



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 19 2003

Ms. Celeste Cantú
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Dear Ms. Cantú:

Thank you for submitting the Basin Plan Amendments containing revised implementation procedures for bacteria water quality standards for the Los Angeles Region and total maximum daily loads (TMDLs) for bacteria for several Santa Monica Bay beaches. The State adopted and submitted separate TMDLs to address Santa Monica Bay bacteria during dry weather and wet weather periods. The dry weather TMDLs and implementation plan submittal was dated December 19, 2002. The wet weather TMDLs and implementation plan submittal, which also contained the revisions to the implementation procedures for bacteria water quality standards, was dated May 30, 2003. The U.S. Environmental Protection Agency (EPA) has reviewed these amendments, and this letter explains EPA's decisions to approve the TMDLs and water quality standards implementation provisions contained in them.

Implementation Procedures For Bacteria Water Quality Standards

The submittal dated May 30, 2003 contains an amendment to the *Water Quality Control Plan, Los Angeles Region* (Basin Plan) to incorporate the "reference system/antidegradation approach" and "natural sources exclusion approach" as implementation procedures for the single sample bacteriological objectives. This amendment was adopted by the Los Angeles Regional Water Quality Control Board (Regional Board) on December 12, 2002 (Regional Board Resolution No. 2002-022). It was then approved by the State Water Resources Control Board (SWRCB), under Resolution No. 2003-0022, and State Office of Administrative Law on March 19, 2003 and May 20, 2003, respectively. In today's action, EPA is approving this amendment to Chapter 3, *Water Quality Objectives*, of the Basin Plan.

ESA Consultation with the Services on EPA's Action

We have determined that our approval of the water quality standards component of this amendment will have no effect on federally listed threatened or endangered species, and is not likely to result in the adverse modification of critical habitat.

Scope of EPA's Approval

Section 303(c) requires EPA to review and approve or disapprove new or revised water quality standards submitted by a state. For purposes of section 303(c), water quality standards generally include designated uses, water quality criteria (or "beneficial uses" and "water quality objectives," respectively, under California law), an antidegradation policy, and associated implementation policies.

Pursuant to Section 303(c) of the CWA and implementing federal regulations at 40 CFR §131, EPA hereby approves the "reference system/antidegradation approach" and "natural sources exclusion approach" as implementation procedures for the single sample bacteriological objectives, which were previously adopted by the Regional Board under Resolution No. 01-018. These bacteriological objectives were approved by the SWRCB, under Resolution No. 2002-0142, and OAL on July 18, 2002 and September 19, 2002, respectively. EPA approved these objectives on September 25, 2002.

TMDLs For Santa Monica Bay Beaches

The submittals dated December 19, 2002 and May 30, 2003 contain amendments to the Basin Plan to incorporate separate dry weather and wet weather TMDLs for several Santa Monica Bay beaches. The amendment containing the dry weather TMDLs was adopted by the Los Angeles Regional Water Quality Control Board (Regional Board) on January 24, 2002 (Regional Board Resolution No. 2002-004). It was then approved by the State Water Resources Control Board (SWRCB), under Resolution No. 2003-004, and State Office of Administrative Law on September 19, 2002 and December 9, 2002, 2003, respectively. The amendment containing the wet weather TMDLs was adopted by the Los Angeles Regional Water Quality Control Board (Regional Board) on December 12, 2002 (Regional Board Resolution No. 2002-022). It was then approved by the State Water Resources Control Board (SWRCB), under Resolution No. 2003-0022, and State Office of Administrative Law on March 19, 2003 and May 20, 2003, respectively.

The State adopted dry and wet weather TMDLs for the same beach locations, which are listed separately in the two submittals (Table 7-4.2 in the December 19, 2002 submittal and Table 7-4.5 in the May 30 2003 submittal).

Based on EPA's review of the TMDL submittal under Section 303(d), I have concluded that the dry weather TMDLs submitted December 19, 2002 adequately address the pollutant of concern and, upon implementation, will result in attainment of the water quality standards adopted by the State. These TMDLs include wasteload and load allocations as needed, take into consideration seasonal variations and critical conditions, and provide adequate margins of safety. The State has provided adequate opportunities for public review and comment on the TMDL and demonstrated how public comments were considered in the final TMDLs. All required elements

are adequately addressed; therefore, the dry weather bacteria TMDLs are hereby approved pursuant to Clean Water Act Section 303(d)(2).

