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Los Angeles Regional Water Quality Control Board

**To:** Vicky Whitney, Deputy Director  
Division of Water Quality  
California State Water Resources Control Board

**From:** Samuel Unger, P.E. *SU*  
Executive Officer  
California Regional Water Quality Control Board, Los Angeles Region

**Date:** January 24, 2013

**Subject:** **MINOR, NON-SUBSTANTIVE CHANGES TO THE BASIN PLAN  
AMENDMENT ADOPTED UNDER LOS ANGELES REGIONAL WATER  
QUALITY CONTROL BOARD RESOLUTION NO. R12-008  
AND TO THE STAFF REPORTS SUPPORTING RESOLUTIONS R12-008  
AND R12-009**

On June 7, 2012, the Los Angeles Regional Water Quality Control Board (Regional Water Board) adopted Resolutions R12-008 and R12-009 to amend the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to revise two Total Maximum Daily Loads (TMDLs) for Bacteria for Ballona Creek, Ballona Estuary, and Sepulveda Channel; and Malibu Creek and Lagoon, respectively. The amendment is scheduled for consideration at the March 19, 2013 meeting of the State Water Resources Control Board (State Water Board).

Regional Water Board Resolution Nos. R12-008 and R12-009 grant the Executive Officer the authority to make minor, non-substantive changes to the language of the adopted Basin Plan amendment if Regional Water Board staff, the State Water Board, or the Office of Administrative Law (OAL) determines that such changes are needed for clarity or consistency. I am hereby making the following minor, non-substantive changes to the Basin Plan amendment language. The changes are shown below using underline text.

The first change appears in Table 7-21.2a on page 9 of the amendment of Resolution No. R12-008:

An asterisk was added to the header of the Ballona Estuary\*

This change corrects a typographical error.

The second change appears in Table 7-21.3, on page 12 of the amendment of Resolution No. R12-008:

The action on due date April 27, 2013 is changed to "Achieve compliance with the allowable exceedance days for dry weather as set forth in Table 7-21.2a and Table 7-21.2b".

This change makes a clarification for Responsible Agencies for WLAs and LAs.

The third change appears in Table 7-21.3, on page 12 of the amendment of Resolution No. R12-008:

The action on due date July 15, 2021 is changed to "Achieve compliance with the allowable exceedance days during wet weather as set forth in Table 7-21.2a, Table 7-21.2b, and geometric mean targets for all seasonal periods specified above".

This change makes a clarification for Responsible Agencies for WLAs and LAs.

These changes were reflected in the Basin Plan amendment made available as part of the State Water Resources Control Board Notice of Opportunity to Comment on the proposed amendment issued on January 16, 2013.

In addition to the changes made to the Basin Plan amendment language, minor non-substantive changes were made to the staff report supporting the Basin Plan amendment adopted by Resolution No. R12-008 to correct typographical errors and to include all references relied upon. Changes were also made to the staff report supporting the Basin Plan amendment adopted by Resolution No. R12-009, the Malibu Creek and Lagoon Bacteria TMDL. No changes were made to the amendment language for the Malibu Creek and Lagoon Bacteria TMDL. The changes to the staff reports supporting Resolution Nos. R12-008 and R12-009 are not attached to this memorandum but are available on the Regional Board website at [http://www.waterboards.ca.gov/losangeles/water\\_issues/programs/tmdl/tmdl\\_list.shtml](http://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/tmdl_list.shtml)

Please contact my staff Dr. Kangshi Wang at (213) 576-6780 or [kwang@waterboards.ca.gov](mailto:kwang@waterboards.ca.gov), or Ms. Jenny Newman at (213) 576-6691 or [jnewman@waterboards.ca.gov](mailto:jnewman@waterboards.ca.gov), if you have any questions about this matter.

#### Attachments

cc: Regional Water Board members  
Rik Rasmussen, DWQ, Chief of TMDL Section  
Paul Hann, DWQ, Chief of Planning, Standards, and Implementation Unit  
Jennifer Fordyce, OCC, Staff Counsel

# Attachment A to Resolution No. R12-~~XXX~~008

## Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Total Maximum Daily Load for Bacterial Indicator Densities in Ballona Creek, Ballona Estuary, and Sepulveda Channel

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on ~~Insert Date~~ June 7, 2012.

