CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TENTATIVE RESOLUTION NO. R9-2006-0001

A RESOLUTION AMENDING *THE WATER QUALITY CONTROL PLAN FOR THE SAN DIEGO BASIN (9)* TO INCORPORATE TOTAL MAXIMUM DAILY LOADS FOR INDICATOR BACTERIA PROJECT I - BEACHES AND CREEKS IN THE SAN DIEGO REGION

WHEREAS, The California Regional Water Quality Control Board, San Diego Region (hereinafter, San Diego Water Board), finds that:

1. **Basin Plan Amendment**: Total Maximum Daily Loads (TMDLs) and allocations for pollutants that exceed water quality objectives in waterbodies that do not meet water quality standards under the conditions set forth in section 303(d) of the Clean Water Act [33 U.S.C. 1250, *et seq*., at 1313(d)] ("Water Quality Limited Segments") should be incorporated into the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) pursuant to Article 3, commencing with section 13240, of Chapter 4 of the Porter-Cologne Water Quality Control Act, as amended, codified in Division 7, commencing with section 13000, of the Water Code.

2. **Clean Water Act Section 303(d)**: As required by Clean Water Act (CWA) section 303(d), the Pacific Ocean shoreline beach segments (beaches) and creeks addressed in these TMDLs were placed on the 1996, 1998, or 2002 Section 303(d) List of Water Quality Limited Segments because levels of total coliform, fecal coliform, and/or enterococci bacteria, that indicate the presence of disease causing pathogens, exceeded water quality objectives. The list of beach and creek segments addressed by these TMDLs, and the extent of the impairments are shown in Attachment A. The State Water Resources Control Board (SWRCB) has determined that water quality objectives are being met at some of these beach segments, and has proposed removing them from the List of Water Quality Limited Segments. The SWRCB's proposals are undergoing public review and comment at this time.

3. **Beneficial Use Impairments**: Three beneficial uses exist in the Pacific Ocean at the impaired beaches that are sensitive to, and subject to impairment by pathogens when elevated bacteria densities exist in the water. These uses are water contact recreation (REC-1), non-water contact recreation (REC-2), and shellfish harvesting (SHELL) beneficial uses. Pathogens can enter and infect humans when impaired water is ingested during recreational activities, or when filter-feeding shellfish are consumed. Two beneficial uses exist in the impaired creeks that are sensitive to, and subject to impairment by pathogens when elevated bacteria densities exist in the water. These uses are REC-1 and REC-2.

4. **Necessity Standard** [Government Code section 11353(b)]: Amendment of the Basin Plan to establish and implement Total Maximum Daily Loads (TMDLs) for the beaches and creeks listed in Attachment A is necessary because the existing water quality does not meet applicable water quality objectives for total coliform, fecal coliform, and/or enterococci bacteria. CWA section 303(d) requires the establishment and implementation of TMDLs under the conditions that exist in these beaches and creeks. TMDLs for total coliform, fecal coliform, and/or enterococci bacteria are necessary to ensure attainment of applicable water quality objectives and restoration of water quality needed to support the beneficial uses designated for the beaches and creeks.

5. **Water Quality Objectives**: Bacteria water quality objectives for the Pacific Ocean are contained in the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan), while objectives for inland surface waters are contained in the Basin Plan. The Ocean Plan specifies the following water quality objectives for indicator bacteria for REC-1 uses in the Pacific Ocean:

   (a) within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column:

   Geometic Mean – The following standards are based on the geometric mean of a minimum of five samples from each site:

   i. Total coliform density shall not exceed 1,000 per 100 ml;
   ii. Fecal coliform density shall not exceed 200 per 100 ml; and
   iii. Enterococci density shall not exceed 35 per 100 ml.

   Single Sample Maximum:

   i. Total coliform density shall not exceed 10,000 per 100 ml;
   ii. Fecal coliform density shall not exceed 400 per 100 ml;
   iii. Enterococci density shall not exceed 104 per 100 ml; and
   iv. Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

   (b) California Department of Health Services Standards
   The California Department of Health Services (DHS) has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean waters. These standards are found in the California Code of Regulations (CCR), title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards,

DHS or the local public health officer may post with warning signs or otherwise restrict the use of the public beach or public water-contact sports area until the standards are met. The DHS regulations impose more frequent monitoring and more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flow in the summer.

For beaches not covered under CCR regulations, DHS imposes the same standards as contained in title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

The Ocean Plan specifies the following water quality objectives for indicator bacteria for SHELL uses in the Pacific Ocean:

(a) At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacteria objectives shall be maintained throughout the water column:

i. The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

The Basin Plan specifies the following water quality objectives for indicator bacteria for REC-1 uses in inland surface waters.

(a) Fecal Coliform: based on a minimum of not less than five samples for any 30-day period, bacteria density shall not exceed a log mean of 200/100 ml, and no more than 10 percent of the total samples during any 30-day period shall exceed 400/100 ml.

(b) Enterococci: the geometric mean shall not exceed 33/100 ml and no samples shall 61/100 ml.

6. **Numeric Targets**: TMDL Numeric Targets interpret and implement water quality objectives and are established at levels necessary to achieve water quality objectives. Attainment of numeric targets for total coliform, fecal coliform, and enterococci bacteria must ensure attainment of the water quality objectives cited in finding 5. Numeric targets equal to the water quality objectives cited in finding 5 will result in attainment of water quality objectives and compliance with water quality standards in the impaired beach and creek segments.

7. **Sources Of Bacteria**: Bacteria enter surface waters from both point and nonpoint sources. Point sources typically discharge at a specific location from pipes, outfalls, and conveyance channels from municipal wastewater treatment plants, industrial waste treatment facilities, or municipal separate storm sewer systems (MS4s) in urbanized areas. Nonpoint sources are diffuse sources that have multiple routes of entry into surface waters. Nonpoint sources include natural sources of bacteria from waterfowl or other animals, and runoff from agricultural and livestock operations in

nonurban areas.

8. **Water Quality Objective Violations**: Bacteria densities at the impaired beaches and creeks have frequently exceeded water quality objectives. For beaches, the highest number of exceedances of WQOs was in the vicinity of rivers and major stormwater outfalls.

9. **Adverse Effects Associated with Bacteria:** Fecal indicator bacteria originate from the intestinal flora of warm-blooded animals, and their presence in surface water is used as an indicator of human pathogens. Pathogens can cause illness in recreational water users and people who harvest and eat filter-feeding shellfish. Bacteria have been historically used as indicators of human pathogens because bacteria are easier and less costly to measure than the pathogens themselves.

10. **Total Maximum Daily Loads** [40 CFR 130.2(i)]: For impaired beaches and creeks the TMDLs are equal to the assimilative or loading capacities of the waterbodies for total coliform, fecal coliform, and enterococci. The loading capacities are defined as the maximum amount of fecal coliform, total coliform and enterococci that the watebody can receive and still attain water quality objectives and protection of designated beneficial uses. The TMDL is comprised of the sum of all individual wasteload allocations (WLAs) for point source discharges of fecal coliform, total coliform and enterococci, the sum of all load allocations (LAs) for nonpoint source discharges of fecal coliform, total coliform and enterococci, and natural background. The TMDL includes a margin of safety (MOS) that takes into account any uncertainties in the TMDL calculation. In this TMDL, the margin of safety is included via conservative estimates throughout the calculations and not as a separate, additional factor. This method is consistent with EPA guidelines (i.e. TMDL = LC = $\sum$ WLAs + $\sum$ LAs + MOS = conservatively estimated $\sum$ WLAs + conservatively estimated $\sum$ LAs). The TMDL calculations also account for seasonal variations and critical conditions.

11. **Allocations and Reductions**: Existing loads from the watersheds draining to impaired beach and creek segments, and TMDLs for the impaired segments were calculated using calibrated wet weather and dry weather models. Existing loads were compared to TMDLs for calculation of overall required load reductions within the watersheds. The TMDLs were allocated to sources by linking the sources to land uses in the watershed. Wasteload allocations were assigned to MS4 discharges and were calculated based on the percent of the TMDL load generated by urban land uses within the watersheds as calculated by the model. Load allocations were divided into controllable sources linked to agricultural and livestock land uses, and uncontrollable sources linked to open space, recreation and water land uses. Load allocations were calculated based on the percent of the TMDL load generated by these non-urban land uses.

12. **Implementation Plan**: The necessary actions to implement the TMDLs are described in the report entitled *Total Maximum Daily Loads for Indicator Bacteria,*

Project I – Beaches and Creeks in the San Diego Region, (Technical Report) dated [insert date]. These actions will be accomplished by the San Diego Water Board and State Water Resources Control Board (State Water Board) by reissuing or revising National Pollutant Discharge Elimination System (NPDES) requirements that regulate MS4 discharges, by enrolling small MS4 discharge facilities in the affected watersheds under the State's general NPDES requirements for small MS4 discharges, by enforcing waste discharge requirements for specific agricultural and livestock facilities within the affected watersheds, by enforcing the Basin Plan Waste Discharge Requirements Waiver Policy, and by implementing the State *Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program.*

13. **Compliance Monitoring**: Water quality monitoring will be necessary to assess progress in achieving load and wasteload allocations and compliance with the water quality objectives for total coliform, fecal coliform, and enterococci.

