

Attachment A to Resolution No. 2006-011

Table 7-21.1. Ballona Creek, Estuary, and Tributaries s Bacteria TMDL: Elements

Element	Key Findings and Regulatory Provisions
<i>Problem Statement</i>	Elevated bacterial indicator densities are causing impairment of the water contact recreation (REC-1) beneficial use designated for Ballona Estuary and Sepulveda Channel, limited water contact recreation (LREC) designated for Ballona Creek Reach 2, and non-contact recreation (REC-2) beneficial uses of Ballona Creek Reach 1. Recreating in waters with elevated bacterial indicator densities has long been associated with adverse human 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.
<i>Numeric Target (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 and fresh water to protect the contact and non-contact recreation uses. 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.¹ The objectives are based on four bacterial indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives that serve as the numeric targets for this TMDL are:</p> <p>In Marine Waters Designated for Water Contact Recreation (REC-1)</p> <p><u>1. Geometric Mean Limits</u></p> <p>a. Total coliform density shall not exceed 1,000/100 ml. b. Fecal coliform density shall not exceed 200/100 ml. c. Enterococcus density shall not exceed 35/100 ml.</p> <p><u>2. Single Sample Limits</u></p> <p>a. Total coliform density shall not exceed 10,000/100 ml. b. Fecal coliform density shall not exceed 400/100 ml. c. Enterococcus density shall not exceed 104/100 ml. d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.</p> <p>In Fresh Waters Designated for Water Contact Recreation (REC-1)</p> <p><u>1. Geometric Mean Limits</u></p> <p>a. <i>E. coli</i> density shall not exceed 126/100 ml. b. Fecal coliform density shall not exceed 200/100 ml.</p> <p><u>2. Single Sample Limits</u></p> <p>a. <i>E. coli</i> density shall not exceed 235/100 ml. b. Fecal coliform density shall not exceed 400/100 ml.</p>

¹ The bacteriological objectives were revised by a Basin Plan amendment adopted by the Regional Board on October 25, 2001, and subsequently approved by the State Water Resources Control Board, the Office of Administrative Law and finally by U.S. EPA on September 25, 2002.

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Element	Key Findings and Regulatory Provisions
	<p>In Fresh Waters Designated for Limited Water Contact Recreation (LREC-1)²</p> <ol style="list-style-type: none"> 1. Geometric Mean Limits <ol style="list-style-type: none"> a. <i>E. coli</i> density shall not exceed 126/100 ml. b. Fecal coliform density shall not exceed 200/100 ml. 2. Single Sample Limits <ol style="list-style-type: none"> a. <i>E. coli</i> density shall not exceed 576/100 ml. <p>In Fresh Waters Designated for Non-Contact Water Recreation (REC-2)</p> <ol style="list-style-type: none"> 1. Geometric Mean Limits <ol style="list-style-type: none"> a. Fecal coliform density shall not exceed 2000/100 ml. 2. Single Sample Limits <ol style="list-style-type: none"> a. Fecal coliform density shall not exceed 4000/100 ml. <p>The targets apply throughout the year. Determination of attainment of the targets will be at in-stream monitoring sites to be specified in the compliance monitoring report.</p> <p>Implementation of the above REC-1 and LREC-1 bacteria objectives and the associated TMDL numeric targets is achieved using a 'reference system/anti-degradation approach' rather than the alternative 'natural sources exclusion approach subject to antidegradation policies' or strict application of the single sample objectives. As required by the CWA and Porter-Cologne Water Quality Control Act, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region's standards.</p> <p>The 'reference system/anti-degradation approach' means that on the basis of historical exceedance levels at existing monitoring locations, including a local reference beach within Santa Monica Bay, a certain number of daily exceedances of the single sample bacteria objectives are permitted. 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 bacteriological water quality. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas.</p>

² The bacteriological objectives for the LREC-1 use designation were provided in a Basin Plan Amendment adopted by State Board on January 20, 2005, and subsequently approved by the Office of Administrative Law and finally by U.S. EPA on February 17, 2006