### Amendments:

#### Table of Contents

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries  
7-21 Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL

#### List of Figures, Tables and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-21 Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL  
7-21.1. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Elements  
7-21.2a. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Final Allowable Exceedance Days by Reach  
7-21.2b. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: WLAs and LAs for tributaries to the Impaired Reaches.  
7-21.3. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Significant Dates

#### Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries, Section 7-21 (Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL)

This TMDL was adopted by the Regional Water Quality Control Board on June 8, 2006.

This TMDL was approved by:

The State Water Resources Control Board on November 15, 2006.

The Office of Administrative Law on February 20, 2007.

The U.S. Environmental Protection Agency on March 26, 2007.

This TMDL was revised and adopted by the Regional Water Quality Control Board on ~~Insert Date~~ June 7, 2012.

This revised TMDL was approved by:

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 includes all the elements of this TMDL.

## Attachment A to Resolution No. R12-~~XXX~~008

**Table 7-21.1. Ballona Creek, Estuary, and Tributaries s-Bacteria TMDL: 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 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.
<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 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.<sup>1</sup> 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. <i>Enterococcus</i> 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. <i>Enterococcus</i> 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>1. Geometric Mean Limits  a. <i>E. coli</i> density shall not exceed 126/100 ml.</p> <p>2. Single Sample Limits  a. <i>E. coli</i> density shall not exceed 235/100 ml.</p>

<sup>1</sup> 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. The bacteriological objectives for freshwater were revised a second time by a Basin Plan amendment adopted by the Regional Board on July 8, 2010, and subsequently approved by the State Water Resources Control Board, the Office of Administrative Law and finally by U.S. EPA on December 5, 2011.

## Attachment A to Resolution No. R12-~~XXX~~008

Element	Key Findings and Regulatory Provisions
	<p>In Fresh Waters Designated for Limited Water Contact Recreation (LREC-1)<sup>2</sup></p> <ol style="list-style-type: none"> <li>1. Geometric Mean Limits               <ol style="list-style-type: none"> <li>a. <i>E. coli</i> density shall not exceed 126/100 ml.</li> </ol> </li> <li>2. Single Sample Limits               <ol style="list-style-type: none"> <li>a. <i>E. coli</i> density shall not exceed 576/100 ml.</li> </ol> </li> </ol> <p>In Fresh Waters Designated for Non-Contact Water Recreation (REC-2)</p> <ol style="list-style-type: none"> <li>1. Geometric Mean Limits               <ol style="list-style-type: none"> <li>a. Fecal coliform density shall not exceed 2000/100 ml.</li> </ol> </li> <li>2. Single Sample Limits               <ol style="list-style-type: none"> <li>a. Fecal coliform density shall not exceed 4000/100 ml.</li> </ol> </li> </ol> <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>In this TMDL, 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 federal Clean Water Act and California Water Code, 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>This TMDL uses a “reference system/anti-degradation approach” to implement the water quality objectives per the implementation provisions in Chapter 3. On the basis of the historical exceedance frequency at Southern California reference reaches, a certain number of daily exceedances of the single sample bacteria objectives are permitted.</p> <p>The geometric mean targets may not be exceeded at any time. For the purposes of this TMDL, the geometric means shall be calculated weekly as a rolling geometric mean using 5 or more samples, for six week periods starting all calculation weeks on Sunday. For the single sample targets, each existing monitoring site in Ballona Creek and its tributaries is assigned an allowable number of exceedance days for two time periods (1) dry weather and (2) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event.) Each monitoring site in Ballona Estuary is assigned</p>

<sup>2</sup> 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

## Attachment A to Resolution No. R12-~~XXX~~008

<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
	<p>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 periods as defined above, 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, Caltrans, and any future Phase II MS4 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 exceedances are the most relevant to public health protection.</p> <p>For each monitoring site in Ballona Creek and its tributaries, allowable exceedance days are set on an annual basis as well as for two time periods. These two periods are:</p> <ol style="list-style-type: none"> <li>1. dry-weather days</li> <li>2. wet-weather days (defined as days of 0.1 inch of rain or more plus three</li> </ol>