14. **Compliance Schedule**: Dischargers accountable for attaining load reductions in multiple watersheds may have difficulty providing the same level of effort simultaneously in all watersheds. A scheme for prioritizing implementation of bacteria reduction strategies in waterbodies within watersheds was developed in conjunction with the Stakeholder Advisory Group and applied to the compliance time schedule. Fecal coliform, total coliform and enterococci loads and waste load reductions are required over a 12-year staged compliance schedule period. The first stage consists of an initial 4-year period for priority 1 waterbodies, 5-year period for priority 2 waterbodies, and 6-year period for priority 3 waterbodies during which no total coliform, fecal coliform, and enterococci load and wasteload reductions are required. A 50 percent reduction to the interim allocations must be achieved by year 5, 6, and 7 for priority 1, 2, and 3 waterbodies respectively. A 100 percent reduction to the interim allocations is required for all waterbodies by year 10, and a 100 percent reduction to the final allocations is required of all waterbodies by year 12.

15. **Scientific Peer Review**: The scientific basis for these TMDLs has undergone external peer review pursuant to Health and Safety Code section 57004. The San Diego Water Board has considered and responded to all comments submitted by the peer review panel.

16. **Stakeholder Participation**: Interested persons and the public have had reasonable opportunity to participate in review of the proposed TMDLs. Efforts to solicit public review and comment included public workshops in March 2003 and March 2004, eight meetings with the Stakeholder Advisory Group, a public review and comment period of 60 days, a public workshop on January 11, 2006, a public hearing on February 8, 2006. The San Diego Water Board also provided written responses to oral and written comments received from the public.

17. **CEQA Requirements**: The San Diego Water Board's Basin Planning process is certified as "functionally equivalent" to the process of interdisciplinary environmental

review prescribed by the California Environmental Quality Act (CEQA) and is therefore exempt from CEQA's requirements to prepare an Environmental Impact Report, Negative Declaration, or Initial Study. The Basin Plan amendment to establish bacteria TMDLs for beaches and creeks in the San Diego Region, the Technical Report, and Environmental Checklist Form prepared by the San Diego Water Board satisfy the environmental document requirements for Basin Planning activities. A public CEQA scoping meeting was held on March 27, 2003.

The analysis contained in the Technical Report, the Environmental Checklist Form, and the responses to comments comply with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3375, *et seq*. Furthermore, the analysis fulfills the San Diego Water Board's obligations attendant upon the adoption of regulations "requiring the installation of pollution control equipment, or a performance standard treatment or requirement," as set forth in section 21159 of the Public Resources Code.

18. **Economic Analysis**: The San Diego Water Board has considered the costs of the reasonably foreseeable methods of compliance with the load and wasteload allocations specified in this TMDL.

19. **De Minimus Environmental Effects**: Considering the record as a whole, this Basin Plan amendment will result in no potential for adverse effect, either individually or cumulatively, on wildlife.

20. **Public Notice**: The San Diego Water Board has notified all known interested parties and the public of its intent to consider adoption of this Basin Plan amendment in accordance with Water Code section 13244.

21. **Public Hearing**: The San Diego Water Board has considered all comments pertaining to this Basin Plan amendment submitted to the San Diego Water Board in writing, or by oral presentations at the public hearing held on February 8, 2006. Detailed responses to relevant comments have been incorporated into Appendix [insert number] of the Technical Report approved by this Resolution.

NOW, THEREFORE, BE IT RESOLVED that

1. **Amendment Adoption**: The San Diego Water Board hereby adopts this amendment to the Basin Plan to incorporate the bacteria TMDLs for Project I - Impaired Beaches and Creeks in the San Diego Region as set forth in Attachment B hereto.

2. **Technical Report Approval:** The San Diego Water Board hereby approves the Technical Report entitled *Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region*, dated [insert date].

3. **Certificate Of Fee Exemption**: The Executive Officer is authorized to sign a Certificate of Fee Exemption for a "*de minimus*" impact finding and shall submit this

Certificate *in lieu* of payment of the California Department of Fish and Game filing fee.

4. **Agency Approvals**: The Executive Officer is directed to submit this Basin Plan amendment to the SWRCB in accordance with Water Code section 13245. The San Diego Water Board requests that the SWRCB approve the Basin Plan amendment and forward it to the Office of Administrative Law (OAL) and the USEPA for approval.

5. **Non-Substantive Corrections**: If, during the approval process for this amendment, the SWRCB or the OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the San Diego Water Board of any such changes.

   I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Diego Region, on [Insert Date].

_____

John H. Robertus
Executive Officer

ATTACHMENT A
TO RESOLUTION NO. R9-2006-0001

Bacteria-Impaired Water Quality Limited Segments Included in Project I - Beaches and Creeks in the San Diego Region

Watershed	Type of Listing	Water Quality Limited Segment Name [a]	Drainage Area (mi^2)[b]
Laguna/San Joaquin HSA 901.11 and 901.12	Shoreline	Pacific Ocean Shoreline, Laguna Beach HAS: Cameo Cove at Irvine Cove Dr. - Riviera Way; Heisler Park - North. Pacific Ocean Shoreline, San Joaquin Hills HAS: Main Laguna Beach; Laguna Beach at Ocean Avenue; Laguna Beach at Laguna Avenue; Laguna Beach at Cleo Street; Arch Cove at Bluebird Canyon Road; Laguna Beach at Dumond Drive.	13.94
Aliso Creek HSA 901.13	Shoreline and Creek	Pacific Ocean Shoreline: Laguna Beach at Lagunita Place / Blue Lagoon Place; Aliso Beach. Aliso Creek.	35.74
Dana Point HSA 901.14	Shoreline	Pacific Ocean Shoreline (Salt Creek): Aliso Beach at West Street; Aliso Beach at Table Rock Drive; 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Avenue); Salt Creek (large outlet); Salt Creek Beach at Salt Creek service road; Salt Creek Beach at Dana Strand Road.	8.89
San Juan Creek HSA 901.27	Creek	Lower San Juan Creek.	177.18
San Clemente HA 901.30	Shoreline	Pacific Ocean Shoreline: Poche Beach (large outlet); Ole Hanson Beach Club Beach at Pico Drain; San Clemente City Beach at El Portal St. Stairs; San Clemente City Beach at Mariposa Street; San Clemente City Beach at Linda Lane; San Clemente City Beach at South Linda Lane; San Clemente City Beach at Lifeguard Headquarters; Under San Clemente Municipal Pier; San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane); San Clemente State Beach at Riviera Beach; San Clemente State Beach at Cypress Shores.	18.78
San Luis Rey River HU 903.00	Shoreline	Pacific Ocean Shoreline: San Luis Rey River mouth.	560.42 (354.12)

Watershed	Type of Listing	Water Quality Limited Segment Name [a]	Drainage Area (mi^2)[b]
San Marcos HA 904.50	Shoreline	Pacific Ocean Shoreline: Moonlight State Beach.	1.43
San Dieguito River HU 905.00	Shoreline	Pacific Ocean Shoreline: San Dieguito Lagoon Mouth.	346.22 (292.24)
Miramar Reservoir HA 906.10	Shoreline	Pacific Ocean Shoreline:[c] Torrey Pines State Beach at Del Mar (Anderson Canyon).	93.73
Scripps HA 906.30	Shoreline	Pacific Ocean Shoreline:[c] La Jolla Shores Beach at El Paseo Grande; La Jolla Shores Beach at Caminito Del Oro; La Jolla Shores Beach at Vallecitos; La Jolla Shores Beach at Ave de la Playa; Casa Beach, Children's Pool; South Casa Beach at Coast Blvd.; Whispering Sands Beach at Ravina Street; Windansea Beach at Vista de la Playa; Windansea Beach at Bonair Street; Windansea Beach at Playa del Norte; Windansea Beach at Palomar Avenue; Tourmaline Surf Park; Pacific Beach at Grand Ave.	8.75
San Diego River HU 907.11	Shoreline and Creek	Pacific Ocean Shoreline: San Diego River Mouth (aka Dog Beach). Forester Creek. San Diego River (Lower).	436.48 (173.95)
Chollas Creek HSA (908.22)	Creek	Chollas Creek.	26.80

Note: HSA = hydrologic subarea; HA = hydrologic area; HU = hydrologic unit

[a] Listed as impaired for exceedances of fecal coliform, and/or total coliform, and/or enterococci.

[b] The drainage area associated with the dry weather TMDLs are in parenthesis. The drainage areas associated with the wet weather TMDLs are without parenthesis. Some areas impound runoff during dry periods because these watersheds are above large reservoirs and lakes.

[c] The SWRCB has proposed removing these beach segments from the 2004 Clean Water Act Section 303(d) List of Water Quality Limited Segments.