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	<p>The geometric mean targets may not be exceeded at any time. The rolling 30-day geometric means will be calculated on each day. If weekly sampling is conducted, the weekly sample result will be assigned to the remaining days of the week in order to calculate the daily rolling 30-day geometric mean. For the single sample targets, each existing monitoring site is assigned an allowable number of exceedance days for three time periods (1) summer dry-weather (April 1 to October 31), (2) winter dry-weather (November 1 to March 31), and (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event.)</p> <p>Implementation of the REC-2 target will be as specified in the Basin Plan. The REC-2 bacteria objectives allow for a 10% exceedance frequency of the single sample limit in samples collected during a 30-day period. This allowance, which is based on an acceptable level of health risk, will be applied in lieu of the allowable exceedance days discussed earlier. As with the other REC-1 and LREC-1 objectives, the geometric mean target for REC-2, which is based on a rolling 30-day period, will be strictly adhered to and may not be exceeded at any time.</p>
<i>Source Analysis</i>	<p>The major contributors of flows and associated bacteria loading to Ballona Creek and Estuary, are dry- and wet-weather urban runoff discharges from the storm water conveyance system. Run-off to Ballona Creek is regulated as a point source under the Los Angeles County MS4 Permit, the Caltrans Storm Water Permit, and the General Construction and Industrial Storm Water Permits. In addition to these regulated point sources, the Ballona Estuary receives input from the Del Rey Lagoon and Ballona Wetlands through connecting tide gates.</p> <p>Preliminary data suggest that the Ballona Wetlands are a sink for bacteria from Ballona Creek and it is therefore not considered a source in this TMDL. Inputs to Ballona Estuary from Del Rey Lagoon, are considered non-point sources of bacterial contamination. This waterbody may be considered for a natural source exclusion if its contributing bacteria loads are determined to be as a result of wildlife in the area, as opposed to anthropogenic inputs. The TMDL will require a source identification study for the lagoon in order to apply the natural source exclusion.</p> <p>Other nonpoint sources in Ballona Creek and Estuary include natural sources from birds, waterfowl and other wildlife. Data do not currently exist to quantify the extent of the impact of wildlife on bacteria water quality in the Estuary.</p>
<i>Loading Capacity</i>	<p>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.</p>
<i>Waste Load Allocations (for point sources)</i>	<p>The Los Angeles County MS4 and Caltrans storm water permittees and co-permittees are assigned waste load allocations (WLAs) expressed as the number of daily or weekly sample days that may exceed the single sample targets equal to the TMDLs established for the impaired reaches (see Table 7.21.2a), and Waste Load Allocations assigned to waters tributary to impaired reaches (Table 7.21.2b). Waste load allocations are expressed as allowable exceedance days because the bacterial density and frequency of single sample</p>

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	<p>exceedances are the most relevant to public health protection.</p> <p>For each monitoring site, allowable exceedance days are set on an annual basis as well as for three time periods. These three periods are:</p> <ol style="list-style-type: none"> 1. summer dry-weather (April 1 to October 31) 2. winter dry-weather (November 1 to March 31) 3. wet-weather days (defined as days of 0.1 inch of rain or more plus three days following the rain event). <p>The County of Los Angeles, Caltrans, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies³ for the Ballona Creek Watershed. The responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach.</p> <p>For the single sample objectives of the impaired REC-1 and LREC-1 reaches, the proposed WLA for summer dry-weather are zero (0) days of allowable exceedances, and those for winter dry-weather and wet-weather are three (3) days and seventeen (17) days of exceedance, respectively. In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.</p> <p>For the single sample objectives of the impaired REC-2 reach, the proposed WLA for all periods is a 10% exceedance frequency of the REC-2 single sample water quality objectives. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.</p> <p>In addition to assigning TMDLs for the impaired reaches, Waste Load Allocations and Load Allocations are assigned to the tributaries to these impaired reaches. These WLAs and LAs are to be met at the confluence of each tributary and its downstream reach (see Table 7.21.2b).</p>
<p><i>Load Allocations (for nonpoint sources)</i></p>	<p>Load allocations are expressed as the number of daily or weekly sample days that may exceed the single sample targets identified under "Numeric Target" at a monitoring site, along with a rolling 30-day geometric mean. 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. Del Rey Lagoon is considered a nonpoint source and is therefore subject to load allocations.</p> <p>The proposed LA for summer dry-weather are zero (0) days of allowable exceedances, and those for winter dry-weather and wet-weather are three (3) days and seventeen (17) days of exceedance, respectively. In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The proposed load allocation for the rolling 30-day geometric mean for the responsible agencies and</p>

³ For the purposes of this TMDL, "responsible jurisdictions and responsible agencies" are defined as (1) local agencies that are permittees or co-permittees on a municipal storm water permit, (2) local or state agencies that have jurisdiction over Ballona Creek and Estuary, and (3) the California Department of Transportation pursuant to its storm water permit.

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	<p>jurisdictions is zero (0) days of allowable exceedances (see Table 7.21.2a).</p> <p>The City of Los Angeles is the responsible jurisdiction for the Del Rey lagoon, and is responsible for complying with the assigned load allocations presented in Table 7.21.2b at the tide gate(s) between the Lagoon and the Estuary.</p> <p>If other unidentified nonpoint sources are directly impacting bacteriological water quality and causing an exceedance of the numeric targets, within the Estuary, the permittee(s) under the Municipal Storm Water NPDES Permits are not responsible through these permits. However, the jurisdiction or agency adjacent to the monitoring location may have further obligations to identify such sources.</p>
<p>Implementation</p>	<p>The regulatory mechanisms used to implement the TMDL will include the Los Angeles County Municipal Storm Water NPDES Permit (MS4), the Caltrans Storm Water Permit, general NPDES permits, general industrial storm water permits, general construction storm water permits, and the authority contained in Sections 13263 and 13267 of the Water Code. Each NPDES permit assigned a WLA shall be reopened or amended at re-issuance, in accordance with applicable laws, to incorporate the applicable WLAs as a permit requirement.</p> <p>Each responsible jurisdictions and agency will be required to meet the storm water waste load allocations shared by the LA County MS4 and Caltrans permittees at the designated TMDL effectiveness monitoring points. An iterative implementation approach using a combination of non-structural and structural BMPs may be used to achieve compliance with the waste load allocations. The administrative record and the fact sheets for the MS4 and Caltrans storm water permits must provide reasonable assurance that the BMPs selected will be sufficient to implement the waste load allocation.</p> <p>Load allocations for nonpoint sources will be incorporated into Waste Discharge Requirements and MOUs with the responsible jurisdictional agencies.</p> <p>This TMDL will be implemented in two phases over a ten-year period (see Table 7-21.3). Within six years of the effective date of the TMDL, compliance with the allowable number of summer dry-weather (April 1 to October 31), winter dry-weather exceedance days (November 1 to March 31) and the rolling 30-day geometric mean targets for both periods must be achieved. Within ten years of the effective date of the TMDL, compliance with the allowable number of wet-weather exceedance days and rolling 30-day geometric mean targets must be achieved.</p> <p>In order to clearly justify an extended implementation schedule beyond 10 years and up to 14 years from the effective date of the TMDL, the responsible agencies are required to submit additional quantifiable analyses as described below to demonstrate (1) the proposed plans will meet the final WLAs and (2) the proposed implementation actions will achieve multiple water quality benefits and other public goals.</p> <p>The types of approaches proposed coupled with quantifiable estimates of the integrated water resources benefits of the proposed structural and non-structural BMPs included in the Implementation Plan would provide the obligatory demonstration that an integrated water resources approach is being</p>