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Element	Key Findings and Regulatory Provisions																					
	<p>days following the rain event).</p> <p>For each monitoring site in Ballona Estuary, 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"> <li>1. summer dry-weather (April 1 to October 31)</li> <li>2. winter dry-weather (November 1 to March 31)</li> <li>3. wet-weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).</li> </ol> <p>The County of Los Angeles, Los Angeles County Flood Control District, Caltrans, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies<sup>3</sup> 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 in Ballona Creek and its tributaries, the WLAs are listed below.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Allowable Number of Exceedance Days</th> <th style="text-align: center;">Daily Sampling</th> <th style="text-align: center;">Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td>Dry Weather</td> <td style="text-align: center;">5</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Wet Weather</td> <td style="text-align: center;">15</td> <td style="text-align: center;">2</td> </tr> </tbody> </table> <p>For the single sample objectives of the impaired REC-1 in Ballona Estuary, the WLAs are listed below.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Allowable Number of Exceedance Days</th> <th style="text-align: center;">Daily Sampling</th> <th style="text-align: center;">Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td>Summer Dry-Weather</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Winter Dry-Weather</td> <td style="text-align: center;">9</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Wet Weather</td> <td style="text-align: center;">17</td> <td style="text-align: center;">3</td> </tr> </tbody> </table> <p>In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The waste load allocation for the geometric mean for the responsible agencies and jurisdictions is zero (0) allowable exceedances.</p> <p>For the single sample objectives of the impaired REC-2 reach, the WLA for all periods is a 10% exceedance frequency of the REC-2 single sample water quality objectives. The waste load allocation for the geometric mean for the</p>	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Dry Weather	5	1	Wet Weather	15	2	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Summer Dry-Weather	0	0	Winter Dry-Weather	9	2	Wet Weather	17	3
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<sup>3</sup> 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 separate storm sewer system (MS4) permit, (2) local or state agencies that have jurisdiction over Ballona Creek, its tributaries, and Ballona Estuary, (3) the California Department of Transportation pursuant to its storm water permit, and (4) any permittees enrolled under a Phase II MS4 permit within the Ballona Creek watershed.

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<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>																					
	<p>responsible agencies and jurisdictions is zero (0) 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>Discharges from general NPDES permits, general industrial storm water permits and general construction storm water permits are not expected to be a significant source of bacteria. Additionally, these discharges are not eligible for the reference system approach set forth in the implementation provisions for the bacteriological objectives in Chapter 3. Therefore, the waste load allocations for these discharges for all time periods are the bacteriological objectives contained in Chapter 3. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the Ballona Creek watershed management area will also be subject to a WLA based on these bacteriological objectives.</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 geometric mean limit. 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 LAs for dry-weather and wet-weather in Ballona Creek and its tributaries are listed below.</p> <table border="1" data-bbox="594 1062 1421 1272"> <thead> <tr> <th><b>Allowable Number of Exceedance Days</b></th> <th><b>Daily Sampling</b></th> <th><b>Weekly Sampling</b></th> </tr> </thead> <tbody> <tr> <td>Dry Weather</td> <td align="center">5</td> <td align="center">1</td> </tr> <tr> <td>Wet Weather</td> <td align="center">15</td> <td align="center">2</td> </tr> </tbody> </table> <p>The LAs for summer dry-weather, winter dry-weather, and wet-weather in Ballona Estuary are listed below.</p> <table border="1" data-bbox="594 1409 1421 1671"> <thead> <tr> <th><b>Allowable Number of Exceedance Days</b></th> <th><b>Daily Sampling</b></th> <th><b>Weekly Sampling</b></th> </tr> </thead> <tbody> <tr> <td>Summer Dry-Weather</td> <td align="center">0</td> <td align="center">0</td> </tr> <tr> <td>Winter Dry-Weather</td> <td align="center">9</td> <td align="center">2</td> </tr> <tr> <td>Wet Weather</td> <td align="center">17</td> <td align="center">3</td> </tr> </tbody> </table> <p>In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The load allocation for the geometric mean limit for the responsible agencies and jurisdictions is zero (0) allowable exceedances (see Table 7-21.2a).</p>	<b>Allowable Number of Exceedance Days</b>	<b>Daily Sampling</b>	<b>Weekly Sampling</b>	Dry Weather	5	1	Wet Weather	15	2	<b>Allowable Number of Exceedance Days</b>	<b>Daily Sampling</b>	<b>Weekly Sampling</b>	Summer Dry-Weather	0	0	Winter Dry-Weather	9	2	Wet Weather	17	3
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**Attachment A to Resolution No. R12-~~XXX~~008**