I have also concluded that the wet weather TMDLs submitted May 30, 2003 adequately address the pollutant of concern and, upon implementation, will result in attainment of the water quality standards adopted by the State. These TMDLs include wasteload and load allocations as needed, take into consideration seasonal variations and critical conditions, and provide adequate margins of safety. The State has provided adequate opportunities for public review and comment on the TMDL and demonstrated how public comments were considered in the final TMDLs. All required elements are adequately addressed; therefore, the wet weather TMDLs are hereby approved pursuant to Clean Water Act Section 303(d)(2). The enclosed review discusses the basis for the TMDL approval decisions in greater detail.

The TMDL submittals contain detailed plans for implementing the bacteria TMDLs. Current federal regulations do not define TMDLs as containing implementation plans; therefore, EPA is not taking action on the implementation plans provided with the TMDLs. However, EPA appreciates the State's commitment to working with the regulated entities to implement the TMDLs.

Conclusion

If there are any questions regarding our action on the water quality standards element of the Basin Plan amendment, please contact Robyn Stuber of my staff at (415) 972-3524. If there are any questions regarding our actions on the dry and wet weather TMDLs for Santa Monica Bay, please contact David Smith of my staff at (415) 972-3416. As always, we look forward to continued cooperation with the State in achieving our mutual environmental goals.

Sincerely,



For Catherine Kuhlman
Director
Water Division

enclosures

cc: Dennis Dickerson, RWQCB

**Staff Report Supporting Approval of TMDLs:
Santa Monica Bay Beaches, California TMDLs for Bacteria
June 19, 2003**

Background

The Los Angeles Regional Water Quality Control Board (Regional Board) and California Water Resources Control Board (State Board) listed several beaches along Santa Monica Bay as water quality limited due to bacteria and beach closures in California's 1998 and 2002 Clean Water Act Section 303(d) lists. Consistent with the requirements of Clean Water Act Section 303(d)(1), the Regional Board staff developed the TMDLs for these listed beach segments. The State developed and adopted separate TMDLs for wet and dry weather periods. The dry weather bacteria TMDLs were adopted by the Regional Board and the State Board on January 24, 2002 and September 19, 2002, respectively. The California Office of Administrative Law (OAL) approved the dry weather TMDLs on December 9, 2002. The wet weather bacteria TMDLs were adopted by the Regional Board and the State Board on December 12, 2002 and March 19, 2003, respectively. OAL approved the wet weather TMDLs on May 20, 2003.

EPA is required to either approve or establish the bacteria TMDLs for the Santa Monica Bay beaches by June 20, 2003 to meet a consent decree deadline specified in *Heal the Bay, et al. v. Browner*, Northern District of California, C 98-4825 SBA, (March 22, 1999). The parties to the decree mutually agreed to extend the original completion deadline for these TMDLs in a joint stipulation filed with the court in 2003. The decree requires approval or establishment of bacteria TMDLs for all beaches identified in Analytical Unit #48 (consent decree attachment 2).

California submitted for EPA approval the dry weather TMDLs for bacteria for the Santa Monica Bay beaches on December 19, 2002. California submitted for EPA approval the wet weather TMDLs for bacteria for the Santa Monica Bay beaches on May 30, 2003. The specific waters covered by this action include for the dry weather TMDLs the segment locations listed in Table 7-4.2 of the State submittal (p. 102a of the State administrative record) and, for the wet weather TMDLs, the segment locations listed in Table 7-4.5 (p. 207 of the State administrative record). EPA is taking action on these separate wet and dry weather TMDLs through one decision because the separate State TMDLs address the same pollutant and same locations.

EPA has compared these segment locations to the list of Santa Monica Bay beaches listed in unit 48 of the consent decree. We note that the unit 48 includes waters listed for both coliform bacteria and for beach closures. Because the beach closure listings were due to the actual or potential presence of bacteria, EPA finds that adoption of bacteria TMDLs will result in attainment of applicable water quality standards and that separate TMDLs are not needed to address the beach closure listings. EPA finds that the State has adopted separate dry weather and wet weather TMDLs for each of the beaches identified in unit 48. Therefore, EPA will fully comply with the consent decree requirement concerning TMDLs for unit 48 through its approval of these State-adopted TMDLs.

EPA is approving these TMDLs because they meet the requirements of Clean Water Act Section 303(d) and federal regulations at 40 CFR 130.2 and 130.7.

TMDL Review

EPA reviewed the two State TMDL submittal packages to ensure that all required TMDL elements have been adequately addressed. EPA's review is presented in two attached checklists, one for the dry weather and one for the wet weather TMDLs. Our review found that all required TMDL elements and an adequate level of technical justification for each element are included.