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	<p>pursued. This demonstration shall include numeric estimates of the benefits, including but not limited to reductions in other pollutants, groundwater recharged, acres of multi-use projects and water (e.g. urban runoff) beneficially reused.</p> <p>The responsible jurisdictions and the responsible agencies must submit a report to the Executive Officer (see Table 7-21.3) describing how they intend to comply with the dry-weather and wet-weather WLAs. As the primary jurisdiction, the City of Los Angeles is responsible for submitting the implementation plan report described above.</p> <p>In addition, as the responsible agency for Del Rey Lagoon, the City of Los Angeles must submit a report detailing how it intends to comply with the load allocations assigned to this waterbody. Alternatively, the City of Los Angeles may submit data clearly demonstrating that Del Rey Lagoon is not a source, for the Regional Board's consideration..</p> <p>The Regional Board intends to reconsider this TMDL, within 4 years of its effective date to incorporate modifications to the WLAs based on results of the scheduled reconsideration of the Santa Monica Bay (SMB) beaches TMDLs. The SMB beaches TMDLs are scheduled to be reconsidered in four years to re-evaluate the allowable winter dry-weather and wet-weather exceedance days based on additional data on bacterial indicator densities in the wave wash; to re-evaluate the reference system selected to set allowable exceedance levels; to re-evaluate the reference year used in the calculation of allowable exceedance days, and to re-evaluate the need for revision of the geometric mean implementation provision.</p> <p>The Regional Board also intends to re-asses the WLAs for Benedict Canyon Channel, Sepulveda Channel, and Centinela Creek based on results of the required compliance monitoring, and/or any voluntary beneficial use investigations.</p>
<i>Margin of Safety</i>	<p>By directly applying the numeric water quality standards and implementation procedures as Waste Load Allocations, there is little uncertainty about whether meeting the TMDLs will result in meeting the water quality standards.</p>
<i>Seasonal Variations and Critical Conditions</i>	<p>Seasonal variations are addressed by developing separate waste load allocations for three time periods (summer dry-weather, winter-dry weather, and wet-weather) based on public health concerns and observed natural background levels of exceedance of bacterial indicators.</p> <p>The critical condition for bacteria loading to the Ballona Creek, Ballona Estuary, and Sepulveda Channel is during wet weather when monitoring data indicate greater exceedance probabilities of the single sample bacteria objectives than during dry-weather.</p> <p>The Santa Monica Bay Beaches Bacteria TMDL identified the critical condition within wet weather more specifically, in order to set the allowable number of exceedances of the single sample limit days. The 90th percentile storm year in terms of wet days was used as the reference year. The 90th percentile year was selected for several reasons. First, selecting the 90th percentile year avoids an untenable situation where the reference system is frequently out of compliance. Second, selecting the 90th percentile year allows responsible jurisdictions and responsible agencies to plan for a 'worst-case scenario', as a critical condition is intended to do</p>

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<i>Monitoring</i>	<p>The TMDL effectiveness monitoring program will assess attainment of the allowable exceedances for Ballona Creek, Ballona Estuary, and Sepulveda Channel, and the WLAs for the tributaries. Responsible jurisdictions and responsible agencies shall conduct daily or systematic weekly sampling at a minimum of two locations within Ballona Estuary and Reach 2 of Ballona Creek, at least one location each in Reach 1 of Ballona Creek and Sepulveda Channel, and at the confluence with Centinela Creek and Benedict Canyon Channel, to determine compliance. Similar monitoring at the connecting tide gates of Del Rey Lagoon is also required. Where monitoring locations are located at or close to the boundary of two reaches, data from sampling points will also be used to assess the immediate downstream reach. This will ensure that the downstream reaches, which have more stringent water quality objectives, are adequately protected.</p> <p>If the number of exceedance days is greater than the allowable number of exceedance days in the REC-1 and LREC-1 waters, and/or the frequency of exceedance is greater than 10% in the REC-2 waters, the responsible jurisdictions and/or responsible agencies shall be considered not to be attaining the TMDLs and/or assigned allocations (non-attaining). Responsible jurisdictions or agencies shall not be deemed non-attaining if the investigation described in the paragraph below demonstrates that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance.</p> <p>If an in-stream location is non-attaining as determined in the previous paragraph, the Regional Board shall require responsible agencies to initiate an investigation, which at a minimum shall include daily sampling at the existing monitoring location until all single sample events meet bacteria water quality objectives.</p>
<i>Special Studies</i>	<p>Should the jurisdictional agency for Del Rey Lagoon opt for the natural source exclusion, the TMDL requires that a separate bacteria source identification study be conducted to determine its eligibility.. The study should identify all probable sources of bacteria loads, their estimated contributions to the Lagoon, and a determination of the frequency of exceedances of the single sample bacteria objectives caused by the identified natural sources.</p>

