

**Attachment A to Resolution No. 02-004**  
**Proposed Amendment to the Water Quality Control Plan – Los Angeles Region to incorporate the**  
**Santa Monica Bay Beaches Bacteria TMDL**

Proposed for adoption by the California Regional Water Quality Control Board, Los Angeles Region on January 24, 2002.

**Amendments:**

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**Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries**  
**Santa Monica Bay Beaches Bacteria TMDL (Dry Weather Only)\***

This TMDL was adopted by:

The Regional Water Quality Control Board on January 24, 2002.

The State Water Resources Control Board on [Insert Date].

The Office of Administrative Law on [Insert Date].

The U.S. Environmental Protection Agency on [Insert Date].

The following table summarizes the key elements of this TMDL.

**Table 7-4.1. Santa Monica Bay Beaches Bacteria TMDL (Dry Weather Only): Elements**

<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
<b><i>Problem Statement</i></b>	Elevated bacterial indicator densities are causing impairment of the water contact recreation (REC-1) beneficial use at many Santa Monica Bay (SMB) beaches. Swimming in waters with elevated bacterial indicator densities has long been associated with adverse health effects. Specifically, local and national epidemiological studies compel the conclusion that there is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities.
<b><i>Numeric Target</i></b> <i>(Interpretation of the numeric water quality objective, used to calculate the waste load allocations)</i>	<p>The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for marine water to protect the water contact recreation use. These targets are the most appropriate indicators of public health risk in recreational waters.</p> <p>These bacteriological objectives are set forth in Chapter 3 of the Basin Plan, as amended by the Regional Board on October 25, 2001. The objectives are based on four bacterial indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives are as follows:</p> <ol style="list-style-type: none"> <li>1. <u>Rolling 30-day Geometric Mean Limits</u> <ol style="list-style-type: none"> <li>a. Total coliform density shall not exceed 1,000/100 ml.</li> <li>b. Fecal coliform density shall not exceed 200/100 ml.</li> <li>c. Enterococcus density shall not exceed 35/100 ml.</li> </ol> </li> <li>2. <u>Single Sample Limits</u> <ol style="list-style-type: none"> <li>a. Total coliform density shall not exceed 10,000/100 ml.</li> <li>b. Fecal coliform density shall not exceed 400/100 ml.</li> <li>c. Enterococcus density shall not exceed 104/100 ml.</li> <li>d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.</li> </ol> </li> </ol> <p>The targets apply throughout the year. The compliance point for the targets is the wave wash<sup>1</sup>, where there is a freshwater outlet (i.e., storm drain or creek) to the beach, or at ankle depth at beaches without a freshwater outlet.</p> <p>The geometric mean targets may not be exceeded at any time. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days for two time periods (summer dry weather and winter dry weather as defined in Table 7-4.2a). (A separate amendment will address the allowable number of wet weather exceedance days.)</p> <p>The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at a designated reference site within the watershed and (2) there is no degradation of existing shoreline bacteriological water quality.</p>
<b><i>Source Analysis</i></b>	With the exception of isolated sewage spills, dry weather urban runoff conveyed by storm drains and creeks is the primary source of elevated bacterial indicator densities to SMB beaches during dry weather. Limited natural runoff and groundwater may also potentially contribute to elevated bacterial indicator densities during winter dry weather. This

<sup>1</sup> The wave wash is defined as the point at which the storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water.

	is supported by the finding that historical monitoring data from the reference beach indicate no exceedances of the single sample targets during summer dry weather and on average only three percent exceedance during winter dry weather.
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<b><i>Loading Capacity</i></b>	Studies show that bacterial degradation and dilution during transport from the watershed to the beach do not significantly affect bacterial indicator densities at SMB beaches. Therefore, the loading capacity is defined in terms of bacterial indicator densities, which is the most appropriate for addressing public health risk, and is equivalent to the numeric targets, listed above.
<b><i>Waste Load Allocations</i></b>	<p>Waste load allocations are expressed as the number of sample days at a shoreline monitoring site that may exceed the single sample targets identified under “Numeric Target.” Waste load allocations are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection.</p> <p>For each shoreline monitoring site and corresponding subwatershed, the allowable number of exceedance days is set for two time periods. These two periods are:</p> <ol style="list-style-type: none"> <li>1. summer dry weather (April 1 to October 31), and</li> <li>2. winter dry weather (November 1 to March 31).</li> </ol> <p>The allowable number of exceedance days for a shoreline monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical bacteriological data at the monitoring site. This ensures that shoreline bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing shoreline bacteriological water quality.<sup>2</sup>All responsible jurisdictions and responsible agencies<sup>3</sup> within a subwatershed are jointly responsible for complying with the allowable number of exceedance days for each associated shoreline monitoring site identified in Table 7-4.2a below.</p> <p>The three Publicly Owned Treatment Works (POTWs)<sup>4</sup> discharging to Santa Monica Bay are each given individual WLAs of zero (0) days of exceedance during both summer dry weather and winter dry weather.</p>
<b><i>Implementation</i></b>	<p>This TMDL will be implemented in two phases over a 6-year period. The regulatory mechanisms used to implement the TMDL will include primarily the Los Angeles County Municipal Storm Water NPDES Permit, the Caltrans Storm Water Permit, the three NPDES permits for the POTWs, and the authority vested in the Executive Officer via 13267 of the Porter-Cologne Water Quality Control Act.</p> <p>Within 3 years of the effective date of the TMDL, summer dry-weather allowable exceedance days and the rolling 30-day geometric mean</p>