ATTACHMENT B
TO RESOLUTION NO. R9-2006-0001

AMENDMENT TO THE *WATER QUALITY CONTROL PLAN FOR THE SAN DIEGO BASIN (9)* TO INCORPORATE TOTAL MAXIMUM DAILY LOADS FOR INDICATOR BACTERIA, PROJECT I – BEACHES AND CREEKS IN THE SAN DIEGO REGION

This Basin Plan amendment establishes Total Maximum Daily Loads (TMDLs) and associated load and wasteload allocations for total coliform, fecal coliform, and enterococci bacteria in the beach and creek segments listed in Attachment A. This amendment includes a program to implement the TMDLs and monitor their effectiveness. Chapters 2, 3, and 4 of the Basin Plan are amended as follows:

Chapter 2, *Beneficial Uses*

Table 2-2. *Beneficial Uses of Inland Surface Waters*

Consecutively number and add the following footnote to Aliso Creek, San Juan Creek, Forrester Creek, San Diego River (lower), and Chollas Creek in Table 2-2:

> Aliso Creek, San Juan Creek, Forrester Creek, San Diego River (lower), and Chollas Creek are designated as water quality limited segments for indicator bacteria pursuant to Clean Water Act section 303(d). Total Maximum Daily Loads have been adopted to address these impairments. See Chapter 3, *Water Quality Objectives*, Bacteria - Total and Fecal Coliform, and Bacteria - E. Coli and Enterococci, and Chapter 4, *Implementation*, *Total Maximum Daily Loads*.

Renumber any footnotes in Table 2-2 displaced by this new footnote.

Table 2-3. *Beneficial Uses of Coastal Waters.*

Consecutively number and add the following footnote to Pacific Ocean in Table 2-3:

> The following Pacific Ocean shoreline segments are designated as water quality limited segments for indicator bacteria pursuant to Clean Water Act section 303(d): Cameo Cove at Irvine Cove Drive – Rivera Way, Heisler Park Beach – North, main Laguna Beach, Laguna Beach at Ocean Avenue, Laguna Beach at Cleo Street, Arch Cove at Bluebird Canyon Road, Laguna Beach at Dumond Drive, Laguna Beach at Lagunita Place / Blue Lagoon Place, Aliso Beach, Aliso Beach at West Street, Aliso Beach at Table Rock Drive, 1000 Steps Beach at Pacific Coast Highway and 9th Avenue, Salt Creek (large outlet), Salt Creek Beach at Salt Creek Service Road, Salt Creek Beach at Dana Strand Road, Poche Beach (large outlet), Ole Hanson Beach Club Beach at Pico Drain, San Clemente City Beach at El Portal Street Stairs, San Clemente City Beach at Mariposa Street, San Clemente City Beach at Linda Lane, San Clemente City Beach at South Linda Lane, San Clemente City Beach at Lifeguard Headquarters, Under San Clemente Municipal Pier, San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane), San Clemente City Beach at Riviera Beach, San

Clemente City Beach at Cypress Shores, Moonlight State Beach, San Dieguito Lagoon Beach, Torrey Pines State Beach at Del Mar (Anderson Canyon), La Jolla Beach at El Paseo Grande, La Jolla Shores Beach art Caminito Del Oro, La Jolla Shores Beach at Vallecitos, La Jolla Shores Beach at Ave De La Playa, Casa Beach at Childrens Pool, South Casa Beach at Coast. Blvd., Whispering Sands Beach at Ravina Street, Windandsea Beach at Vista De La Playa, Windandsea Beach at Bonair Street, Windandsea Beach at Playa Del Norte, Windandsea Beach at Palomar Avenue, Tourmaline Surf Park, Pacific Beach at Grand Avenue. Total Maximum Daily Loads have been adopted to address these impairments. See Chapter 4, *Implementation, Total Maximum Daily Loads*.

Consecutively number and add the following footnote to Mouth of San Luis Rey River in Table 2-3:

The mouth of San Luis Rey River is designated as a water quality limited segment for indicator bacteria pursuant to Clean Water Act section 303(d). Total Maximum Daily Loads have been adopted to address these impairments. See Chapter 4, *Implementation, Total Maximum Daily Loads.*

Consecutively number and add the following footnote to Mouth of San Diego River in Table 2-3:

The mouth of San Diego River is designated as a water quality limited segment for indicator bacteria pursuant to Clean Water Act section 303(d). Total Maximum Daily Loads have been adopted to address these impairments. See Chapter 4, *Implementation, Total Maximum Daily Loads*.

Chapter 3, *Water Quality Objectives*

***Ocean Waters; Ocean Plan and Thermal Plan*:**

Add a second paragraph as follows:

The following Pacific Ocean shoreline segments are designated as water quality limited segments for indicator bacteria pursuant to Clean Water Act section 303(d): Cameo Cove at Irvine Cove Drive – Rivera Way, Heisler Park Beach – North, main Laguna Beach, Laguna Beach at Ocean Avenue, Laguna Beach at Cleo Street, Arch Cove at Bluebird Canyon Road, Laguna Beach at Dumond Drive, Laguna Beach at Lagunita Place / Blue Lagoon Place, Aliso Beach, Aliso Beach at West Street, Aliso Beach at Table Rock Drive, 1000 Steps Beach at Pacific Coast Highway and 9th Avenue, Salt Creek (large outlet), Salt Creek Beach at Salt Creek Service Road, Salt Creek Beach at Dana Strand Road, Poche Beach (large outlet), Ole Hanson Beach Club Beach at Pico Drain, San Clemente City Beach at El Portal Street Stairs, San Clemente City Beach at Mariposa Street, San Clemente City Beach at Linda Lane, San Clemente City Beach at South Linda Lane, San Clemente City Beach at Lifeguard Headquarters, Under San Clemente Municipal Pier, San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane), San Clemente City Beach at Riviera Beach, San Clemente City Beach at Cypress Shores, Moonlight State Beach, San

Dieguito Lagoon Beach, Torrey Pines State Beach at Del Mar (Anderson Canyon), La Jolla Beach at El Paseo Grande, La Jolla Shores Beach art Caminito Del Oro, La Jolla Shores Beach at Vallecitos, La Jolla Shores Beach at Ave De La Playa, Casa Beach at Childrens Pool, South Casa Beach at Coast. Blvd., Whispering Sands Beach at Ravina Street, Windandsea Beach at Vista De La Playa, Windandsea Beach at Bonair Street, Windandsea Beach at Playa Del Norte, Windandsea Beach at Palomar Avenue, Tourmaline Surf Park, Pacific Beach at Grand Avenue. Total Maximum Daily Loads have been adopted to address these impairments. See Chapter 2, Table 2-3, *Beneficial uses of Coastal Waters, Footnote [insert footnote number]*, and Chapter 4, *Implementation, Total Maximum Daily Loads*.

***Inland Surface Waters, Enclosed Bays and Estuaries, Coastal Lagoons, and Ground Waters; Bacteria – Total and Fecal Coliform*:**

Add a second paragraph as follows:

Aliso Creek, San Juan Creek, Forrester Creek, San Diego River (lower), and Chollas Creek are designated as water quality limited segments for indicator bacteria pursuant to Clean Water Act section 303(d). Total Maximum Daily Loads have been adopted to address these impairments. See Chapter 2, Table 2-2, *Beneficial Uses of Inland Surface Waters, Footnote [insert footnote number], Footnote [insert footnonte number]* and Chapter 4, *Implementation, Total Maximum Daily Loads*.

Chapter 4, *Implementation*

Amend the Table of Contents of Chapter 4 to include the subsection added below.

Add the following subsection to the *Total Maximum Daily Loads* section in Chapter 4:

Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region.

On [Insert Date], the Regional Board adopted Resolution No. R9-2006-0001, *A Resolution Amending the Water Quality Control Plan for the San Diego Region (9) to Incorporate Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region*. The TMDL Basin Plan Amendment was subsequently approved by the State Water Resources Control Board on [Insert Date], the Office of Administrative Law on [Insert Date], and the USEPA on [Insert Date].

Problem Statement

Bacteria densities in the Pacific Ocean at various beach segments violate water quality objectives (WQOs) for indicator bacteria. Bacteria densities in ocean water at these beaches threaten and impair the designated beneficial uses of contact recreation (REC-1), noncontact recreation (REC-2), and shellfish harvesting (SHELL).

Bacteria densities in Aliso, San Juan, and Forrester Creeks, and the San Diego River (lower) violate WQOs for indicator bacteria. Bacteria densities in these creeks threaten and impair the designated beneficial uses of contact recreation (REC-1), and noncontact recreation (REC-2).

Numeric Target

Numeric targets are established to meet WQOs and subsequently ensure the protection of beneficial uses. TMDLs were calculated for each impaired waterbody, for each indicator bacteria, for wet and dry weather, and for interim and final phases. The numeric targets used in the TMDL calculations were equal to the WQOs for bacteria for either REC-1 or SHELL beneficial uses, depending on the indicator and/or waterbody. The numeric targets selected in the TMDL analysis depended partly on whether the impaired water body was a beach, a creek tributary to an impaired beach, or a creek tributary to an inland surface water body, enclosed bay or estuary. The reason that different numeric targets were needed for these three scenarios is because the Ocean Plan contains total coliform WQOs for SHELL and REC-1 beneficial uses at beaches, while the Basin Plan does not assign SHELL uses to inland surface waters. Additionally, the REC-1 beneficial use for inland surface waters does not have a WQO for total coliform.

Different dry weather and wet weather numeric targets were used because the bacteria transport mechanisms to receiving waters are different under wet and dry weather conditions. Single sample maximum WQOs were used as wet weather numeric targets while geometric mean WQOs were used as numeric targets for dry weather periods. For impaired beaches, the numeric targets were equal to the total coliform, fecal coliform and enterococci WQOs for REC-1 in all cases except for the final numeric targets for total coliform. In this case the SHELL WQO was used because it is more stringent than the REC-1 WQOs for total coliform. Wet weather numeric targets were equal to the single sample maximum WQOs, while dry weather targets were equal to the geometric mean WQOs.