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Table 7.21.2a: Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Final Allowable Exceedance Days by Reach

Time Period	Ballona Estuary, Ballona Creek Reach 2, and Sepulveda Channel *	Ballona Creek Reach 1**
<p><i>Summer Dry-Weather</i> (April 1 to October 31)</p>	<p>Zero (0) exceedance days based on the applicable Single Sample Bacteria Water Quality Objectives</p> <p>Zero (0) exceedance days based on the Rolling 30-Day Geometric Mean Bacteria Water Quality Objectives</p>	<p>No more than 10% of the Single Sample Bacteria Water Quality Objectives</p> <p>Zero (0) exceedance days based on the Rolling 30-Day Geometric Mean Bacteria Water Quality Objectives</p>
<p><i>Winter Dry-Weather</i> (November 1-March 31)</p>	<p>Three (3) exceedance days based on the applicable Single Sample Bacteria Water Quality Objectives</p> <p>Zero (0) exceedance days based on the Rolling 30-Day Geometric Mean Bacteria Water Quality Objectives</p>	<p>No more than 10% of the Single Sample Bacteria Water Quality Objectives</p> <p>Zero (0) exceedance days based on the Rolling 30-Day Geometric Mean Bacteria Water Quality Objectives</p>
<p><i>Wet-Weather</i> (days with ≥ 0.1 inch of rain + 3 days following the rain event)</p>	<p>17*** exceedance days based on the applicable Single Sample Bacteria Water Quality Objectives</p> <p>Zero (0) exceedance days based on the Rolling 30-Day Geometric Mean Bacteria Water Quality Objectives</p>	<p>No more than 10% of the Single Sample Bacteria Water Quality Objectives</p> <p>Zero (0) exceedance days based on the Rolling 30-Day Geometric Mean Bacteria Water Quality Objectives</p>

* Exceedance days for Ballona Estuary based on REC-1 marine water numeric targets; for Ballona Creek Reach 2 based on LREC-1 freshwater numeric targets; and for Sepulveda Channel, based on fresh water REC-1 numeric targets

**Exceedance frequency for Ballona Creek Reach 1 based on freshwater REC-2 numeric targets

*** In Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply.

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Table 7.21.2b: Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: WLAs and LAs for tributaries to the Impaired Reaches.

Tributary	Point of Application	Water Quality Objectives	Waste Load Allocation (No. exceedance days)
Ballona Creek Reach 1	At confluence with Reach 2	LREC-1 Freshwater	For single sample objectives: (0) <i>summer dry weather</i> , (3) <i>winter dry weather</i> (17*) <i>winter wet weather</i> For geometric mean objectives: (0) <i>for all periods</i>
Benedict Canyon Channel	At confluence with Reach 2	LREC-1 Freshwater	For single sample objectives: (0) <i>summer dry weather</i> , (3) <i>winter dry weather</i> (17*) <i>winter wet weather</i> For geometric mean objectives: (0) <i>for all periods</i>
Ballona Creek Reach 2	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: (0) <i>summer dry weather</i> , (3) <i>winter dry weather</i> (17) <i>winter wet weather</i> For geometric mean objectives: (0) <i>for all periods</i>
Centinela Creek	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: (0) <i>summer dry weather</i> , (3) <i>winter dry weather</i> (17) <i>winter wet weather</i> For geometric mean objectives: (0) <i>for all periods</i>
Del Rey Lagoon	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: (0) <i>summer dry weather</i> , (3) <i>winter dry weather</i> (17) <i>winter wet weather</i> For geometric mean objectives: (0) <i>for all periods</i>

*At the confluence with Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply.

Sepulveda Channel was not assigned a waste load allocation at its confluence with Reach 2 since the TMDL requires the more stringent REC-1 objectives to be met in this waterbody, which should lead to the attainment of the less stringent LREC-1 objectives of the downstream reach.