<sup>2</sup> In order to fully protect public health, no exceedances are permitted at any shoreline monitoring location during summer dry weather (April 1 to October 31). In addition to being consistent with the two criteria, waste load allocations of zero (0) exceedance days are further supported by the fact that the California Department of Health Services has established minimum protective bacteriological standards – the same as the numeric targets in this TMDL – which, when exceeded during the period April 1 to October 31, result in posting a beach with a health hazard warning (California Code of Regulations, title 17, section 7958).

<sup>3</sup> For the purposes of this TMDL, “responsible jurisdictions and responsible agencies” includes: (1) local agencies that are responsible for discharges from a publicly owned treatment works to the Santa Monica Bay watershed or directly to the Bay, (2) local agencies that are permittees or co-permittees on a municipal storm water permit, (3) local or state agencies that have jurisdiction over a beach adjacent to Santa Monica Bay, and (4) the California Department of Transportation pursuant to its storm water permit.

<sup>4</sup> Hyperion Wastewater Treatment Plant, Joint Water Pollution Control Plant, and Tapia Wastewater Reclamation Facility.

	<p>targets must be achieved. Within 6 years of the effective date, winter dry-weather allowable exceedance days and the rolling 30-day geometric mean targets must be achieved.</p>
<p><b><i>Margin of Safety</i></b></p>	<p>WLAs of zero days of exceedance during the summer include an implicit margin of safety. The WLAs of a maximum of three days of exceedance during winter dry weather include an implicit margin of safety because the maximum allowable days of exceedance are based on samples collected 50 yards downcurrent of the freshwater outlet at the reference beach. Findings from a bacterial dispersion study of selected freshwater outlets show that there is typically significant dilution between the freshwater outlet, the wave wash (the compliance point), and a point 50 yards downcurrent.</p>
<p><b><i>Seasonal Variations and Critical Conditions</i></b></p>	<p>Seasonal variations are addressed by developing separate waste load allocations for two time periods (summer dry weather and winter dry weather) based on public health concerns and observed natural background levels of exceedance of bacterial indicators.</p> <p>The critical period for this dry weather bacteria TMDL is during winter months, when historic shoreline monitoring data for the reference beach indicate that the single sample bacteria objectives are exceeded on average 3% of the dry weather days sampled.</p>

Note: The complete staff report for the TMDL is available for review upon request.

**Table 7-4.3. Santa Monica Bay Beaches Bacteria TMDL (Dry Weather Only): Significant Dates**

Date	Action
120 days after the effective date of the TMDL	Responsible jurisdictions and responsible agencies must submit coordinated shoreline monitoring plan(s), including a list of new sites or sites relocated to the wave wash at which time responsible jurisdictions and responsible agencies will select between daily and weekly shoreline sampling.
120 days after the effective date of the TMDL	<p>Responsible jurisdictions and responsible agencies must identify and provide documentation on 342 potential discharges to Santa Monica Bay beaches listed in Appendix C of the TMDL Staff Report dated January 11, 2002. Documentation must include a Report of Waste Discharge (ROWD) where necessary.</p> <p>Responsible jurisdictions and responsible agencies must identify and provide documentation on potential discharges to the Area of Special Biological Significance (ASBS) in northern Santa Monica Bay from Latigo Point to the County line.</p> <p>Cessation of the discharges into the ASBS shall be required in conformance with the California Ocean Plan.</p>
2 years after effective date of TMDL	Re-open TMDL to re-evaluate allowable winter dry weather exceedance days based on additional data on bacterial indicator densities in the wave wash, a re-evaluation of the reference system selected to set allowable exceedance levels, and a re-evaluation of the reference year used in the calculation of allowable exceedance days.
3 years after effective date of the TMDL	Achieve compliance with allowable exceedance days as set forth in Table 7-4.2a and rolling 30-day geometric mean targets during summer dry weather (April 1 to October 31).
6 years after effective date of the TMDL	Achieve compliance with allowable exceedance days as set forth in Table 7-4.2a and rolling 30-day geometric mean targets during winter dry weather (November 1 to March 31).