<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
	<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 MS4 NPDES Permits are not responsible through these permits. However, the jurisdiction or agency adjacent to the monitoring location may have further obligations to identify and control such sources.</p>
<b>Implementation</b>	<p>The regulatory mechanisms used to implement the TMDL will include the Los Angeles County MS4 NPDES Permit, the Caltrans Storm Water Permit, any future Phase II MS4 permits, general NPDES permits, general industrial storm water permits, general construction storm water permits, and the authority contained in Sections 13263, 13267, and 13383 of the California Water Code, and other appropriate regulatory mechanisms. 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 jurisdiction and agency will be required to meet the MS4 waste load allocations at the designated compliance 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 achieve the waste load allocation.</p> <p>Load allocations for nonpoint sources will be implemented through Waste Discharge Requirements, Memorandum of Understandings or other appropriate mechanisms consistent with the Nonpoint Source Implementation and Enforcement Policy.</p> <p>This TMDL will be implemented in two phases over a ten-year period (see Table 7-21.3). By April 27, 2013, compliance with the allowable number of dry-weather exceedance days must be achieved. By July 15, 2021, compliance with the allowable number of wet-weather exceedance days and the geometric mean targets must be achieved.</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>
<b>Margin of Safety</b>	<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>

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<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
<i>Seasonal Variations and Critical Conditions</i>	<p>Seasonal variations are addressed by developing separate waste load allocations for two time periods (dry weather and wet weather) in Ballona Creek and its tributaries, and three time periods (summer dry-weather, winter dry-weather, and wet weather) in Ballona Estuary 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 90<sup>th</sup> percentile storm year in terms of wet days was used as the reference year. The number of wet-weather days in the 1993 reference year was 75 days, and the number of dry-weather days was 290 days (210 summer dry-weather days and 80 winter dry-weather days).</p>
<i>Monitoring</i>	<p>The 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>Responsible jurisdictions and agencies shall submit an outfall monitoring plan by within 6 months of the effective date of the TMDL revised by Resolution R12-<del>XXX</del>008. The outfall monitoring plan shall propose an adequate number of representative outfalls to be sampled, a sampling frequency, and protocol for enhanced outfall monitoring as a result of an in-stream exceedance. Responsible jurisdictions and agencies can use existing outfall monitoring stations in the MS4 permit, where appropriate for both the permit and TMDL objectives.</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 outfall monitoring described in the paragraph above demonstrates that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance.</p>

## Attachment A to Resolution No. R12-~~XXX~~008

**Table 7-21.2a: Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Final Allowable Exceedance Days by Reach**

<b>Time Period</b>	<b>Ballona Estuary*</b>	<b>Ballona Creek Reach 2, and Sepulveda Channel *</b>	<b>Ballona Creek Reach 1**</b>
<b>Dry Weather</b>	Zero (0) exceedance days for summer dry-weather  Nine (9) exceedance days (daily sampling) or two (2) exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives for winter dry-weather	Five (5) exceedance days (daily sampling) or one (1) exceedance day (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	No more than 10% of sample days
<b>Wet Weather</b> (days with $\geq 0.1$ inch of rain + 3 days following the rain event)	17 exceedance days (daily sampling) or three (3) exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	15*** exceedance days (daily sampling) or two (2) exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	No more than 10% of sample days
<b>Geometric Mean</b>	Zero (0) exceedances of the Geometric Mean Bacteria Water Quality Objectives	Zero (0) exceedances of the Geometric Mean Bacteria Water Quality Objectives	Zero (0) exceedances of the Geometric Mean Bacteria Water Quality Objectives

\* 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.