TMDL Checklist

State: California

Water bodies: Santa Monica Bay Beaches- Dry Weather

Pollutant(s): coliform bacteria
enterococcus

Date of State Submission: December 19, 2002
EPA Reviewer: David Smith

Review Criteria	Comments
<p>1. Submittal Letter: Letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by state and submitted to EPA for approval under 303(d).</p>	<p>Letter dated December 19, 2002. The dry weather bacteria TMDLs were adopted by the Regional Board and the State Board on January 24, 2002 and September 19, 2002, respectively. The California Office of Administrative Law approved the dry weather TMDLs on December 9, 2002.</p> <p>The State adopted coliform bacteria and enterococcus TMDLs for several dozen Santa Monica Bay shoreline locations specified in Table 7-4.2a in the Regional Board resolution (p. 102a of the State Board administrative record). The TMDLs address beach segments listed on the 1998 Section 303(d) list for bacteria and beach closures (Staff report, p. 2).</p>
<p>2. Water Quality Standards Attainment: TMDL(s) and associated allocations are set at levels adequate to result in attainment of applicable standards.</p>	<p>TMDL Report, dated January 10, 2002 and Basin Plan Amendment Summary (Table 7-4.1). The TMDLs are designed to implement the existing water quality standards for bacteria for marine waters (TMDL Report, pp. 7-9). The State implemented these numeric water quality standards consistent with its "reference system/antidegradation approach" described in the Los Angeles Region Water Quality Control Plan (Basin Plan Amendment Summary, Table 7-4.1). Consistent with this bacteria standard implementation procedure, the TMDLs identify the maximum number of days for which excursions above the applicable single sample water quality standards are allowed at different locations during dry weather periods. The State's analysis demonstrates that implementation of the TMDLs will result in the attainment of the applicable bacteria standards (see Staff Report, pp. 19-24).</p>
<p>3. Numeric Target(s): Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL(s) identified, and adequate basis for target(s) as interpretation of water quality standards is provided.</p>	<p>TMDL Report, dated January 10, 2002 and Basin Plan Amendment Summary (Table 7-4.1). The TMDLs apply as numeric targets the currently applicable numeric WQS for total coliform, fecal coliform, and enterococcus bacteria. These numeric targets for single sample maximum standards are applied in terms of allowable exceedence days. This approach is described in standards implementation provisions of the Water Quality Control Plan. EPA is approving these new implementation provisions in coordination with the EPA decision to approve these TMDLs.</p>

4. Source Analysis: Point, nonpoint, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all significant sources have been considered.

TMDL Report, pp. 14-19, Basin Plan Amendment Summary (Table 7-4.1). The TMDL analysis considered existing information concerning the sources of bacteria impairing the Santa Monica beaches. Source analysis identifies all potential sources and determined that point source urban runoff is the dominant source of bacteria loading (Basin Plan Amendment Summary (Table 7-4.1)).

5. Allocations: Submittal identifies appropriate wasteload allocations for point sources and load allocations for nonpoint sources. If no point sources are present, wasteload allocations are zero. If no nonpoint sources are present, load allocations are zero.

TMDL Report, p. 20-25 and Basin Plan Amendment Summary (Table 7-4.1). The TMDLs include specific wasteload allocations for several dozen individual beach locations and for three wastewater treatment plants. No specific load allocations are provided; EPA notes that the later wet weather TMDLs for Santa Monica Bay Beaches specify that the load allocations are zero. Presumably, the load allocations during dry weather periods, during which nonpoint sources would be expected to be insignificant, are also zero.

The TMDL is expressed as the allowable number of days each beach location is permitted to exceed the applicable instantaneous bacteria water quality objective. The total allowable amount of bacteria may not exceed the applicable instantaneous bacteria objectives, and the allowable frequency of exceedance is expressed in terms of allowable exceedance days. The TMDL is therefore comprised of both the concentration-based objectives and the allowable frequency of exceedance. This approach is consistent with the manner in which the water quality standards are expressed in the Regional Board Basin Plan. This approach is also consistent with federal regulations, which require expression of TMDLs in terms of "mass per time, toxicity, or other appropriate measure" (40 CFR 130.2(I)). The State's approach is an appropriate measure because it is sensitive to the short term time allowable duration of bacteria exceedances permitted under the State water quality standards. The State calculated the allowable number of exceedance days for each location based the more stringent of two methods:

- the number of days the objectives were exceeded in a relatively undisturbed reference watersheds, or
- the number of days currently exceeding the objectives at that location.