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Table 7.21.3 Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Significant Dates

Date	Action
<i>Responsible Jurisdictions for the Waste Load Allocations</i>	
12 months after the effective date of the TMDL	<p>Responsible jurisdictions and responsible agencies must submit, for Regional Board approval, a comprehensive bacteria water quality monitoring plan for the Ballona Creek Watershed. The plan must be approved by the Executive Officer before the monitoring data can be considered during the implementation of the TMDL. The plan must provide for analyses of all applicable bacteria indicators for which the Basin Plan and subsequent amendments have established objectives. The plan must also include a minimum of two sampling locations (mid-stream and downstream) in Ballona Estuary, Ballona Creek (Reach 1 and 2), and their tributaries.</p> <p>The draft monitoring report shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days. Once the coordinated monitoring plan is approved by the Executive Officer, monitoring shall commence within 6 months.</p>
2 ¹ / ₂ years after the effective date of the TMDL	<p>Responsible jurisdictions and agencies must provide a draft Implementation Plan to the Regional Board outlining how each intends to cooperatively achieve compliance with the dry-weather and wet-weather TMDL Waste Load Allocations. The report shall include implementation methods, an implementation schedule, and proposed milestones. The description of the implementation methods and milestones shall include a technically defensible quantitative linkage to the interim and final waste load allocations (WLAs). The linkage should include target reductions in stormwater runoff and/or fecal indicator bacteria. The plan shall include quantitative estimates of the water quality benefits provided by the proposed structural and non-structural BMPs. Estimates should address reductions in exceedance days, bacteria concentration and loading, and flow in the drain and at each beach compliance monitoring location.</p> <p>As part of the draft plan, responsible agencies must submit results of all special studies and/or Environmental Impact Assessments, designed to determine feasibility of any strategy that requires diversion and/or reduction of Creek flows.</p> <p>If a responsible jurisdiction or agency is requesting a longer schedule for wet-weather compliance based on an integrated approach, the plan must include a clear demonstration that the plan meets the criteria of an IWRA, and a clear demonstration of the need for the proposed schedule. Compliance with the wet-weather allocations shall be as soon as possible but under no circumstances shall it exceed the time frame adopted in the</p>

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Date	Action
	<p>TMDL for non-integrated approaches or for an integrated approach.</p> <p>The draft Plan shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days.</p>
3 months after receipt of Regional Board comments on the draft plan	Responsible jurisdictions and agencies submit a Final Implementation Plan to the Regional Board.
<i>Responsible agencies for Load Allocations</i>	
1 year after the effective date of the TMDL	<p>Responsible agencies must submit, for Regional Board approval, separate comprehensive bacteria water quality monitoring plans for inputs from Del Rey Lagoon and the Ballona Wetlands to the Ballona Estuary. Each plan must be approved by the Executive Officer before the monitoring data can be considered during the implementation of the TMDL. The plan must provide for analyses of all applicable bacteria indicators for which the Basin Plan and subsequent amendments have established objectives. The plan must also include a minimum of one sampling location at the connecting tide gate(s).</p> <p>The draft monitoring reports shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days. Once a coordinated monitoring plan is approved by the Executive Officer, monitoring shall commence within 6 months.</p>
3 years after the effective date of the TMDL.	<p>If the responsible agency for the Del Rey Lagoon intends to pursue a natural source exclusion, it shall submit the results of separate natural source study for the Lagoon to the Executive Officer of the Regional Board. The study shall include a comprehensive assessment of all sources of bacteria loads to the Lagoon and estimates of their individual contributions. In addition, a determination of the number of exceedance days caused by these sources should be made.</p> <p>These studies shall be made available for public comment and the Executive Officer shall accept public comments for at least 30 days.</p>
<i>Responsible Agencies for WLAs and LAs* (*Only if not eligible for natural source exclusion(s))</i>	
4 years after the effective date of the TMDL:	<p>The Regional Board shall reconsider this TMDL to:</p> <p>(1) Re-assess the allowable winter dry-weather and wet-weather exceedance days based on a re-evaluation of the selected reference watershed and consideration of other reference watersheds that may better represent reaches of Ballona</p>

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Date	Action
	<p>Creek and Estuary,</p> <ul style="list-style-type: none"> (2) Consider whether the allowable winter dry-weather and wet-weather exceedance days should be adjusted annually dependent on the rainfall conditions and an evaluation of natural variability in exceedance levels in the reference system(s), (3) Re-evaluate the reference year used in the calculation of allowable exceedance days, and (4) Re-evaluate whether there is a need for further clarification or revision of the geometric mean implementation provision. (5) Consider natural source exclusions for bacteria loading from Del Rey Lagoon and the Ballona Wetlands based on results of the source identification study. (6) Re-assess WLAs for Benedict Canyon Channel, Sepulveda Channel, and Centinela Creek based on results of the required compliance monitoring, and/or any voluntary beneficial use investigations.
6 years after the effective date of the TMDL:	Achieve compliance with the allowable exceedance days for summer and winter dry-weather as set forth in Table 6-1 and rolling 30-day geometric mean targets.
10 years after effective date of the TMDL or, if an Integrated Water Resources Approach is implemented, up to July 15, 2021.*	Achieve compliance with the allowable exceedance days as set forth in Table 6-1 and rolling 30-day geometric mean targets during wet-weather.

*July 15, 2021 is the final compliance date of the Santa Monica Bay Beaches Bacteria Wet-Weather TMDL.