Numeric targets used for beaches were also used for impaired creeks tributary to impaired beaches (Aliso Creek and San Diego River). Even though these creeks are not designated with SHELL beneficial uses and there is no REC-1 objective for total coliform for inland surface waters in the Basin Plan, numeric targets for total coliform were selected for TMDL calculations for these creeks to ensure that the REC-1 and SHELL beneficial uses will be protected at the impaired downstream beach. For impaired creeks tributary to an inland surface water body, enclosed bay, or estuary (San Juan Creek,[1] Chollas Creek, and Forrester Creek), numeric targets were selected for fecal coliform and enterococci only. The single sample water quality objectives were used for wet weather targets, and the geometric mean water quality objectives were used for dry weather targets.

Another difference between the wet weather and dry weather TMDL calculations, is that the wet weather targets (during the interim period, only) are implemented by allowing a

[1] San Juan Creek drains to an impaired lagoon, which drains to an impaired beach. The lagoon and adjacent beach are being addressed in a separate TMDL project. Therefore, numeric targets based on WQOs for SHELL beneficial uses are not needed for this waterbody to protect SHELL uses at the downstream beach.

22 percent exceedance frequency of the single sample WQOs for REC-1. The purpose of the exceedance frequency is to account for the natural, and largely uncontrollable sources of bacteria (e.g., bird and wildlife feces) in the wet weather loads generated in the watersheds and at the beaches, which can, by themselves, cause exceedances of WQOs. Twenty-two percent is the frequency of exceedance of the single sample maximum WQOs measured in a reference system in Los Angeles County (Leo Carillo Beach/Arroyo Sequit Watershed). A reference system is a beach and upstream watershed that are minimally impacted by anthropogenic activities. The reference system approach also incorporates antidegradation principles in that, if water quality is better than that of the reference system in a particular location, no degradation of existing bacteriological water quality is permitted.

The numeric targets for the scenarios described above are listed in the following tables.

[Insert table number]. Interim and Final Wet Weather Numeric Targets for Beaches

Indicator Bacteria	Interim Targets		Final Targets	
	Numeric Target[a] (MPN/100mL)	Allowable Exceedance Frequency[b]	Numeric Target[c] (MPN/100mL)	Allowable Exceedance Frequency[d]
Fecal coliforms	400	22%	400	0
Total coliforms	10,000	22%	230	0
Enteroccoci	104	22%	104	0

[a] Targets based on REC-1 single sample WQOs.

[b] Exceedance frequency based on reference condition observed in the Los Angeles Region.

[c] Targets based on REC-1 single-sample WQOs for fecal coliform and enterococci, and SHELL single-sample WQOs for total coliform.

[d] The Basin Plan does not authorize the implementation of bacteria WQOs using a reference system approach.

[Insert table number]. Interim and Final Wet Weather Numeric Targets for Aliso Creek and the San Diego River (lower)

Indicator Bacteria	Interim Targets		Final Targets	
	Numeric Target[a] (MPN/100mL)	Allowable Exceedance Frequency[b]	Numeric Target[a] (MPN/100mL)	Allowable Exceedance Frequency[c]
Fecal coliforms	400	22%	400	0
Total coliforms	10,000	22%	230	0
Enteroccoci	61	22%	61	0

[a] Targets based on REC-1 single sample WQOs.

[b] Exceedance frequency based on reference condition observed in the Los Angeles Region.

[c] The Basin Plan does not authorize the implementation of bacteria WQOs using a reference system approach.

[Insert table number]. Interim and Final Wet Weather Numeric Targets for San Juan, Forrester, and Chollas Creeks

Indicator Bacteria	Interim Targets		Final Targets	
	Numeric Target[a] (MPN/100mL)	Allowable Exceedance Frequency[b]	Numeric Target[a] (MPN/100mL)	Allowable Exceedance Frequency[c]
Fecal coliforms	400	22%	400	0
Enteroccoci	61	22%	61	0

[a] Targets based on REC-1 single sample WQOs.
[b] Exceedance frequency based on reference condition observed in the Los Angeles Region.
[c] The Basin Plan does not authorize the implementation of bacteria WQOs using a reference system approach.

[Insert table number]. Interim and Final Numeric Dry weather Targets for Beaches, Aliso Creek, and San Diego River (lower)

Indicator Bacteria	Interim Targets (MPN/100 mL)		Final Targets (MPN/100 mL)	
	Beaches[a]	Creeks[a]	Beaches[b]	Creeks[b]
Fecal coliforms	200	200	200	200
Total coliforms	1,000	1,000	70	1,000
Enteroccoci	35	33	35	33

[a] Targets based on REC-1 geometric mean WQOs;
[b] Targets based on REC-1 geometric mean WQOs for fecal coliform and enterococci, and SHELL WQOs for total coliform.

[Insert table number]. Interim and Final Numeric Dry weather Targets for San Juan, Forrester, and Chollas Creeks

	Interim Targets (MPN/100 mL)	Final Targets (MPN/100 mL)
Indicator Bacteria	Creeks[a]	Creeks[a]
Fecal coliforms	200	200
Enterococci	33	33

[a] Targets based on REC-1 geometric mean WQOs.

Source Analysis

Bacteria build up on the land surface as a result of various anthropogenic land uses and management practices (e.g., management of manure fertilizer in rural areas, and pet waste in urban areas) and natural processes (e.g., bird and wildlife feces). Bacteria are washed off the land surface by dry weather urban runoff and rainfall runoff and enter surface waters through pipes, outfalls, and conveyance channels from municipal wastewater treatment plants, industrial waste treatment facilities, or Municipal Separate Storm Sewer Systems (MS4s) in urban areas. Discharges of bacteria from pipes and outfalls constitute point sources. In rural areas, bacteria are washed off the land surface through stormwater runoff directly to surface waters. These nonpoint sources are diffuse sources that have multiple routes of entry into surface waters. Nonpoint sources consist of controllable and non-controllable sources. Controllable sources include those generated at agricultural and

livestock facilities. Non-controllable nonpoint source loads come from mostly natural sources (e.g. bird and wildlife feces).

Total Maximum Daily Loads and Allocations

The TMDLs are equal to the assimilative or loading capacity of each creek or beach segment for each pollutant. TMDLs for each applicable type of indicator bacteria were developed for each impaired waterbody. TMDLs are defined as the maximum amount of a pollutant the waterbody can receive and still attain water quality objectives and protection of designated beneficial uses. A TMDL is comprised of the sum of all individual Waste Load Allocations (WLAs) for point source discharges of each pollutant, the sum of all Load Allocations (LAs) for nonpoint source discharges of each pollutant, and natural background. The TMDL includes a margin of safety (MOS) that takes into account any uncertainties in the TMDL calculation. In this TMDL, the margin of safety is included via conservative estimates throughout the TMDL calculations and not as a separate, additional factor. Separate TMDLs were calculated for wet weather and dry weather conditions to account for seasonal variations, and because the transport mechanism, flow, and bacteria loads are different between dry and wet weather conditions. The year 1993 was selected as the critical wet year for assessment of extreme wet weather loading conditions. This year was the wettest year of the 12 years analyzed (1990 through 2002), and corresponds to the 92nd percentile of annual rainfalls measured at multiple rainfall gages in the San Diego Region.

Calibrated models were used to simulate flow and indicator bacteria densities. This information was used to calculate the existing bacteria loads to, and TMDLs for the impaired waterbodies. Existing loads were compared to the TMDLs to calculate the necessary watershed-wide load reductions needed to achieve the TMDLs in the waterbodies. The TMDLs were allocated among point sources (WLAs) and nonpoint sources (LAs) in each watershed by assigning the loads generated by urban land use areas to point sources, loads generated by rural land use areas to controllable nonpoint sources, and loads generated on undeveloped lands to uncontrollable nonpoint sources. The portions of the wet weather TMDLs assigned to WLAs and LAs were calculated based on the percent of the TMDL load generated by the urban, rural, and undeveloped land uses in each watershed as determined by the models. The dry weather TMDLs were assigned entirely to WLAs because the runoff that transports bacteria loads to surface waters during dry weather occurs only in urban areas. The TMDLs, watershed-wide load reductions, LAs and WLAs are shown below in [Insert table numbers].

Margin of Safety

The TMDLs include an implicit margin of safety (MOS). The MOS is included via conservative estimates and assumptions throughout the calculations and not as a separate, additional factor.