This approach is authorized in the implementation procedures for the bacteria water quality standards.

Wasteload Allocations

The basin plan amendment specifies the "wasteload allocations" for specific beach locations that are applicable to the following stormwater permittees (Table 7-4.1 and Staff Report, p. 25):

- Municipal permittees including discharges covered

by the Los Angeles County Municipal Stormwater Permit, and

- Caltrans Stormwater Permit.

The TMDL specifies WLAs of zero allowable exceedance days for 3 publicly owned treatment works which is reasonable because these facilities are not authorized to discharge at levels exceeding the applicable bacteria objectives.

Based on the information in the TMDL Report and Basin Plan Amendment, EPA concludes that the TMDLs include appropriate allocations that are consistent with the TMDLs and with the provisions of the Clean Water Act and federal regulations. The State's TMDL focuses permissibly, and in EPA's view properly, on point source loadings of bacteria based on its finding that point source loadings are the dominant source of bacteria discharges to the beaches

6. Link Between Numeric Target(s) and Pollutant(s) of Concern: Submittal describes relationship between numeric target(s) and identified pollutant sources. For each pollutant, describes analytical basis for conclusion that sum of wasteload allocations, load allocations, and margin of safety does not exceed the loading capacity of the receiving water(s).

TMDL Report, pp. 19-20. The linkage analysis was performed through analysis of an extensive data set. The linkage analysis clearly describes the analytical basis for the exceedance day approach and its direct connection to the applicable water quality standard. In essence, the State is directly applying the numeric water quality standards, and is using a reference watershed approach to determining the number of days the standards are permitted to be exceeded at different locations. This method is consistent with the applicable water quality standards and is sensitive to differences among different beach locations in terms of allowable exceedance days. Because the numeric target, TMDL, and allocations are directly related to each other, it was unnecessary to provide a sophisticated linkage analysis or separate estimate of loading capacity.

7. Margin of Safety: Submission describes explicit and/or implicit margin of safety for each pollutant.

TMDL Report, p. 20. The TMDL describes an implicit margin of safety through the use of conservative modeling and planning assumptions. Among the conservative assumptions used are:

- no dilution factor is assumed between discharge locations and compliance monitoring points down current from the discharge outlets.

By directly applying the numeric water quality standards and implementation procedures as the TMDLs, there is little uncertainty about whether meeting the TMDLs will result in meeting the water quality standards.

8. Seasonal Variations and Critical Conditions: Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s)

TMDL Report, p. 19-20. The TMDL uses the 90th percentile year in terms of number of non-rain days as the reference year, which results in TMDLs for a near- worst case scenario. The source analysis discusses seasonal variations in bacterial loadings.

9. Public Participation: Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).

Regional Board Resolution 2002-004, January 24, 2002. The Regional Board and State Board both provided public notice and opportunities to comment on the TMDL through mailings to the Basin Plan mailing lists, by holding many public meetings, and by holding several public hearings to hear public comments on the TMDL. Several public comments were received in writing and in oral testimony. The State demonstrated how it considered these comments in its final decision by providing reasonably detailed responsiveness summaries, which include responses to each comment.

10. Technical Analysis: Submission provides appropriate level of technical analysis supporting TMDL elements.

The TMDL analysis provides a thorough review and summary of available information about bacterial contamination of Santa Monica Bay Beaches. We conclude the State was reasonably diligent in its technical analysis of bacteria loading and assimilative capacity.

11. Monitoring Plan: EPA encourages states to identify monitoring plan and schedule for considering revisions to TMDLs that will be implemented over time.

The Basin Plan amendment identifies a detailed compliance monitoring plan. Compliance monitoring will help ensure that the WLAs are achieved.

12. Reasonable Assurances (for waters affected by both point and nonpoint sources): Where point source(s) receive less stringent wasteload allocations because nonpoint source reductions are expected and reflected in load allocations, record provides reasonable assurances that nonpoint implementation actions are sufficient to result in attainment of load allocations in a reasonable period of time. Reasonable assurances may be provided through use of regulatory, non-regulatory, or incentive based implementation mechanisms as appropriate.

This provision is not applicable because there are no point sources which receive less stringent wasteload allocations based on expected nonpoint source reductions.