EXHIBIT E

STATE OF CALIFORNIA

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR**

**MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH**

**December 13, 2001
(Amended on September 14, 2006 by Order R4-2006-0074
and
on August 9, 2007 by Order R4-2007-0042)**

December 13, 2001 (As amended on September 14, 2006 by Order R4-2006-0074 and on August 9, 2007 by Order R4-2007-0042)

Findings Related To The Incorporation Of The Santa Monica Bay Beaches Dry Weather Bacteria TMDL And The Marina Del Rey Harbor Mothers' Beach And Back Basins Bacteria TMDL

28. The Regional Board adopted the Santa Monica Bay Beaches Dry Weather TMDL for Bacteria (hereinafter "Dry Weather Bacteria TMDL") on January 24, 2002. The TMDL was subsequently approved by the State Board, the Office of Administrative Law (OAL), and the USEPA and became effective on July 15, 2003.
29. The Regional Board adopted the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (hereinafter "MDR Bacteria TMDL") on August 7, 2003. The TMDL was subsequently approved by the SWRCB, the OAL, and the USEPA and became effective on March 18, 2004.
30. The Waste Load Allocations (WLAs) in the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL are expressed as the number of allowable days that the Santa Monica Bay beaches, Mothers' Beach and Basins D, E, and F in Marina del Rey Harbor may exceed the Basin Plan water quality objectives for protection of Water Contact Recreation (REC-1) in marine waters, specifically the water quality objectives for bacteria. Appropriate modifications to this order are therefore included in Parts 1 (Discharge Prohibitions) and 2 (Receiving Water Limitations), pursuant to 40 CFR 122.41(f) and 122.62, and Part 6.I.1 of this Order. Additionally, 40 CFR 122.44(d)(1)(vii)(B) requires that NPDES permits be consistent with the assumptions and requirements of any available waste load allocation. Tables 7-4.1, 7-4.2a, and 7-4.3 of the Basin Plan set forth the pertinent provisions of the Dry Weather Bacteria TMDL. Tables 7-5.1, 7-5.2, and 7-5.3 of the Basin Plan set forth the pertinent provisions of the MDR Bacteria TMDL. They require that during Summer Dry Weather there shall be no exceedances in the Wave Wash of the single sample or the geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use in marine waters. Accordingly, a prohibition is included in this Order barring discharges from a MS4 to Santa Monica Bay or Marina del Rey Harbor that result in exceedance of these objectives. Since the TMDL and the WLAs contained therein are expressed as receiving water conditions, Receiving Water Limitations have been included in this Order that are consistent with and implement the zero exceedance day WLAs.
31. Pursuant to federal regulations at 40 CFR 124.8, and 125.56, Fact Sheets were prepared to provide the bases for incorporating the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL into this Order. These Fact Sheets are hereby incorporated by reference into these findings.
32. The iterative approach to regulating municipal storm water is not an appropriate means of implementing the Santa Monica Bay beaches or the MDR Summer Dry Weather WLAs for any and all of the following reasons: (a) The WLAs do not regulate the discharge of storm water; (b) The harm to the public from violating the WLAs is dramatic both in terms

of health impacts to exposed beachgoers, and the economic cost to the region associated with related illnesses; (c) Under the iterative approach over three permit cycles, required elements of the MS4 permit (e.g., elimination of illicit connections/illicit discharges (IC/ID) into their MS4s, revisions to their SQMP, etc.) have not resulted in the elimination of exceedances of water quality standards at the beaches or in Basins D, E, and F of Marina del Rey Harbor.

33. On March 14, 2007, Marina del Rey watershed responsible agencies submitted to the Regional Board the results of a non-point source study conducted over a one year period between July 2005 and July 2006, which was required under the terms of the MDR TMDL. The study was designed to determine the relative bacterial loading to the harbor from sources including but not limited to storm drains, boats, birds, and other non-point sources. The study has not yet been peer reviewed, and is currently under review by Regional Board staff.
34. On January 8, 2007, as required by the MDR Bacterial TMDL, Marina del Rey watershed responsible agencies submitted to the Regional Board an implementation plan describing the strategy by which they intend to comply with the MDR Bacterial TMDL. This implementation plan was developed through a process that included both Regional Board staff and representatives from Heal the Bay and Santa Monica Baykeeper.
35. The Regional Board acknowledges the County's timely submittals of reports required by the TMDL and implementation measures initiated thus far towards meeting water quality standards for bacteria in Marina del Rey. As a result of the adoption of the MDR Bacterial TMDL in 2003, the County has funded or received grants to initiate the following activities:
 - Marina Beach Water Quality Improvement Project, Phase I and Phase II through a CBI grant;
 - Mothers' Beach and Back Basins Bacterial TMDL Non-point Source Study;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Report of Small Drain Identification;
 - Marina del Rey Vessel Discharge Report;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan; and
 - Three low-flow diversion projects, which were partially funded by a grant, two of which have been completed.

In addition to participation in the above studies, the County and other Marina del Rey watershed responsible agencies continue to implement BMPs proposed in the January 8, 2007, Implementation Plan.

36. The Receiving Water Limitations have been revised to implement the Summer Dry Weather WLAs set forth in Basin Plan Tables 7-4.1 and 7-5.1. These Receiving Water Limitations apply at the compliance

monitoring sites identified in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004¹ and the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007. Compliance with the Receiving Water Limitations shall be determined using monitoring data obtained in conformance with the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004; the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007; and the Monitoring and Reporting Program CI 6948.