[Insert table number]. Interim TMDLs for Fecal Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12) Cameo Cove at Irvine Cove Dr. - Riviera Way at Heisler Park – North	101 103	52,676	49,474	6.1%	5,434	15	511	43,247	5,041	154	96.9%
Laguna Beach HSA (901.12) at Main Laguna Beach Laguna Beach at Ocean Avenue Laguna Beach at Laguna Ave. Laguna Beach at Cleo Street Arch Cove at Bluebird Canyon Rd. Laguna Beach at Dumond Drive	104 105 106	652,339	615,160	5.7%	67,609	184	6,401	541,166	21,999	2,083	90.5%
Aliso HSA (901.13) Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach Aliso Creek	201 202	1,752,095	1,579,074	9.9%	585,753	241	23,844	968,920	53,972	2,383	95.6%
Dana Point HSA (901.14) Aliso Beach at West Street Aliso Beach at Table Rock Drive 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave) at Salt Creek (large outlet) Salt Creek Beach at Salt Creek service road Salt Creek Beach at Dana Strand Road	301 302 304 305 306	403,911	377,313	6.6%	167,225	0	0	210,050	18,263	912	95.0%
Lower San Juan HSA (901.27) San Juan Creek	401	15,304,790	14,714,833	3.9%	1,274,294	1,482	3,148,974	10,288,611	62,179	16,038	74.2%

[Insert table number]. Interim TMDLs for Fecal Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year) [C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Clemente HA (901.30) at Poche Beach (large outlet) Ole Hanson Beach Club Beach at Pico Drain San Clemente City Beach at El Portal St. Stairs San Clemente City Beach at Mariposa St. San Clemente City Beach at Linda Lane San Clemente City Beach at South Linda Lane San Clemente City Beach at Lifeguard Headquarters Under San Clemente Municipal Pier San Clemente City Beach at Trafalgar Canyon (Trafalgar Ln.) San Clemente State Beach at Riviera Beach San Clemente State Beach at Cypress Shores	501 502 503 504 505 506	1,441,719	1,378,930	4.4%	244,166	318	414	1,133,894	32,382	1,865	94.2%
San Luis Rey HU (903.00) at San Luis Rey River Mouth	701	33,120,012	32,445,470	2.0%	926,397	1,543	20,265,441	11,252,089	15,918	9,697	39.1%
San Marcos HA (904.50) at Moonlight State Beach	1101	20,886	17,224	17.5%	6,676	7	9,236	1,307	1,571	273	82.6%
San Dieguito HU (905.00) at San Dieguito Lagoon Mouth	1301 1302	21,286,909	21,106,683	0.8%	802,681	1,483	11,771,197	8,531,321	14,517	11,512	20.7%
Miramar Reservoir HA (906.10) Torrey Pines State Beach at Del Mar (Anderson Canyon)	1401	10,392	10,256	1.3%	6,750	0	0	3,506	1,849	66	96.4%

[Insert table number]. Interim TMDLs for Fecal Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year) [C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
Scripps HA (906.30) La Jolla Shores Beach at El Paseo Grande La Jolla Shores Beach at Caminito Del Oro La Jolla Shores Beach at Vallecitos La Jolla Shores Beach at Ave de la Playa at Casa Beach, Children's Pool South Casa Beach at Coast Blvd. Whispering Sands Beach at Ravina St. Windansea Beach at Vista de la Playa Windansea Beach at Bonair St. Windansea Beach at Playa del Norte Windansea Beach at Palomar Ave. at Tourmaline Surf Park Pacific Beach at Grand Ave.	1501 1503 1505 1507	204,057	176,906	13.3%	111,327	0	0	65,579	34,085	1,221	96.4%
San Diego HU (907.11) at San Diego River Mouth (aka Dog Beach)	1801	4,932,380	4,681,150	5.1%	448,867	992	393,685	3,838,075	45,831	14,003	69.4%
Santee HSA (907.12) Forrester Creek	1801	4,932,380	4,681,150	5.1%	448,867	992	393,685	3,838,075	45,831	14,003	69.4%
San Diego HU (907.11) & Santee HSA (907.12) San Diego River, Lower	1801	4,932,380	4,681,150	5.1%	448,867	992	393,685	3,838,075	45,831	14,003	69.4%
Chollas HSA (908.22) Chollas Creek	1901	603,863	520,440	13.8%	289,423	774	0	230,139	50,680	3,982	92.1%

[A] This number is used in the LSPC model to identify the subwatershed associated with the listed segment(s) within a hydrologic region (see Appendix E). Load-duration curves and TMDL calculation tables for each subwatershed are provided in Appendix O.

[B] Percent Reduction = [1 – (Total Maximum Daily Load / Existing Load)] x 100%

[C] The dry weather TMDLs are only allocated to municipal MS4s because bacteria discharges from Caltrans highways, controllable point sources, and non-controllable point sources are not likely during dry weather.

[Insert table number]. Final TMDLs for Fecal Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12) Cameo Cove at Irvine Cove Dr. - Riviera Way at Heisler Park – North	101 103	52,676	1,119	97.8%	0	0	0	43,247	5,041	154	96.9%
Laguna Beach HSA (901.12) at Main Laguna Beach Laguna Beach at Ocean Avenue Laguna Beach at Laguna Ave. Laguna Beach at Cleo Street Arch Cove at Bluebird Canyon Rd. Laguna Beach at Dumond Drive	104 105 106	652,339	14,923	97.7%	0	0	0	541,166	21,999	2,083	90.5%
Aliso HSA (901.13) Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach Aliso Creek	201 202	,752,095	84,562	95.2%	0	0	0	968,920	53,972	2,383	95.6%
Dana Point HSA (901.14) Aliso Beach at West Street Aliso Beach at Table Rock Drive 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave) at Salt Creek (large outlet) Salt Creek Beach at Salt Creek service road Salt Creek Beach at Dana Strand Road	301 302 304 305 306	403,911	14,894	96.3%	0	0	0	210,050	18,263	912	95.0%
Lower San Juan HSA (901.27) San Juan Creek	401	15,304,790	358,410	97.6%	0	0	0	10,288,611	62,179	16,038	74.2%

[Insert table number]. Final TMDLs for Fecal Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Clemente HA (901.30) at Poche Beach (large outlet) Ole Hanson Beach Club Beach at Pico Drain San Clemente City Beach at El Portal St. Stairs San Clemente City Beach at Mariposa St. San Clemente City Beach at Linda Lane San Clemente City Beach at South Linda Lane San Clemente City Beach at Lifeguard Headquarters Under San Clemente Municipal Pier San Clemente City Beach at Trafalgar Canyon (Trafalgar Ln.) San Clemente State Beach at Riviera Beach San Clemente State Beach at Cypress Shores	501 502 503 504 505 506	1,441,719	36,481	97.5%	0	0	0	1,133,894	32,382	1,865	94.2%
San Luis Rey HU (903.00) at San Luis Rey River Mouth	701	33,120,012	641,823	98.1%	0	0	0	11,252,089	15,918	9,697	39.1%
San Marcos HA (904.50) at Moonlight State Beach	1101	20,886	1,559	92.5%	0	0	0	1,307	1,571	273	82.6%
San Dieguito HU (905.00) at San Dieguito Lagoon Mouth	1301 1302	1,286,909	431,004	98.0%	0	0	0	8,531,321	14,517	11,512	20.7%
Miramar Reservoir HA (906.10) Torrey Pines State Beach at Del Mar (Anderson Canyon)	1401	10,392	312	97.0%	0	0	0	3,506	1,849	66	96.4%

[Insert table number]. Final TMDLs for Fecal Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
Scripps HA (906.30) La Jolla Shores Beach at El Paseo Grande La Jolla Shores Beach at Caminito Del Oro La Jolla Shores Beach at Vallecitos La Jolla Shores Beach at Ave de la Playa at Casa Beach, Children's Pool South Casa Beach at Coast Blvd. Whispering Sands Beach at Ravina St. Windansea Beach at Vista de la Playa Windansea Beach at Bonair St. Windansea Beach at Playa del Norte Windansea Beach at Palomar Ave. at Tourmaline Surf Park Pacific Beach at Grand Ave.	1501 1503 1505 1507	204,057	10,329	94.9%	0	0	0	65,579	34,085	1,221	96.4%
San Diego HU (907.11) at San Diego River Mouth (aka Dog Beach)	1801	4,932,380	311,132	93.7%	0	0	0	3,838,075	45,831	14,003	69.4%
Santee HSA (907.12) Forrester Creek	1801	4,932,380	311,132	93.7%	0	0	0	3,838,075	45,831	14,003	69.4%
San Diego HU (907.11) & Santee HSA (907.12) San Diego River, Lower	1801	4,932,380	311,132	93.7%	0	0	0	3,838,075	45,831	14,003	69.4%
Chollas HSA (908.22) Chollas Creek	1901	603,863	55,516	90.8%	0	0	0	230,139	50,680	3,982	92.1%

[A] This number is used in the LSPC model to identify the subwatershed associated with the listed segment(s) within a hydrologic region (see Appendix E). Load-duration curves and TMDL calculation tables for each subwatershed are provided in Appendix P.

[B] Percent reduction = [1 – (Total Maximum Daily Load / Existing Load)] x 100%

[C] The dry weather TMDLs are only allocated to municipal MS4s because bacteria discharges from Caltrans highways, controllable point sources, and non-controllable point sources are not likely during dry weather.