## Attachment A to Resolution No. R12-~~XXX~~008

**Table 7-21.2b: Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: WLAs and LAs for tributaries to the Impaired Reaches, if daily sampling is applied.**

<b>Tributary</b>	<b>Point of Application</b>	<b>Water Quality Objectives</b>	<b>Waste Load Allocation (No. exceedance days)</b>
Ballona Creek Reach 1	At confluence with Reach 2	LREC-1 Freshwater	For single sample objectives: <i>(5) dry weather,</i> <i>-(15*) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Benedict Canyon Channel	At confluence with Reach 2	LREC-1 Freshwater	For single sample objectives: <i>(5) dry weather,</i> <i>-(15*) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Ballona Creek Reach 2	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: <i>(0)summer dry-weather</i> <i>(9) winter dry-weather,</i> <i>-(17) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Centinela Creek	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: <i>(0)summer dry-weather</i> <i>(9) winter dry-weather,</i> <i>-(17) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Del Rey Lagoon	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: <i>(0)summer dry-weather</i> <i>(9) winter dry-weather,</i> <i>-(17) wet weather</i>  For geometric mean objectives: <i>(0) 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.

## Attachment A to Resolution No. R12-~~XXX~~008

**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>	
April 27, 2008	<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>
October 27, 2009	<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>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>	
April 27, 2008	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

## Attachment A to Resolution No. R12-~~XXX~~008

Date	Action
	<p>Ballona Estuary. <u>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).</u></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>
<p><b><i>Responsible Agencies for WLAs and LAs* (*Only if not eligible for natural source exclusion(s))</i></b></p>	
April 27, 2013	Achieve compliance with the allowable exceedance days for dry weather as set forth in <u>Table 7-21.2a and Table 7-21.2b.</u>
<u>July 15, 2018</u>	<u>The Regional Board shall reconsider the TMDL.</u>
July 15, 2021	Achieve compliance with the allowable exceedance days during wet weather as set forth in <u>Table 7-21.2a, Table 7-21.2b,</u> and geometric mean targets for all seasonal periods specified above.

# Attachment A to Resolution No. R12-008

## Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Total Maximum Daily Load for Bacterial Indicator Densities in Ballona Creek, Ballona Estuary, and Sepulveda Channel

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on June 7, 2012.

### Amendments:

#### Table of Contents

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries  
7-21 Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL

#### List of Figures, Tables and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-21 Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL  
7-21.1. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Elements  
7-21.2a. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Final Allowable Exceedance Days by Reach  
7-21.2b. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: WLAs and LAs for tributaries to the Impaired Reaches.  
7-21.3. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Significant Dates

#### Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries, Section 7-21 (Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL)

This TMDL was adopted by the Regional Water Quality Control Board on June 8, 2006.

This TMDL was approved by:

The State Water Resources Control Board on November 15, 2006.

The Office of Administrative Law on February 20, 2007.

The U.S. Environmental Protection Agency on March 26, 2007.

This TMDL was revised and adopted by the Regional Water Quality Control Board on June 7, 2012.

This revised TMDL was approved by:

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 includes all the elements of this TMDL.

## Attachment A to Resolution No. R12-008

**Table 7-21.1. Ballona Creek, Estuary, and Tributaries Bacteria TMDL: 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 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.
<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 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.<sup>1</sup> 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. <i>Enterococcus</i> 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. <i>Enterococcus</i> 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>1. Geometric Mean Limits</p> <p>a. <i>E. coli</i> density shall not exceed 126/100 ml.</p> <p>2. Single Sample Limits</p> <p>a. <i>E. coli</i> density shall not exceed 235/100 ml.</p>

<sup>1</sup> 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. The bacteriological objectives for freshwater were revised a second time by a Basin Plan amendment adopted by the Regional Board on July 8, 2010, and subsequently approved by the State Water Resources Control Board, the Office of Administrative Law and finally by U.S. EPA on December 5, 2011.