37. If the Receiving Water Limitations are exceeded at a compliance monitoring site, the Regional Board will generally issue an appropriate investigative order pursuant to Cal. Water Code § 13267 or § 13225 to the Permittees and other responsible agencies or jurisdictions within the relevant subwatershed to determine the source of the exceedance. Following these actions, Regional Board staff will generally evaluate the need for further enforcement as follows:
- a) If the Regional Board determines that the exceedance did not result from discharges from the MS4, then the MS4 Permittees would not be responsible for violations of these provisions.
 - b) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 does not discharge dry weather flow into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor, those Permittees would not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.
 - c) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 summer dry weather discharge into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor is treated to a level that does not exceed either the single sample or the geometric mean bacteria objectives, those Permittees shall not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.
 - d) If the Regional Board determines that one or more Permittees have caused or contributed to violations of these Receiving Water Limitations, the Regional Board will consider appropriate enforcement action, including a cease and desist order with or without a time schedule for compliance, or other appropriate

¹ If the Regional Board determines that publicly owned storm drains that flow during dry weather are situated at additional shoreline locations, the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* may be revised by the Regional Board Executive Officer approval, after providing the opportunity for public comment, to include these locations as compliance monitoring sites.

enforcement action depending upon the circumstances and the extent to which the Permittee(s) has endeavored to comply with these provisions.

38. A Permittee would not be responsible for violations of these provisions if the Regional Board Executive Officer determines that the Permittee has adequately documented through a source investigation of the subwatershed, pursuant to protocols established under Cal. Water Code 13178, that bacterial sources originating within the jurisdiction of the Permittee have not caused or contributed to the exceedance of the Receiving Water Limitations.
39. Water Code section 13389 exempts the Regional Board from compliance with Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code prior to the adoption of waste discharge requirements. Therefore the Regional Board is not required to prepare environmental documents to evaluate this permit modification. Nevertheless, the Regional Board has considered the policies and requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute environmental documents for the Santa Monica Bay Beaches Bacteria TMDL and the MDR Bacteria TMDL.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.
2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.
3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with

violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 12, 2006. The Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than June 12, 2006.

I, Dennis A. Dickerson, Regional Board Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 13, 2001.

Dennis A. Dickerson
Executive Officer

EXHIBIT F

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,

LOS ANGELES REGION
320 W. 4TH STREET
SUITE 200
LOS ANGELES, CA 90013

FACT SHEET

SUPPORTING THE
AMENDMENTS TO THE LOS ANGELES COUNTY
MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT
(ORDER NO. 01-182; NPDES PERMIT NO. CAS004001) TO
INCORPORATE SUMMER DRY WEATHER WASTE LOAD
ALLOCATIONS FOR BACTERIA PURSUANT TO THE
SANTA MONICA BAY BEACHES BACTERIA TMDL

September 14, 2006

Summary of Proposed Action

The Los Angeles Regional Water Quality Control Board (LA Water Board) staff proposes a limited reopening of the LA County Municipal Separate Storm Sewer System (MS4) Permit to incorporate the Santa Monica Bay Beaches Bacteria (SMB Beaches Bacteria) Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for summer dry weather discharges from MS4 outfalls to Santa Monica Bay beaches. The LA Water Board adopted the SMB Beaches Bacteria TMDL in 2002. This TMDL was subsequently approved by the State Water Resources Control Board, Office of Administrative Law, and the United States Environmental Protection Agency and became effective on July 15, 2003. This TMDL required compliance with the Summer Dry Weather WLAs by July 15, 2006.

The summer dry weather period (April 1 to October 31) is the highest period of beach use. A recent study estimated that there is a substantial economic and public health cost associated with swimming in waters contaminated with bacteria (*Regional Public Health Cost Estimates of Contaminated Coastal Waters: A Case Study of Gastroenteritis at Southern California Beaches*, Given S., L.H. Pendelton, and A.B. Boehm. *Env. Sci. Technol.* (2006)). The SMB Beaches Bacteria summer dry weather WLAs will be incorporated as receiving water limitations and a supporting prohibition on discharges that are inconsistent with the limits. The LA County MS4 Permit already prohibits discharges that cause or contribute to the exceedance of water quality standards. The proposed changes clarify that prohibition as it relates to discharges of bacteria that could affect the Santa Monica Bay beaches during summer dry weather.

The proposed changes will directly affect the County of Los Angeles, Los Angeles County Flood Control District, the Cities of Los Angeles, El Segundo, Hermosa Beach, Malibu, Manhattan Beach, Redondo Beach, Santa Monica, and Torrance. The proposed changes will make the SMB Beaches Bacteria summer dry weather WLAs a provision of the LA County MS4 permit. Portions of the Cities of Thousand Oaks and Simi Valley in Ventura County, the cities of Agoura Hills, Beverly Hills, Calabasas, Culver City, Hidden Hills, Inglewood, Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, Rolling Hills Estates, West Hollywood, and West Lake Village, that are tributary to Santa Monica Bay beaches are also subject to the SMB Beaches Bacteria TMDLs. For the cities in Ventura County, a similar change will be made to the Ventura County Municipal Storm Water Permit, which is expected to be considered by the LA Water Board soon. For cities in Los Angeles County that are tributary to Santa Monica Bay but do not directly discharge, the summer dry weather discharge prohibition for bacteria, will be included as the bacteria WLA, when the LA County MS4 Permit is reissued after expiration. The California Department of Transportation (Caltrans) owns or operates storm drains that discharge to Santa Monica Bay Beaches. Thus, Caltrans is also subject to the SMB Beaches Bacteria summer dry weather WLAs. Caltrans MS4 discharges are covered by a statewide storm

water discharge permit (NPDES No. CAS000003) issued by the State Water Board, which expired on July 15, 2004. The LA Water Board will notify the State Water Board that it will need to incorporate all adopted TMDL WLAs for the LA Region that apply to Caltrans, when the storm water permit is reissued, and to include provisions to ensure compliance, including the prohibition against the discharge of bacteria in excess of water quality objectives for protection of REC-1 to SMB Bay beaches during summer dry weather.