[Insert table number]. Interim TMDLs for Total Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Waste-load Allocation (Municipal MS4s)	Percent Reduction
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12) Cameo Cove at Irvine Cove Dr. - Riviera Way at Heisler Park – North	101 103	628,669	567,611	9.7%	114,373	511	3,519	449,150	25,369	770	97.0%
Laguna Beach HSA (901.12) at Main Laguna Beach Laguna Beach at Ocean Avenue Laguna Beach at Laguna Ave. Laguna Beach at Cleo Street Arch Cove at Bluebird Canyon Rd. Laguna Beach at Dumond Drive	104 105 106	7,593,233	6,878,039	9.4%	1,385,925	6,190	42,644	5,442,593	110,707	10,415	90.6%
Aliso HSA (901.13) Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach Aliso Creek	201 202	23,210,774	20,190,798	13.0%	10,390,638	9,642	155,469	9,635,049	262,841	11,915	95.9%
Dana Point HSA (901.14) Aliso Beach at West Street Aliso Beach at Table Rock Drive 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave) at Salt Creek (large outlet) Salt Creek Beach at Salt Creek service road Salt Creek Beach at Dana Strand Road	301 302 304 305 306	6,546,962	6,031,472	7.9%	3,611,042	603	0	2,419,827	91,908	4,558	95.0%
Lower San Juan HSA (901.27) San Juan Creek	401	130,258,863	122,879,198	5.7%	18,781,704	55,677	17,461,134	86,580,683	297,153	80,190	73.0%

[Insert table number]. Interim TMDLs for Total Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Clemente HA (901.30) at Poche Beach (large outlet) Ole Hanson Beach Club Beach at Pico Drain San Clemente City Beach at El Portal St. Stairs San Clemente City Beach at Mariposa St. San Clemente City Beach at Linda Lane San Clemente City Beach at South Linda Lane San Clemente City Beach at Lifeguard Headquarters Under San Clemente Municipal Pier San Clemente City Beach at Trafalgar Canyon (Trafalgar Ln.) San Clemente State Beach at Riviera Beach San Clemente State Beach at Cypress Shores	501 502 503 504 505 506	16,236,540	15,147,590	6.7%	4,260,551	12,584	1,515	10,871,425	162,961	9,326	94.3%
San Luis Rey HU (903.00) at San Luis Rey River Mouth	701	231,598,677	224,189,156	3.2%	14,765,590	53,313	113,596,645	95,796,026	78,370	48,483	38.1%
San Marcos HA (904.50) at Moonlight State Beach	1101	515,278	425,083	17.5%	301,962	442	101,000	21,679	7,907	1,364	82.7%
San Dieguito HU (905.00) at San Dieguito Lagoon Mouth	1301 1302	163,541,132	159,978,672	2.2%	17,008,759	44,967	68,038,929	74,870,018	67,236	57,563	14.4%
Miramar Reservoir HA (906.10) Torrey Pines State Beach at Del Mar (Anderson Canyon)	1401	212,986	210,182	1.3%	171,940	9	0	38,232	9,307	328	96.5%

[Insert table number]. Interim TMDLs for Total Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
Scripps HA (906.30) La Jolla Shores Beach at El Paseo Grande La Jolla Shores Beach at Caminito Del Oro La Jolla Shores Beach at Vallecitos La Jolla Shores Beach at Ave de la Playa at Casa Beach, Children's Pool South Casa Beach at Coast Blvd. Whispering Sands Beach at Ravina St. Windansea Beach at Vista de la Playa Windansea Beach at Bonair St. Windansea Beach at Playa del Norte Windansea Beach at Palomar Ave. at Tourmaline Surf Park Pacific Beach at Grand Ave.	1501 1503 1505 1507	5,029,518	4,356,972	13.4%	3,569,231	0	0	787,305	171,530	6,103	96.4%
San Diego HU (907.11) at San Diego River Mouth (aka Dog Beach)	1801	72,757,569	66,114,283	9.1%	15,845,473	48,401	3,180,097	47,033,701	269,592	70,017	74.0%
Santee HSA (907.12) Forrester Creek	1801	72,757,569	66,114,283	9.1%	15,845,473	48,401	3,180,097	47,033,701	269,592	70,017	74.0%
San Diego HU (907.11) & Santee HSA (907.12) San Diego River, Lower	1801	72,757,569	66,114,283	9.1%	15,845,473	48,401	3,180,097	47,033,701	269,592	70,017	74.0%
Chollas HSA (908.22) Chollas Creek	1901	15,390,608	13,247,626	13.9%	10,349,391	39,397	0	2,858,838	250,803	19,910	92.1%

[A] This number is used in the LSPC model to identify the subwatershed associated with the listed segment(s) within a hydrologic region (see Appendix E). Load-duration curves and TMDL calculation tables for each subwatershed are provided in Appendix O.

[B] Percent reduction = [1 – (Total Maximum Daily Load / Existing Load)] x 100%

[C] The dry weather TMDLs are only allocated to municipal MS4s because bacteria discharges from Caltrans highways, controllable point sources, and non-controllable point sources are not likely during dry weather.

[Insert table number]. Final TMDLs for Total Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Waste-load Allocation (Municipal MS4s)	Percent Reduction
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12) Cameo Cove at Irvine Cove Dr. - Riviera Way at Heisler Park – North	101	628,669	644	99.9%	0	0	0	449,150	25,369	54	97.0%
	103										
Laguna Beach HSA (901.12) at Main Laguna Beach Laguna Beach at Ocean Avenue Laguna Beach at Laguna Ave. Laguna Beach at Cleo Street Arch Cove at Bluebird Canyon Rd. Laguna Beach at Dumond Drive	104	7,593,233	8,594	99.9%	0	0	0	5,442,593	110,707	729	90.6%
	105										
	106										
Aliso HSA (901.13) Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach Aliso Creek	201	23,210,774	57,629	99.8%	0	0	0	9,635,049	262,841	834	95.9%
	202										
Dana Point HSA (901.14) Aliso Beach at West Street Aliso Beach at Table Rock Drive 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave) at Salt Creek (large outlet) Salt Creek Beach at Salt Creek service road Salt Creek Beach at Dana Strand Road	301	6,546,962	8,387	99.9%	0	0	0	2,419,827	91,908	319	95.0%
	302										
	304										
	305										
	306										
Lower San Juan HSA (901.27) San Juan Creek	401	130,258,863	8,947,114	93.2%	0	0	0	86,580,683	297,153	80,190	73.0%

[Insert table number]. Final TMDLs for Total Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Clemente HA (901.30) at Poche Beach (large outlet) Ole Hanson Beach Club Beach at Pico Drain San Clemente City Beach at El Portal St. Stairs San Clemente City Beach at Mariposa St. San Clemente City Beach at Linda Lane San Clemente City Beach at South Linda Lane San Clemente City Beach at Lifeguard Headquarters Under San Clemente Municipal Pier San Clemente City Beach at Trafalgar Canyon (Trafalgar Ln.) San Clemente State Beach at Riviera Beach San Clemente State Beach at Cypress Shores	501	16,236,540	20,998	99.9%	0	0	0	10,871,425	162,961	653	94.3%
	502										
	503										
	504										
	505										
	506										
San Luis Rey HU (903.00) at San Luis Rey River Mouth	701	231,598,677	440,347	99.8%	0	0	0	95,796,026	78,370	3,394	38.1%
San Marcos HA (904.50) at Moonlight State Beach	1101	515,278	899	99.8%	0	0	0	21,679	7,907	95	82.7%
San Dieguito HU (905.00) at San Dieguito Lagoon Mouth	1301	163,541,132	461,886	99.7%	0	0	0	74,870,018	67,236	4,029	14.4%
	1302										
Miramar Reservoir HA (906.10) Torrey Pines State Beach at Del Mar (Anderson Canyon)	1401	212,986	182	99.9%	0	0	0	38,232	9,307	23	96.5%

[Insert table number]. Final TMDLs for Total Coliform

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
Scripps HA (906.30) La Jolla Shores Beach at El Paseo Grande La Jolla Shores Beach at Caminito Del Oro La Jolla Shores Beach at Vallecitos La Jolla Shores Beach at Ave de la Playa at Casa Beach, Children's Pool South Casa Beach at Coast Blvd. Whispering Sands Beach at Ravina St. Windansea Beach at Vista de la Playa Windansea Beach at Bonair St. Windansea Beach at Playa del Norte Windansea Beach at Palomar Ave. at Tourmaline Surf Park Pacific Beach at Grand Ave.	1501 1503 1505 1507	5,029,518	5,940	99.9%	0	0	0	787,305	171,530	427	96.4%
San Diego HU (907.11) at San Diego River Mouth (aka Dog Beach)	1801	72,757,569	189,650	99.7%	0	0	0	47,033,701	269,592	4,901	74.0%
Santee HSA (907.12) Forrester Creek	1801	72,757,569	189,650	99.7%	0	0	0	47,033,701	269,592	4,901	74.0%
San Diego HU (907.11) & Santee HSA (907.12) San Diego River, Lower	1801	72,757,569	189,650	99.7%	0	0	0	47,033,701	269,592	4,901	74.0%
Chollas HSA (908.22) Chollas Creek	1901	15,390,608	1,386,037	99.1%	0	0	0	2,858,838	250,803	19,910	92.1%

[A] This number is used in the LSPC model to identify the subwatershed associated with the listed segment(s) within a hydrologic region (see Appendix E). Load-duration curves and TMDL calculation tables for each subwatershed are provided in Appendix P.

[B] Percent reduction =[1 – (Total Maximum Daily Load / Existing Load)] x 100%

[C] The dry weather TMDLs are only allocated to municipal MS4s because bacteria discharges from Caltrans highways, controllable point sources, and non-controllable point sources are not likely during dry weather.

