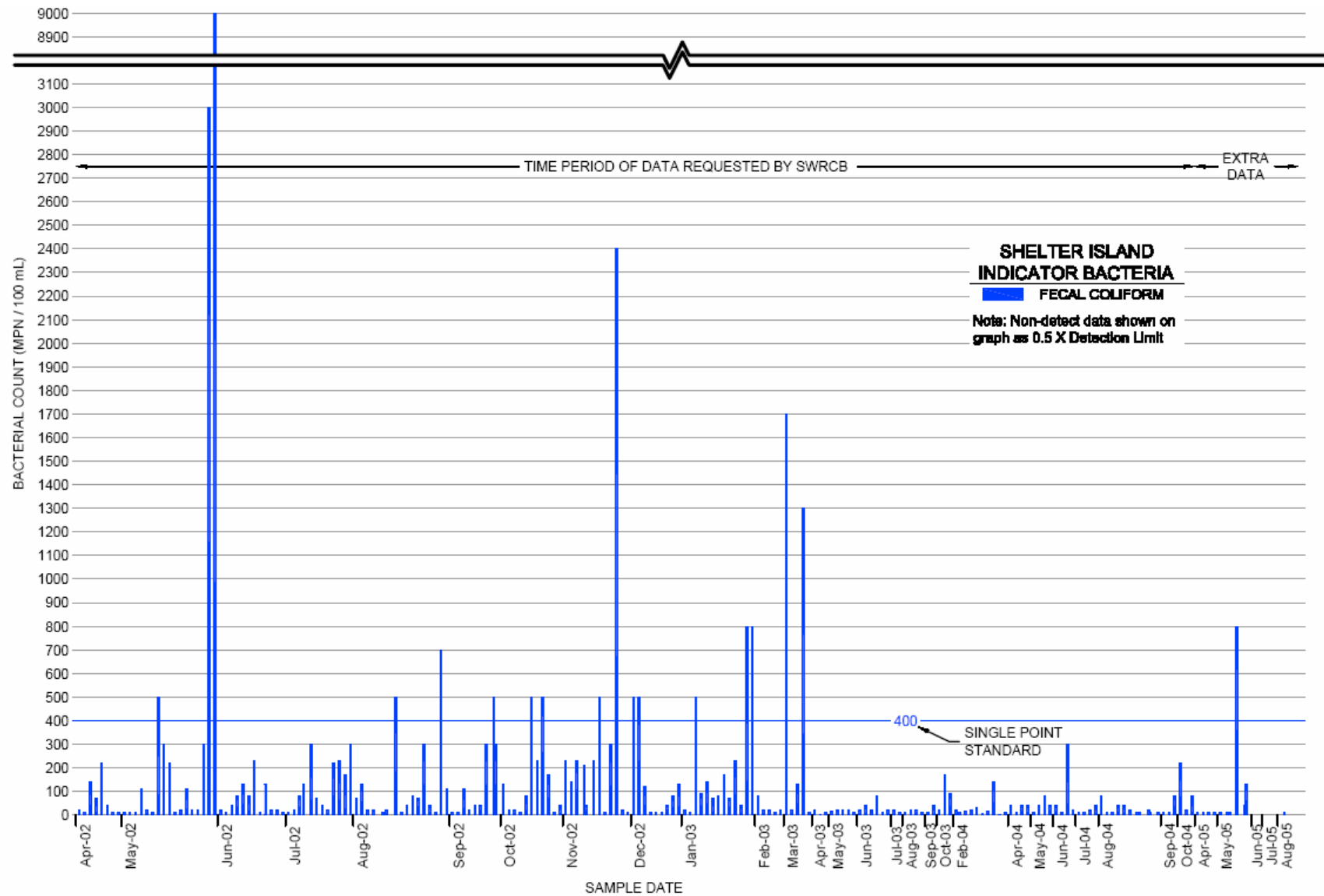
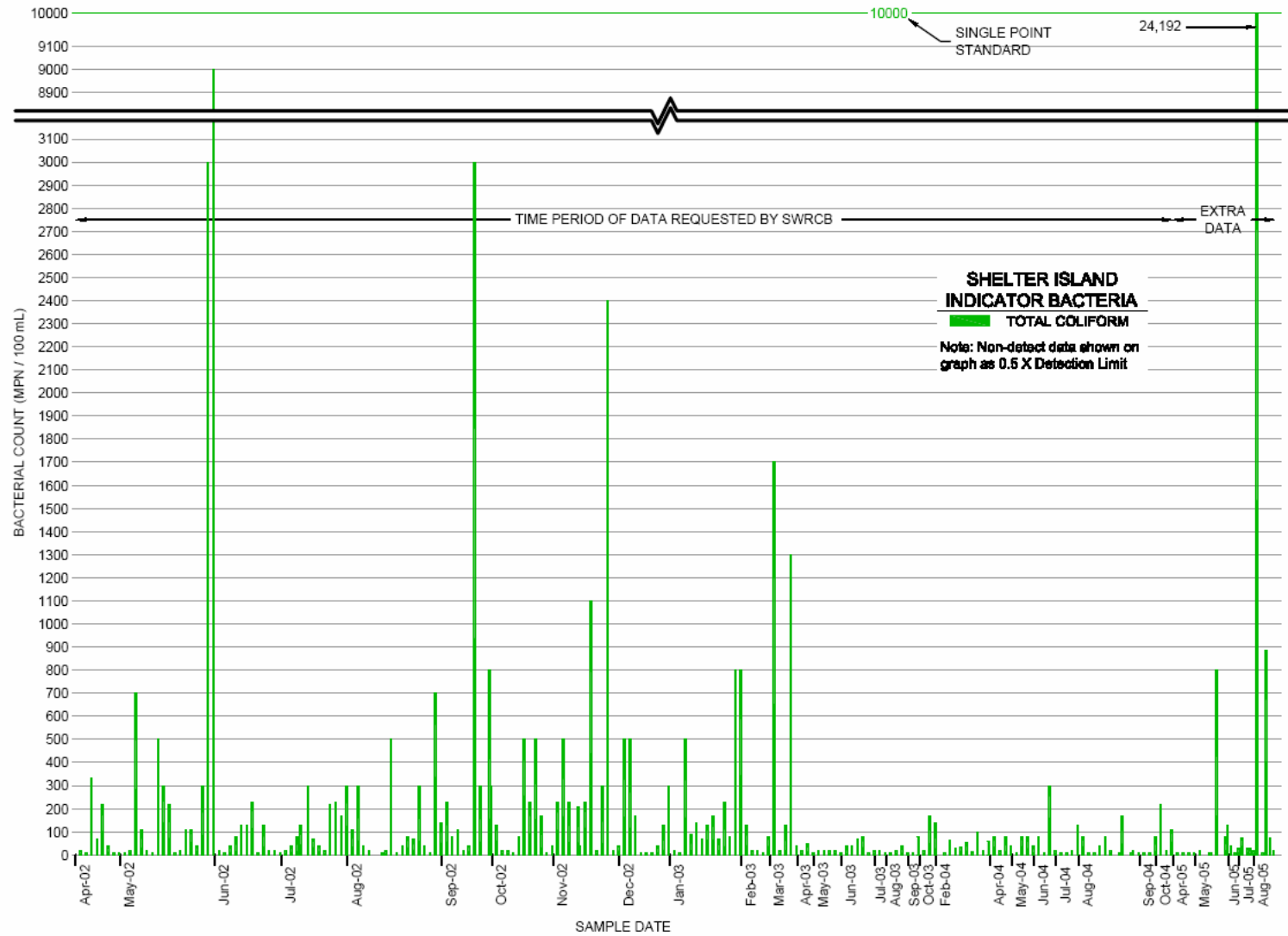


Figure 4. Summary of Total Coliform Data Collected at Shelter Island Park, April 2002 through August 2005.



NOTE: DATA FOR AUGUST 1, 2005 ARE QUALIFIED PENDING INVESTIGATION OF POSSIBLE LABORATORY CONTAMINATION.