Statutory History

The federal Clean Water Act (CWA) generally prohibits the "discharge of any pollutant," 33 U.S.C. § 1311(a), from a "point source" into the navigable waters of the United States. 33 U.S.C. § 1362(12)(A). An entity can, however, obtain a National Pollutant Discharge Elimination System (NPDES) permit that allows conditionally for the discharge of some pollutants. 33 U.S.C. § 1342(a)(1). The CWA defines point sources as "discernible, confined and discrete conveyances, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure" such as a pipe, ditch, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. 33 U.S.C. § 1362; 40 CFR 122.2.

In 1987, the U.S. Congress enacted the Water Quality Act recognizing both the environmental threats posed by storm water runoff and the U.S. EPA's problems in implementing regulations for storm water discharges (NRDC II, 966 F.2d at 1296). These Amendments to the CWA established new statutory requirements to control industrial and municipal storm water discharges to waters of the United States (CWA § 402(p).)

The amendments require NPDES permits for storm water discharges from Municipal Separate Storm Sewer Systems (MS4s) to waters of the United States, and the MS4 was designated a "point source". The storm water discharge permits for MS4s (i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit [unauthorized] non-storm water

discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants from storm water to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (See CWA §402(p) (3) (B)).

Ordinarily, an NPDES permit imposes [numerical] effluent limitations on such discharges. See 33 U.S.C. § 1342(a)(1) (incorporating effluent limitations found in 33 U.S.C. § 1311). First, a permit-holder “shall . . . achiev[e] . . . effluent limitations . . . which shall require the application of the best practicable control technology [BPT] currently available.” 33 U.S.C. § 1311(b)(1)(A). Second, a permit-holder “shall . . . achiev[e] . . . any more stringent limitation, including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title).” 33 U.S.C. § 1311(b)(1)(C). In the case of MS4 NPDES discharge permits, federal courts have ruled that the U.S. EPA has the discretionary authority under “33 U.S.C. § 1342(p)(2)(E) to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants, or to require less than strict compliance with state water-quality standards, such as a BMP approach” (*Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir., 1999)). Under 33 U.S.C. § 1342(p)(3)(B)(iii), the U.S. EPA has the choice to include either best management practices or numeric limitations in the permits. NRDC II, 966 F.2d at 1308 (“Congress did not mandate a minimum standards approach or specify that [the] EPA develop minimal performance requirements.”).

Regulatory Scheme

On November 16, 1990, pursuant to CWA § 402(p), the U.S. EPA promulgated regulations at 40 CFR 122.26 which established requirements for storm water discharges under the NPDES program. The U.S. EPA defines storm water at 40

CFR 122.26 (b)(13) as 'storm water runoff, snow melt runoff, and surface runoff and drainage' [related to storm events or snow melt] (55 Fed. Reg. 47990, 47995). Non storm water discharges to the MS4 are to be "effectively prohibited" by the MS4 operator. "Effective prohibition" meant that the MS4 Permittee was to implement programs to eliminate "illicit discharges" to the storm drain system unless authorized under NPDES permits issued independent of the MS4 permit (55 Fed. Reg. 47995). The storm water regulations also intended to not hold MS4 Permittees responsible for certain categories of non storm water discharges, such as uncontaminated ground water infiltration, natural springs, rising groundwater, stream and diversions, from the MS4. Such discharges might need to be addressed under independent NPDES permits when specifically identified on a case-by case basis by the MS4 Permittee or the permitting authority.

The U.S. EPA intended that storm water discharges from the MS4 be primarily addressed through the implementation of BMPs on an iterative approach because of the intermittent and variable nature of storm flows and pollutant concentrations as well as insufficient data rather than numerical effluent limitations (61 FR 43761). However, the U.S. EPA's scheme for non-storm water discharges from the MS4 is to bring them under the existing framework of the NPDES program at 40 CFR 122.44(d). (55 Fed. Reg. 47995). Non-numerical limitations such as BMPs for non-storm water discharges may be authorized only where numerical limits are not feasible (40 CFR 122.44(k)). In any case, if the Permittee fails to implement adequate BMPs to prevent exceedance of the receiving water objectives, the permitting authority "may have to consider other approaches to water quality protection" (61 Fed. Reg. 43761; *Interim Permitting Approach*, Response #6, EPA 833-D-96-00, 1996).

The CWA §303(d)(1)(A) requires each State to conduct a biennial assessment of its waters, and identify those waters that are not achieving water quality standards. The resulting list is referred to as the 303(d) list. The CWA also requires States to establish a priority ranking for waters on the 303(d) list of impaired waters and to develop and implement TMDLs for these waters. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and