[Insert table number]. Interim TMDLs for Enterococci

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12) Cameo Cove at Irvine Cove Dr. - Riviera Way at Heisler Park – North	101 103	61,351	56,419	8.0%	9,025	23	209	47,184	4,268	27	99.4%
Laguna Beach HSA (901.12) at Main Laguna Beach Laguna Beach at Ocean Avenue Laguna Beach at Laguna Ave. Laguna Beach at Cleo Street Arch Cove at Bluebird Canyon Rd. Laguna Beach at Dumond Drive	104 105 106	791,298	726,379	8.2%	116,144	290	2,687	607,235	18,624	365	98.0%
Aliso HSA (901.13) Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach Aliso Creek	201 202	2,230,206	1,950,980	12.5%	887,834	447	9,950	1,052,944	45,525	394	99.1%
Dana Point HSA (901.14) Aliso Beach at West Street Aliso Beach at Table Rock Drive 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave) at Salt Creek (large outlet) Salt Creek Beach at Salt Creek service road Salt Creek Beach at Dana Strand Road	301 302 304 305 306	501,525	462,306	7.8%	238,504	46	0	223,756	15,462	160	99.0%
Lower San Juan HSA (901.27) San Juan Creek	401	12,980,098	12,152,446	6.4%	1,780,011	2,753	1,077,922	9,292,975	52,338	2,646	94.9%

[Insert table number]. Interim TMDLs for Enterococci

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Clemente HA (901.30) at Poche Beach (large outlet) Ole Hanson Beach Club Beach at Pico Drain San Clemente City Beach at El Portal St. Stairs San Clemente City Beach at Mariposa St. San Clemente City Beach at Linda Lane San Clemente City Beach at South Linda Lane San Clemente City Beach at Lifeguard Headquarters Under San Clemente Municipal Pier San Clemente City Beach at Trafalgar Canyon (Trafalgar Ln.) San Clemente State Beach at Riviera Beach San Clemente State Beach at Cypress Shores	501	1,663,093	1,563,186	6.0%	371,593	601	156	1,190,522	27,415	326	98.8%
	502										
	503										
	504										
	505										
	506										
San Luis Rey HU (903.00) at San Luis Rey River Mouth	701	18,439,920	17,470,687	5.3%	1,395,578	2,077	6,520,060	9,552,972	13,442	1,697	87.4%
San Marcos HA (904.50) at Moonlight State Beach	1101	40,558	32,966	18.7%	24,206	20	6,362	2,377	1,330	48	96.4%
San Dieguito HU (905.00) at San Dieguito Lagoon Mouth	1301	14,796,210	14,327,364	3.2%	1,850,515	2,014	4,282,449	8,192,387	12,175	2,015	83.4%
	1302										
Miramar Reservoir HA (906.10) Torrey Pines State Beach at Del Mar (Anderson Canyon)	1401	11,564	11,405	1.4%	8,155	0	0	3,249	1,566	11	99.3%

[Insert table number]. Interim TMDLs for Enterococci

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
Scripps HA (906.30) La Jolla Shores Beach at El Paseo Grande La Jolla Shores Beach at Caminito Del Oro La Jolla Shores Beach at Vallecitos La Jolla Shores Beach at Ave de la Playa at Casa Beach, Children's Pool South Casa Beach at Coast Blvd. Whispering Sands Beach at Ravina St. Windansea Beach at Vista de la Playa Windansea Beach at Bonair St. Windansea Beach at Playa del Norte Windansea Beach at Palomar Ave. at Tourmaline Surf Park Pacific Beach at Grand Ave.	1501 1503 1505 1507	377,839	324,033	14.2%	245,131	0	0	78,902	28,856	214	99.3%
San Diego HU (907.11) at San Diego River Mouth (aka Dog Beach)	1801	7,255,759	6,591,843	9.2%	1,413,110	2,159	193,800	4,982,774	38,190	2,311	93.9%
Santee HSA (907.12) Forrester Creek	1801	7,255,759	6,591,843	9.2%	1,413,110	2,159	193,800	4,982,774	38,190	2,311	93.9%
San Diego HU (907.11) & Santee HSA (907.12) San Diego River, Lower	1801	7,255,759	6,591,843	9.2%	1,413,110	2,159	193,800	4,982,774	38,190	2,311	93.9%
Chollas HSA (908.22) Chollas Creek	1901	1,371,972	1,152,645	16.0%	858,736	1,714	0	292,080	42,826	657	98.5%

[A] This number is used in the LSPC model to identify the subwatershed associated with the listed segment(s) within a hydrologic region (see Appendix E). Load-duration curves and TMDL calculation tables for each subwatershed are provided in Appendix O.

[B] Percent reduction = [1 – (Total Maximum Daily Load / Existing Load)] x 100%

[C] The dry weather TMDLs are only allocated to municipal MS4s because bacteria discharges from Caltrans highways, controllable point sources, and non-controllable point sources are not likely during dry weather.

[Insert table number]. Final TMDLs for Enterococci

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12) Cameo Cove at Irvine Cove Dr. - Riviera Way at Heisler Park – North	101 103	61,351	291	99.5%	0	0	0	47,184	4,268	27	99.4%
Laguna Beach HSA (901.12) at Main Laguna Beach Laguna Beach at Ocean Avenue Laguna Beach at Laguna Ave. Laguna Beach at Cleo Street Arch Cove at Bluebird Canyon Rd. Laguna Beach at Dumond Drive	104 105 106	791,298	3,884	99.5%	0	0	0	607,235	18,624	365	98.0%
Aliso HSA (901.13) Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach Aliso Creek	201 202	2,230,206	13,704	99.4%	0	0	0	1,052,944	45,525	394	99.1%
Dana Point HSA (901.14) Aliso Beach at West Street Aliso Beach at Table Rock Drive 1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave) at Salt Creek (large outlet) Salt Creek Beach at Salt Creek service road Salt Creek Beach at Dana Strand Road	301 302 304 305 306	501,525	3,875	99.3%	0	0	0	223,756	15,462	160	99.0%
Lower San Juan HSA (901.27) San Juan Creek	401	12,980,098	56,119	99.6%	0	0	0	9,292,975	52,338	2,646	94.9%

[Insert table number]. Final TMDLs for Enterococci

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
San Clemente HA (901.30) at Poche Beach (large outlet) Ole Hanson Beach Club Beach at Pico Drain San Clemente City Beach at El Portal St. Stairs San Clemente City Beach at Mariposa St. San Clemente City Beach at Linda Lane San Clemente City Beach at South Linda Lane San Clemente City Beach at Lifeguard Headquarters Under San Clemente Municipal Pier San Clemente City Beach at Trafalgar Canyon (Trafalgar Ln.) San Clemente State Beach at Riviera Beach San Clemente State Beach at Cypress Shores	501 502 503 504 505 506	1,663,093	9,492	99.4%	0	0	0	1,190,522	27,415	326	98.8%
San Luis Rey HU (903.00) at San Luis Rey River Mouth	701	18,439,920	174,221	99.1%	0	0	0	9,552,972	13,442	1,697	87.4%
San Marcos HA (904.50) at Moonlight State Beach	1101	40,558	406	99.0%	0	0	0	2,377	1,330	48	96.4%
San Dieguito HU (905.00) at San Dieguito Lagoon Mouth	1301 1302	14,796,210	135,530	99.1%	0	0	0	8,192,387	12,175	2,015	83.4%
Miramar Reservoir HA (906.10) Torrey Pines State Beach at Del Mar (Anderson Canyon)	1401	11,564	81	99.3%	0	0	0	3,249	1,566	11	99.3%

[Insert table number]. Final TMDLs for Enterococci

Hydrologic Descriptor	Model Subwatershed[A]	Wet Weather TMDL Results (Billion MPN/year)							Dry Weather TMDL Results (Billion MPN/year)[C]		
		Existing Load	Total Maximum Daily Load	Percent[B] Reduction	Wasteload Allocation (Municipal MS4s)	Wasteload Allocation (CalTrans)	Load Allocation (Controllable)	Load Allocation (Non-Controllable)	Existing Load	Wasteload Allocation (Municipal MS4s)	Percent Reduction
Scripps HA (906.30) La Jolla Shores Beach at El Paseo Grande La Jolla Shores Beach at Caminito Del Oro La Jolla Shores Beach at Vallecitos La Jolla Shores Beach at Ave de la Playa at Casa Beach, Children's Pool South Casa Beach at Coast Blvd. Whispering Sands Beach at Ravina St. Windansea Beach at Vista de la Playa Windansea Beach at Bonair St. Windansea Beach at Playa del Norte Windansea Beach at Palomar Ave. at Tourmaline Surf Park Pacific Beach at Grand Ave.	1501 1503 1505 1507	377,839	2,686	99.3%	0	0	0	78,902	28,856	214	99.3%
San Diego HU (907.11) at San Diego River Mouth (aka Dog Beach)	1801	7,255,759	48,356	99.3%	0	0	0	4,982,774	38,190	2,311	93.9%
Santee HSA (907.12) Forrester Creek	1801	7,255,759	48,356	99.3%	0	0	0	4,982,774	38,190	2,311	93.9%
San Diego HU (907.11) & Santee HSA (907.12) San Diego River, Lower	1801	7,255,759	48,356	99.3%	0	0	0	4,982,774	38,190	2,311	93.9%
Chollas HSA (908.22) Chollas Creek	1901	1,371,972	9,073	99.4%	0	0	0	292,080	42,826	657	98.5%

[A] This number is used in the LSPC model to identify the subwatershed associated with the listed segment(s) within a hydrologic region (see Appendix E). Load-duration curves and TMDL calculation tables for each subwatershed are provided in Appendix P.