## Attachment A to Resolution No. R12-008

Element	Key Findings and Regulatory Provisions
	<p>In Fresh Waters Designated for Limited Water Contact Recreation (LREC-1)<sup>2</sup></p> <ol style="list-style-type: none"> <li>1. Geometric Mean Limits               <ol style="list-style-type: none"> <li>a. <i>E. coli</i> density shall not exceed 126/100 ml.</li> </ol> </li> <li>2. Single Sample Limits               <ol style="list-style-type: none"> <li>a. <i>E. coli</i> density shall not exceed 576/100 ml.</li> </ol> </li> </ol> <p>In Fresh Waters Designated for Non-Contact Water Recreation (REC-2)</p> <ol style="list-style-type: none"> <li>1. Geometric Mean Limits               <ol style="list-style-type: none"> <li>a. Fecal coliform density shall not exceed 2000/100 ml.</li> </ol> </li> <li>2. Single Sample Limits               <ol style="list-style-type: none"> <li>a. Fecal coliform density shall not exceed 4000/100 ml.</li> </ol> </li> </ol> <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>In this TMDL, 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 federal Clean Water Act and California Water Code, 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>This TMDL uses a “reference system/anti-degradation approach” to implement the water quality objectives per the implementation provisions in Chapter 3. On the basis of the historical exceedance frequency at Southern California reference reaches, a certain number of daily exceedances of the single sample bacteria objectives are permitted.</p> <p>The geometric mean targets may not be exceeded at any time. For the purposes of this TMDL, the geometric means shall be calculated weekly as a rolling geometric mean using 5 or more samples, for six week periods starting all calculation weeks on Sunday. For the single sample targets, each existing monitoring site in Ballona Creek and its tributaries is assigned an allowable number of exceedance days for two time periods (1) dry weather and (2) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event.) Each monitoring site in Ballona Estuary is assigned</p>

<sup>2</sup> 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

## Attachment A to Resolution No. R12-008

<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
	<p>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 periods as defined above, 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, Caltrans, and any future Phase II MS4 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 exceedances are the most relevant to public health protection.</p> <p>For each monitoring site in Ballona Creek and its tributaries, allowable exceedance days are set on an annual basis as well as for two time periods. These two periods are:</p> <ol style="list-style-type: none"> <li>1. dry-weather days</li> <li>2. wet-weather days (defined as days of 0.1 inch of rain or more plus three</li> </ol>

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Element	Key Findings and Regulatory Provisions																					
	<p>days following the rain event).</p> <p>For each monitoring site in Ballona Estuary, 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"> <li>1. summer dry-weather (April 1 to October 31)</li> <li>2. winter dry-weather (November 1 to March 31)</li> <li>3. wet-weather (defined as days of 0.1 inch of rain or more plus three days following the rain event).</li> </ol> <p>The County of Los Angeles, Los Angeles County Flood Control District, Caltrans, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies<sup>3</sup> 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 in Ballona Creek and its tributaries, the WLAs are listed below.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Allowable Number of Exceedance Days</th> <th style="text-align: center;">Daily Sampling</th> <th style="text-align: center;">Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td>Dry Weather</td> <td style="text-align: center;">5</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Wet Weather</td> <td style="text-align: center;">15</td> <td style="text-align: center;">2</td> </tr> </tbody> </table> <p>For the single sample objectives of the impaired REC-1 in Ballona Estuary, the WLAs are listed below.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Allowable Number of Exceedance Days</th> <th style="text-align: center;">Daily Sampling</th> <th style="text-align: center;">Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td>Summer Dry-Weather</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Winter Dry-Weather</td> <td style="text-align: center;">9</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Wet Weather</td> <td style="text-align: center;">17</td> <td style="text-align: center;">3</td> </tr> </tbody> </table> <p>In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The waste load allocation for the geometric mean for the responsible agencies and jurisdictions is zero (0) allowable exceedances.</p> <p>For the single sample objectives of the impaired REC-2 reach, the WLA for all periods is a 10% exceedance frequency of the REC-2 single sample water quality objectives. The waste load allocation for the geometric mean for the</p>	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Dry Weather	5	1	Wet Weather	15	2	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Summer Dry-Weather	0	0	Winter Dry-Weather	9	2	Wet Weather	17	3
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<sup>3</sup> 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 separate storm sewer system (MS4) permit, (2) local or state agencies that have jurisdiction over Ballona Creek, its tributaries, and Ballona Estuary, (3) the California Department of Transportation pursuant to its storm water permit, and (4) any permittees enrolled under a Phase II MS4 permit within the Ballona Creek watershed.

