



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

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Mr. Dennis A. Dickerson  
Executive Officer  
Los Angeles Regional Water Quality Control Board  
320 W. 4<sup>th</sup> Street, Suite 200  
Los Angeles, CA 90013

Dear Mr. Dickerson:

Thank you for submitting the total maximum daily load (TMDL) for coliform bacteria at McGrath State Beach. This TMDL also addresses beach closures that were identified as a concern at McGrath State Beach in the current California Section 303(d) list. The TMDL and implementation plan submittal was dated July 14, 2003. The TMDL was adopted by the Regional Board concurrent with a Cleanup and Abatement Order (CAO), No. R4-2003-0065, issued to Coastal Berry Company, LLC.

Based on EPA's review of the TMDL submittal under Clean Water Act Section 303(d), I have concluded that the TMDL adequately addresses the pollutant of concern and, upon implementation, will result in attainment of the applicable water quality standards for coliform bacteria. The TMDL includes wasteload and load allocations as needed, takes into consideration seasonal variations and critical conditions, and provides an adequate margin of safety.

The State provided adequate opportunities for public review and comment on the TMDL and demonstrated how public comments were considered in the final TMDL. All required elements are adequately addressed; therefore, the TMDL is hereby approved pursuant to Clean Water Act Section 303(d)(2).

The enclosed review discusses the basis for this decision in detail. I appreciate the Regional Board's work to complete and adopt this TMDL and look forward to our continuing partnership in TMDL development. If you have questions concerning this approval, please call me at (415) 972-3435 or David Smith at (415) 972-3416.

Sincerely,

Alexis Strauss  
Director  
Water Division

28 November 2003

enclosures

cc: Celeste Cantú, SWRCB

**TMDL Checklist**

**State:** California

**Waterbodies:** McGrath State Beach

**Pollutant(s):** Coliform & Beach Closures

**Date of State Submission:** July 14, 2003

**Date Received By EPA:** July 26, 2003

**EPA Reviewer:** Cindy Lin & David Smith

Review Criteria	Comments
<p><b>1. Submittal Letter:</b> State submittal 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 July 14, 2003. The Los Angeles Regional Water Quality Control Board (Regional Board) completed the TMDL in July 2003. The Regional Board adopted the TMDL through a Cleanup and Abatement Order (CAO), CAO No. R4-2003-0065 issued to Coastal Berry Company, LLC (Coastal Berry) on July 14, 2003. The Regional Board's TMDL analysis found that the source of this impairment was a discharge by Coastal Berry from McGrath Lake to McGrath State Beach.</p> <p>In contrast to many other TMDLs adopted by the State of California, State administrative rules did not require the State to adopt this TMDL through a Basin Plan amendment because it will be implemented through controls on a single bacteria source. Therefore, the TMDL was adopted by the Regional Water Quality Control Board and did not need further approval from the State Water Resources Control Board or Office of Administrative Law prior to being submitted to EPA.</p> <p>The water quality standards violations are being addressed by a Cleanup and Abatement Order (CAO) No. R4-2003-0065, Coastal Berry Company, LLC., Ventura County, CA, issued by the Regional Board. This CAO requires that Coastal Berry implement measures to ensure that the quality of water discharged to McGrath Beach does not exceed the California Ocean Plan (Ocean Plan) or the Water Quality Control Plan, Los Angeles Region (Basin Plan) standards.</p>
<p><b>2. Water Quality Standards Attainment:</b> TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.</p>	<p>The Staff TMDL Report, dated July 2003, and Appendix A: Regional Board Resolution 01-018, Bacteria Water Quality Objectives. The TMDL is designed to implement the existing numeric objectives for bacteria (Staff TMDL Report, pp. 7). This TMDL is based on a multi-part numeric target based on the bacteria objectives for marine waters designated for water contact recreation, REC-1, specified in the Basin Plan Amendment adopted by the Regional Board on October 25, 2001 and approved by the State Water Resources Control Board on July 18, 2002. The State objectives include four bacterial indicators, total coliform, fecal coliform, enterococcus, and the fecal-to-total coliform ratio. In this TMDL, the numeric targets are measured at point zero (i.e., mixing zone or wave wash), to provide an effective means of protecting the beneficial use by</p>