TMDL Checklist

State: California

Water bodies: Santa Monica Bay Beaches- Wet Weather

Pollutant(s): coliform bacteria
enterococcus

Date of State Submission: May 30, 2003
EPA Reviewer: David Smith

Review Criteria	Comments
<p>1. Submittal Letter: Letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by state and submitted to EPA for approval under 303(d).</p>	<p>Letter dated May 30, 2003. TMDLs were adopted by the Los Angeles Regional Water Quality Control Board (Regional Board) through resolution 2002-022 on December 12, 2002, and by the State Water Resources Control Board (State Board) through resolution 2003-0022 on February 19, 2002. The TMDLs were approved by Office of Administrative Law on May 20, 2003.</p> <p>The State adopted coliform bacteria TMDLs for several dozen Santa Monica Bay shoreline locations specified in Attachment A to the Regional Board resolution (p. 207 of the State Board administrative record. The TMDLs address beach segments listed on the 1998 Section 303(d) list for bacteria and beach closures (Staff report, p. 2).</p>
<p>2. Water Quality Standards Attainment: TMDL(s) and associated allocations are set at levels adequate to result in attainment of applicable standards.</p>	<p>TMDL Report, dated November 7, 2002 and Basin Plan Amendment Summary (Table 7-4.4). The TMDLs are designed to implement the existing water quality standards for bacteria for marine waters (TMDL Report, pp. 13-17). The State implemented these numeric water quality standards consistent with its "reference system/antidegradation approach" described in the Los Angeles Region Water Quality Control Plan (Basin Plan Amendment Summary, Table 7-4.4). Consistent with this bacteria standard implementation procedure, the TMDLs identify the maximum number of days for which excursions above the applicable single sample water quality standards are allowed at different locations during wet weather periods. The State's analysis demonstrates that implementation of the TMDLs will result in the attainment of the applicable bacteria standards (see Staff Report, pp. 33-52).</p>
<p>3. Numeric Target(s): Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL(s) identified, and adequate basis for target(s) as interpretation of water quality standards is provided.</p>	<p>TMDL Report, dated November 7, 2002 and Basin Plan Amendment Summary (Table 7-4.4). The TMDLs apply as numeric targets the currently applicable numeric WQS for total coliform, fecal coliform, and enterococcus bacteria. These numeric targets for single sample maximum standards are applied in terms of allowable exceedence days. This approach is described in new standards implementation provisions of the Water Quality Control Plan adopted concurrent with this action. EPA is approving these new implementation provisions in coordination with the EPA decision to approve these TMDLs.</p>

4. Source Analysis: Point, nonpoint, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all significant sources have been considered.

5. Allocations: Submittal identifies appropriate wasteload allocations for point sources and load allocations for nonpoint sources. If no point sources are present, wasteload allocations are zero. If no nonpoint sources are present, load allocations are zero.

TMDL Report, pp. 26-32 2002 and Basin Plan Amendment Summary (Table 7-4.4). The TMDL analysis considered existing information concerning the sources of bacteria impairing the Santa Monica beaches. Source analysis identifies all potential sources and determined that point source urban runoff is the dominant source of bacteria loading (Basin Plan Amendment Summary (Table 7-4.4).

TMDL Report, p. 41-53 and Basin Plan Amendment Summary (Table 7-4.4). The TMDLs include both specific wasteload allocations for several dozen individual beach locations and a general load allocation.

The TMDL is expressed as the allowable number of days each beach location is permitted to exceed the applicable instantaneous bacteria water quality objective. The total allowable amount of bacteria may not exceed the applicable instantaneous bacteria objectives, and the allowable frequency of exceedance is expressed in terms of allowable exceedance days. The TMDL is therefore comprised of both the concentration-based objectives and the allowable frequency of exceedance. This approach is consistent with the manner in which the water quality standards are expressed in the Regional Board Basin Plan. This approach is also consistent with federal regulations, which require expression of TMDLs in terms of "mass per time, toxicity, or other appropriate measure" (40 CFR 130.2(I)). The State's approach is an appropriate measure because it is sensitive to the short term time allowable duration of bacteria exceedances permitted under the State water quality standards. The State calculated the allowable number of exceedance days for each location based the more stringent of two methods:

- the number of days the objectives were exceeded in a relatively undisturbed reference watersheds, or
- the number of days currently exceeding the objectives at that location.

This approach is authorized in the implementation procedures for the bacteria water quality standards.

Wasteload Allocations

The basin plan amendment specifies the "wasteload allocations" for specific beach locations that are applicable to the following stormwater permittees (Table 7-4.4 and Staff Report, p. 54):

- Municipal permittees including discharges covered by the Los Angeles County Municipal Stormwater Permit, and
- Caltrans Stormwater Permit.