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Element	Key Findings and Regulatory Provisions																					
	<p>responsible agencies and jurisdictions is zero (0) 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>Discharges from general NPDES permits, general industrial storm water permits and general construction storm water permits are not expected to be a significant source of bacteria. Additionally, these discharges are not eligible for the reference system approach set forth in the implementation provisions for the bacteriological objectives in Chapter 3. Therefore, the waste load allocations for these discharges for all time periods are the bacteriological objectives contained in Chapter 3. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the Ballona Creek watershed management area will also be subject to a WLA based on these bacteriological objectives.</p>																					
<i>Load Allocations (for nonpoint sources)</i>	<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 geometric mean limit. 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 LAs for dry-weather and wet-weather in Ballona Creek and its tributaries are listed below.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Allowable Number of Exceedance Days</th> <th style="padding: 5px;">Daily Sampling</th> <th style="padding: 5px;">Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Dry Weather</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">1</td> </tr> <tr> <td style="padding: 5px;">Wet Weather</td> <td style="padding: 5px;">15</td> <td style="padding: 5px;">2</td> </tr> </tbody> </table> <p>The LAs for summer dry-weather, winter dry-weather, and wet-weather in Ballona Estuary are listed below.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Allowable Number of Exceedance Days</th> <th style="padding: 5px;">Daily Sampling</th> <th style="padding: 5px;">Weekly Sampling</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Summer Dry-Weather</td> <td style="padding: 5px;">0</td> <td style="padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Winter Dry-Weather</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">2</td> </tr> <tr> <td style="padding: 5px;">Wet Weather</td> <td style="padding: 5px;">17</td> <td style="padding: 5px;">3</td> </tr> </tbody> </table> <p>In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The load allocation for the geometric mean limit for the responsible agencies and jurisdictions is zero (0) allowable exceedances (see Table 7-21.2a).</p>	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Dry Weather	5	1	Wet Weather	15	2	Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling	Summer Dry-Weather	0	0	Winter Dry-Weather	9	2	Wet Weather	17	3
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## Attachment A to Resolution No. R12-008

<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
	<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 MS4 NPDES Permits are not responsible through these permits. However, the jurisdiction or agency adjacent to the monitoring location may have further obligations to identify and control such sources.</p>
<b><i>Implementation</i></b>	<p>The regulatory mechanisms used to implement the TMDL will include the Los Angeles County MS4 NPDES Permit, the Caltrans Storm Water Permit, any future Phase II MS4 permits, general NPDES permits, general industrial storm water permits, general construction storm water permits, and the authority contained in Sections 13263, 13267, and 13383 of the California Water Code, and other appropriate regulatory mechanisms. 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 jurisdiction and agency will be required to meet the MS4 waste load allocations at the designated compliance 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 achieve the waste load allocation.</p> <p>Load allocations for nonpoint sources will be implemented through Waste Discharge Requirements, Memorandum of Understandings or other appropriate mechanisms consistent with the Nonpoint Source Implementation and Enforcement Policy.</p> <p>This TMDL will be implemented in two phases over a ten-year period (see Table 7-21.3). By April 27, 2013, compliance with the allowable number of dry-weather exceedance days must be achieved. By July 15, 2021, compliance with the allowable number of wet-weather exceedance days and the geometric mean targets must be achieved.</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>
<b><i>Margin of Safety</i></b>	<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>