	<p>requiring compliance with the objectives wherever water contact recreation occurs (pp.8).</p> <p>The State reasonably concluded that attainment of the specified numeric targets and associated TMDLs, load allocations, and wasteload allocations will result in elimination of the adverse effects associated with high bacterial indicator counts in the water and attainment of the applicable numeric standards. As a result, beach closures should be greatly reduced or eliminated.</p>
<p><b>3. Numeric Target(s):</b> Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL identified, and adequate basis for target(s) as interpretation of water quality standards is provided.</p>	<p>The Staff TMDL Report dated July 2003, pp. 8-10, and Basin Plan Amendment Summary. TMDL implements numeric WQS for total coliform, fecal coliform, enterococcus, and the fecal-to-total coliform ratio. The Staff TMDL Report analysis concludes that exceedences of the bacterial indicator objectives can adversely affect beneficial uses including recreational water contact (REC-1 and REC-2), commercial and sport fishing, marine habitat, wildlife habitat, preservation of biological habitats, rare threatened, or endangered species habitat, migration of aquatic organisms, spawning, reproduction, and/or early development, and shellfish harvesting (pp. 6).</p> <p>Numeric targets are expressed as total coliform, fecal coliform and enterococcus densities, and fecal-to-total coliform ratio. The Staff TMDL Report concludes that water quality at McGrath Beach is impaired for coliform bacteria and beach closures (pp. 2). In the 1998 303(d) list, McGrath State Beach was listed as impaired for total coliform; and McGrath Beach was listed for beach closures (pp. 3). A review of recent data found that McGrath Beach remains impaired for total coliform (pp. 3).</p> <p>The State set the following targets to protect marine waters designated for water contact recreation (REC-1 and REC-2 beneficial uses) (pp.8-9):</p> <p><b>Geometric Mean</b></p> <ul style="list-style-type: none"> <li>a. Total coliform density shall not exceed 1,000/100ml;</li> <li>b. Fecal coliform density shall not exceed 200/100ml;</li> <li>c. Enterococcus density shall not exceed 35/100ml.</li> </ul> <p><b>Single Sample</b></p> <ul style="list-style-type: none"> <li>a. Total coliform density shall not exceed 10,000/100ml;</li> <li>b. Fecal coliform density shall not exceed 400/100ml;</li> <li>c. Enterococcus density shall not exceed 104/100ml.</li> </ul> <p>Protection of REC-1 uses will protect REC-2 uses because REC-1 objectives for pathogen indicators are more stringent. The numeric targets in this TMDL require samples to meet the criteria from both the Ocean Plan (2001) and the Basin Plan, as measured at point zero. Point zero, or the point at which water from the discharge initially mixes with ocean water, is consistent with the "point of initial dilution" as defined in the CA Ocean Plan.</p> <p>The State's approach is a reasonable and environmentally protective</p>

	<p>approach for accounting for uncertainty in the relationship between pollutant loading levels and attainment of water quality standards, as required by the CWA Section 303(d)(1)(C).</p>
<p><b>4. Source Analysis:</b> 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.</p>	<p>Staff TMDL Report, pp. 10-21. The TMDL analysis considers existing information concerning the sources of coliform impairing McGrath Beach. The State also collected additional data and developed a water quality model to assist in data analysis and source characterization. The source analysis identifies all potential sources and determined that the principal point sources of coliform into McGrath Beach are managed discharges from McGrath Lake and the Mandalay Generating Station. The major nonpoint source of coliform is the Santa Clara River Estuary (Staff TMDL Report, pp. 18-21). The TMDL sufficiently describes all sources of impairments.</p>
<p><b>5. Allocations:</b> 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.</p>	<p>Staff TMDL Report, pp. 22-24 and Basin Plan Amendment Summary. The TMDL includes both specific wasteload allocations and a general load allocation, consistent with the provisions of 40 CFR 130.7.</p> <p><b>Wasteload Allocations</b></p> <p>McGrath Lake and Mandalay Generating Station are identified as the major sources of total coliform at McGrath Beach. The Regional Board adopted wasteload allocations for two discharge points (Staff TMDL Report Table 8).</p> <p>The WLA is expressed as a concentration to allow for seasonal or operational flow variations. Mass-based WLAs are provided in the TMDL, and include an explicit 20% MOS for the McGrath Lake discharge.</p> <p><b>Load Allocations: Santa Clara River Estuary</b></p> <p>The Staff TMDL Report's modeling and linkage analysis show that the only non-point source is the Santa Clara River Estuary. The primary sources of total coliform in this estuary are birds, which live in the estuary or use the estuary as migratory habitat. Since the total coliform load in the summer of <math>1.02 \times 10^{12}</math> MPN/day is less than the numeric target LA of <math>4.87 \times 10^{12}</math> MPN/day, further source reduction is not required in the summer. However, the winter total coliform load of <math>9.24 \times 10^{12}</math> MPN/day is higher than the target LA. Further investigation is required to determine the reduction amount (pp. 22 &amp; 23).</p> <p>The load allocations are established for agriculture and other non-point sources (Table 20). Although additional monitoring is needed to refine the estimates of ammonia and oxidized nitrogen contributions, current estimates are sufficient to address the non-point source loads. If future monitoring data show loads are greater than assumed, the State may require additional BMPs to address dry weather runoff from urban areas, such as runoff from fertilizers from lawns (pp. 64).</p> <p>Based on the information in the Staff TMDL Report, Basin Plan</p>