The TMDL specifies WLAs of zero allowable

exceedance days for 3 publicly owned treatment works, which is reasonable as these plants are not authorized to discharge bacteria at levels above the applicable water quality objectives.

Load Allocations

The basin plan amendment includes a gross load allocation of zero allowable exceedance days that is applicable to any sources not covered under the wasteload allocations (Table 7-4.4). Bacteria loadings from nonpoint sources that are not subject to NPDES jurisdiction were found to be insignificant because all stormwater runoff to the beaches is regulated under NPDES permits (Staff report, p. 41). The expression of the LA as a gross allotment is consistent with the provisions of 40 C.F.R. 130.2(g).

Based on the information in the TMDL Report and Basin Plan Amendment, EPA concludes that the TMDLs include as appropriate wasteload and load allocations which are consistent with the TMDLs and with the provisions of the Clean Water Act and federal regulations. The State's TMDL focuses permissibly, and in EPA's view properly, on point source loadings of bacteria based on its finding that point source loadings are the dominant source of bacteria discharges to the beaches

6. Link Between Numeric Target(s) and Pollutant(s) of Concern: Submittal describes relationship between numeric target(s) and identified pollutant sources. For each pollutant, describes analytical basis for conclusion that sum of wasteload allocations, load allocations, and margin of safety does not exceed the loading capacity of the receiving water(s).

TMDL Report, pp. 34-40. The linkage analysis was performed using a dynamic watershed and receiving water model (HSPF), supplemented with analysis of an extensive data set. The linkage analysis clearly describes the analytical basis for the exceedance day approach and its direct connection to the applicable water quality standard. In essence, the State is directly applying the numeric water quality standards, and is using a reference watershed approach to determining the number of days the standards are permitted to be exceeded at different locations. This method is consistent with the applicable water quality standards and is sensitive to differences among different beach locations in terms of allowable exceedance days. Because the numeric target, TMDL, and allocations are directly related to each other, it was unnecessary to provide a sophisticated linkage analysis or separate estimate of loading capacity.

7. Margin of Safety: Submission describes explicit and/or implicit margin of safety for each pollutant.

TMDL Report, pp 39-40. The TMDL describes an implicit margin of safety through the use of conservative modeling and planning assumptions. Among the conservative assumptions used are:

- no dilution factor is assumed between discharge locations and the area of "wave wash" on the beaches, although there is evidence that dilution occurs in most locations.
- conservative bacteria degradation factors were used

in the model, and
- the model evaluated the very conservative 90th percentile hourly density for each bacterial indicator. By directly applying the numeric water quality standards and implementation procedures as the TMDLs, there is little uncertainty about whether meeting the TMDLs will result in meeting the water quality standards.

8. Seasonal Variations and Critical Conditions: Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s)

TMDL Report, p. 33. The TMDL uses the 90th percentile "storm year" in terms of wet days as the reference year, which results in TMDLs for a near- worst case scenario. The source analysis discusses seasonal variations in bacterial loadings.

9. Public Participation: Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).

Regional Board Resolution 2002-022, December 12, 2002.

The Regional Board and State Board both provided public notice and opportunities to comment on the TMDL through mailings to the Basin Plan mailing lists, by holding many public meetings, and by holding several public hearings to hear public comments on the TMDL. Several public comments were received in writing and in oral testimony. The State demonstrated how it considered these comments in its final decision by providing reasonably detailed responsiveness summaries which include responses to each comment.

10. Technical Analysis: Submission provides appropriate level of technical analysis supporting TMDL elements.

The TMDL analysis provides a thorough review and summary of available information about bacterial contamination of Santa Monica Bay Beaches. We conclude the State was reasonably diligent in its technical analysis of bacteria loading and assimilative capacity.

11. Monitoring Plan: EPA encourages states to identify monitoring plan and schedule for considering revisions to TMDLs that will be implemented over time.

The Basin Plan amendment identifies a detailed compliance monitoring plan. Compliance monitoring will help ensure that the WLAs are achieved.

12. Reasonable Assurances (for waters affected by both point and nonpoint sources): Where point source(s) receive less stringent wasteload allocations because nonpoint source reductions are expected and reflected in load allocations, record provides reasonable assurances that nonpoint implementation actions are sufficient to result in attainment of load allocations in a reasonable period of time. Reasonable assurances may be provided through use of regulatory, non-regulatory, or incentive based implementation mechanisms as appropriate.

This provision is not applicable because there are no point sources which receive less stringent wasteload allocations based on expected nonpoint source reductions.