## Attachment A to Resolution No. R12-008

<b>Element</b>	<b>Key Findings and Regulatory Provisions</b>
<p><i>Seasonal Variations and Critical Conditions</i></p>	<p>Seasonal variations are addressed by developing separate waste load allocations for two time periods (dry weather and wet weather) in Ballona Creek and its tributaries, and three time periods (summer dry-weather, winter dry-weather, and wet weather) in Ballona Estuary 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 90<sup>th</sup> percentile storm year in terms of wet days was used as the reference year. The number of wet-weather days in the 1993 reference year was 75 days, and the number of dry-weather days was 290 days (210 summer dry-weather days and 80 winter dry-weather days).</p>
<p><i>Monitoring</i></p>	<p>The 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>Responsible jurisdictions and agencies shall submit an outfall monitoring plan by within 6 months of the effective date of the TMDL revised by Resolution R12-008. The outfall monitoring plan shall propose an adequate number of representative outfalls to be sampled, a sampling frequency, and protocol for enhanced outfall monitoring as a result of an in-stream exceedance. Responsible jurisdictions and agencies can use existing outfall monitoring stations in the MS4 permit, where appropriate for both the permit and TMDL objectives.</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 outfall monitoring described in the paragraph above demonstrates that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance.</p>

## Attachment A to Resolution No. R12-008

**Table 7-21.2a: Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: Final Allowable Exceedance Days by Reach**

<b>Time Period</b>	<b>Ballona Estuary*</b>	<b>Ballona Creek Reach 2, and Sepulveda Channel *</b>	<b>Ballona Creek Reach 1**</b>
<b><i>Dry Weather</i></b>	Zero (0) exceedance days for summer dry-weather  Nine (9) exceedance days (daily sampling) or two (2) exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives for winter dry-weather	Five (5) exceedance days (daily sampling) or one (1) exceedance day (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	No more than 10% of sample days
<b><i>Wet Weather</i></b> (days with $\geq 0.1$ inch of rain + 3 days following the rain event)	17 exceedance days (daily sampling) or three (3) exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	15*** exceedance days (daily sampling) or two (2) exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	No more than 10% of sample days
<b><i>Geometric Mean</i></b>	Zero (0) exceedances of the Geometric Mean Bacteria Water Quality Objectives	Zero (0) exceedances of the Geometric Mean Bacteria Water Quality Objectives	Zero (0) exceedances of the Geometric Mean Bacteria Water Quality Objectives

\* 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.

## Attachment A to Resolution No. R12-008

**Table 7-21.2b: Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL: WLAs and LAs for tributaries to the Impaired Reaches, if daily sampling is applied.**

<b>Tributary</b>	<b>Point of Application</b>	<b>Water Quality Objectives</b>	<b>Waste Load Allocation (No. exceedance days)</b>
Ballona Creek Reach 1	At confluence with Reach 2	LREC-1 Freshwater	For single sample objectives: <i>(5) dry weather,</i> <i>(15*) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Benedict Canyon Channel	At confluence with Reach 2	LREC-1 Freshwater	For single sample objectives: <i>(5) dry weather,</i> <i>(15*) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Ballona Creek Reach 2	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: <i>(0)summer dry-weather</i> <i>(9) winter dry-weather,</i> <i>(17) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Centinela Creek	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: <i>(0)summer dry-weather</i> <i>(9) winter dry-weather,</i> <i>(17) wet weather</i>  For geometric mean objectives: <i>(0) for all periods</i>
Del Rey Lagoon	At confluence with Ballona Estuary	REC-1 Marine water	For single sample objectives: <i>(0)summer dry-weather</i> <i>(9) winter dry-weather,</i> <i>(17) wet weather</i>  For geometric mean objectives: <i>(0) 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.

## Attachment A to Resolution No. R12-008

**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>	
April 27, 2008	<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>
October 27, 2009	<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>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>	
April 27, 2008	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

## Attachment A to Resolution No. R12-008

Date	Action
	<p>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>
<p><b><i>Responsible Agencies for WLAs and LAs* (*Only if not eligible for natural source exclusion(s))</i></b></p>	
April 27, 2013	Achieve compliance with the allowable exceedance days for dry weather as set forth in Table 7-21.2a and Table 7-21.2b.
July 15, 2018	The Regional Board shall reconsider the TMDL.
July 15, 2021	Achieve compliance with the allowable exceedance days during wet weather as set forth in Table 7-21.2a, Table 7-21.2b, and geometric mean targets for all seasonal periods specified above.