	<p>Amendment, and the letter of July 14, 2003, 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.</p>
<p><b>6. Link Between Numeric Target(s) and Pollutant(s) of Concern:</b> 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).</p>	<p>Staff TMDL Report, pp. 21 and Appendix C &amp; D. The Regional Board provides adequate linkage analysis for total coliform and its diffusion and buildup at the beach and estuary by employing a two dimensional model that examines the mixing and dispersion of wastewater discharge from a discharge point. The model assesses near field mixing and far field diffusion and buildup.</p> <p>The model is conservative because it accounts for point and nonpoint sources during wet weather conditions when total coliform densities are higher. The model defines the storm flow conditions and adequately accounts for critical conditions (i.e., wet weather months) and allows estimation of an implicit margin of safety associated with conservative assumptions in the model. The model was calibrated against critical conditions and monitoring data to verify its range of accuracy (pp.22).</p> <p>EPA concludes the analysis sufficiently describes the link between numeric targets and the pollutant sources in McGrath Beach.</p>
<p><b>7. Margin of Safety:</b> Submission describes explicit and/or implicit margin of safety for each pollutant.</p>	<p>Staff TMDL Report, pp. 24. The TMDL includes an implicit and explicit margin of safety. The implicit margin of safety is included in the model through conservative model assumptions and statistical analysis. An explicit margin of safety is incorporated by reserving 20% of the load for uncertainty circumstances and limited data set availability. This explicit MOS of 20% is on a mass basis. In addition, the model used a quasi-steady state condition that included some dilution between sources. Since this was not a conservative estimate, Regional Board adopted a higher MOS.</p> <p>EPA considers this a permissible and appropriate way of dealing with uncertainty concerning the relationships between pollutant loadings and water quality.</p>
<p><b>8. Seasonal Variations and Critical Conditions:</b> Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s).</p>	<p>Staff TMDL Report, pp. 17. Seasonal variations and critical conditions are described and included in the primary impairment assessment and water quality modeling for total coliform and enterococcus (see Source Assessment and Linkage Analysis sections). Summer is defined by the Assembly Bill 411 sampling requirements (which required local health departments to analyze beaches for bacteria on a regular basis) as April 1 to October 31. Winter is defined by the remaining months, November 1 to March 31.</p> <p>The TMDL adequately accounts for the seasonal variations and critical conditions by examining the existing flow record and water quality data. The impairment assessment sufficiently included these situations in the analysis and margin of safety.</p>
<p><b>9. Public Participation:</b></p>	<p><u>Regional Board Documents:</u> Summary of responses to public comments by Regional Board, March</p>

<p>Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).</p>	<p>2003. The Regional Board provided public notice and opportunities to comment on the TMDL through mailings to the Basin Plan mailing lists, by holding 4 public meetings, and by receiving public comments at these meetings. 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.</p>
<p><b>10. Technical Analysis:</b> Submission provides appropriate level of technical analysis supporting TMDL elements.</p>	<p>The TMDL analysis provides a thorough review and summary of available information concerning bacterial indicators and beach closures in the specific areas of concern. We conclude the Regional Board was reasonably diligent in its technical analysis of total coliform and enterococcus at McGrath State Beach. Neither the Regional Board nor public commenters identified research nor study results which provided an analytical basis for setting the TMDL at a level higher than identified at this time.</p>