[B] Percent reduction = [1 – (Total Maximum Daily Load / Existing Load)] x 100%

[C] The dry weather TMDLs are only allocated to municipal MS4s because bacteria discharges from Caltrans highways, controllable point sources, and non-controllable point sources are not likely during dry weather.

TMDL Implementation Plan

The TMDLs will be implemented as follows:

- The Regional Board shall request that the State Board reissue or revise Order No. 99-06, or subsequent NPDES renewal orders (the Caltrans Stormwater NPDES requirements), to incorporate WQBELs consistent with the assumptions and requirements of the bacteria WLAs, and requirements for monitoring and reporting.

- The Regional Board shall request that the State Board enforce the provisions of Receiving Water Limitation C-1-3.a of Order No. 99-06, or subsequent NPDES renewal orders to implement additional BMPs to reduce bacteria discharges in impaired watersheds to the maximum extent practicable and to restore compliance with the bacteria WQOs.

- The Regional Board shall reissue or revise Orders No. 2001-01 and 2002-0001 (the San Diego County and Orange County MS4 NPDES requirements), to incorporate WQBELs consistent with the assumptions and requirements of the bacteria WLAs, and requirements for monitoring and reporting.

- The Regional Board shall enforce the provisions of Receiving Water Limitation C.2[2] of Orders No. 2001-01 and 2002-0001, or subsequent NPDES renewal orders, (San Diego County and Orange County MS4 NPDES requirements) to implement additional BMPs to reduce bacteria discharges in impaired watersheds to the maximum extent practicable and to restore compliance with the bacteria WQOs.

- The Regional Board shall require owners and operators of small MS4s in the watersheds subject to this TMDL to submit Notices of Intent[3] to comply with requirements of Order No. 2003-0005-DWQ. Once enrolled under the order, small MS4 owners and operators will be required to comply with the provisions of the order to reduce the discharge of bacteria to the MEP as specified in their Stormwater Management Plans/Programs.

- In the San Juan Creek, San Luis Rey River, San Marcos Creek, and San Dieguito River watersheds, the Regional Board shall enforce facility specific WDRs and the Basin Plan WDR Waiver Policy with respect to waivers of discharges of waste from livestock operations, manure composting and soil amendment operations, and agricultural irrigation return flow. In addition, for discharges not regulated by WDRs or covered by the Basin Plan Waiver WDR Policy, the Regional Board shall

[2] Receiving Water Limitation C-1-3.a (Caltrans) and C.2.a (San Diego and Orange Counties) provides that "[u]pon a determination by either the Copermittee or the San Diego Water Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the San Diego Water Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional URMP unless the San Diego Water Board directs an earlier submittal. The report shall include an implementation schedule. The San Diego Water Board may require modification to the report." .

[3] The Notice of Intent, or NOI, is attachment 7 to Order No. 2003-0005-DWQ.

pursue a third-party regulatory-based approach to implement the bacteria load reductions assigned to nonpoint sources.

- The Regional Board shall consider enforcement actions,[4] as necessary, against any discharger failing to comply with applicable waiver conditions, WDRs, discharge prohibitions, or take enforcement action, as necessary, to control the discharge of bacteria to impaired beaches and creeks, to attain compliance with the bacteria WLAs specified in this Technical Report, or to attain compliance with the bacteria WQOs. The Regional Board may also terminate the applicability of waivers and issue WDRs or take other appropriate action against any discharger(s) failing to comply with the waiver conditions.

- The Regional Board shall recommend that the State Board assign a high priority to awarding grant funding for projects to implement the bacteria TMDLs. Special emphasis will be given to projects that can achieve quantifiable bacteria load reductions consistent with the specific bacteria TMDL WLAs and LAs.

Prioritization of Waterbodies

The waterbodies included in this TMDL are numerous and diverse in terms of geographic location, swimmer accessibility and use, existence of shellfish harvesting, and degree of contamination. Dischargers accountable for attaining load reductions in multiple watersheds may have difficulty providing the same level of effort simultaneously in all watersheds. In order to address these concerns impaired waters were prioritized based on factors such as level of beach (marine or freshwater) swimmer usage, existence of shellfish harvesting (for beaches), frequency of exceedances of WQOs, and existing programs designed to reduce bacteria loading to surface waters. Waterbodies were assigned a priority number of 1, 2, or 3 with 1 being the highest priority. Priority 1 waters also included waterbodies likely meeting WQOs and likely to be removed from the List of Water Quality Limited Segments. A prioritized list of impaired beaches and creeks included in these TMDLs is shown in Table [Insert table number]. Priority schemes are designated within watersheds.

[4] An enforcement action is any formal or informal action taken to address an incidence of actual or threatened noncompliance with existing regulations or provisions designed to protect water quality. Potential enforcement actions including notices of violation (NOVs), notices to comply (NTCs), imposition of time schedules (TSO), issuance of cease and desist orders (CDOs) and cleanup and abatement orders (CAOs), administrative civil liability (ACL), and referral to the attorney general (AG) or district attorney (DA). The San Diego Water Board generally implements enforcement through an escalating series of actions to: (1) assist cooperative dischargers in achieving compliance; (2) compel compliance for repeat violations and recalcitrant violators; and (3) provide a disincentive for noncompliance.

[Insert table number]. Prioritized List of Impaired Waters for TMDL Implementation

Watershed	Waterbody	Segment or Area	Priority
San Joaquin Hills HSA (901.11) & Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Dr. - Riviera Way	1
		at Heisler Park – North	1
Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	at Main Laguna Beach	1
		Laguna Beach at Ocean Avenue	1
		Laguna Beach at Laguna Avenue	1
		Laguna Beach at Cleo Street	1
		Arch Cove at Bluebird Canyon Road	1
		Laguna Beach at Dumond Drive	1
Aliso HSA (901.13)	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place/Blue Lagoon Place at Aliso Beach	1
	Aliso Creek At creek mouth		3
Dana Point HSA (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street	1
		Aliso Beach at Table Rock Drive	1
		1000 Steps Beach at Pacific Coast Hwy at Hospital (9th Ave)	1
		at Salt Creek (large outlet)	1
		Salt Creek Beach at Salt Creek service road	2
		Salt Creek Beach at Dana Strand Road	2
Lower San Juan HSA (901.27)	San Juan Creek		3
San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach (large outlet)	1
		Ole Hanson Beach Club Beach at Pico Drain	1
		San Clemente City Beach at Linda Lane	1
		San Clemente State Beach at Riviera Beach	1
		San Clemente City Beach at Mariposa Street	2
		San Clemente State Beach at Cypress Shores	2
		San Clemente City Beach at Lifeguard Headquarters	2
		Under San Clemente Municipal Pier	2
		San Clemente City Beach at El Portal Street Stairs	2
		San Clemente City Beach at South Linda Lane	3
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)	3
San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River Mouth	2

Watershed	Waterbody	Segment or Area	Priority
San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	1
San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon Mouth	1
Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline[a]	Torrey Pines State Beach at Del Mar (Anderson Canyon)	1
Scripps HA (906.30)	Pacific Ocean Shoreline[a]	La Jolla Shores Beach at El Paseo Grande	1
		La Jolla Shores Beach at Caminito Del Oro	1
		La Jolla Shores Beach at Vallecitos	1
		La Jolla Shores Beach at Ave de la Playa	1
		at Casa Beach, Children's Pool	1
		South Casa Beach at Coast Blvd.	1
		Whispering Sands Beach at Ravina Street	1
		Windansea Beach at Vista de la Playa	1
		Windansea Beach at Bonair Street	1
		Windansea Beach at Playa del Norte	1
		Windansea Beach at Palomar Ave.	1
		at Tourmaline Surf Park	1
		Pacific Beach at Grand Ave.	1
Santee HSA (907.12)	Forrester Creek		3
Mission San Diego HSA (907.11) & Santee HSA (907.12)	San Diego River, Lower		3
Chollas HSA (908.22)	Chollas Creek	Bottom 1.2 miles	3

[a] The State Board has proposed removing these beach segments from the 2004 Clean Water Act Section 303(d) List of Water Quality Limited Segments

Compliance Schedule

The compliance schedule for implementing the load and wateload reductions required under these TMDLs is structured in a phased manner, with 100 percent of interim reductions necessary for protection of the REC-1 beneficial use required 10 years from *[insert date on which OAL approves this Basin Plan amendment].* Final reductions to attain REC-1 and SHELL WQOs are required after 12 years. Interim reductions required by the compliance schedule vary on the timeline based on the priority scheme described above. Interim reductions in bacteria loads and wasteloads are required sooner in the higher priority waters.

[Insert table number]. Compliance Schedule and Interim Goals for Achieving

Compliance Year (year after OAL approval)	Required Wasteload Reduction		
	Priority 1	**Priority 2**	**Priority 3**
1			
2			
3			
4			
5	50% (Interim REC-1)		
6		50% (Interim REC-1)	
7			50% (Interim REC-1)
8			
9			
10	100% (Interim REC-1)	100% (Interim REC-1)	100% (Interim REC-1)
11			
12	100% (Final REC-1, SHELL)	100% (Final REC-1, SHELL)	100% (Final REC-1, SHELL)