ORDER 2014-XXXX-DWQ
AMENDING

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT FOR
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
ORDER 2012-0011-DWQ
NPDES NO. CAS000003

Order 2012-0011-DWQ was adopted by the State Water Resources Control Board on:	September 19, 2012
Order 2012-0011-DWQ became effective on:	July 1, 2013
This Order amends Order 2012-0011-DWQ and becomes effective on:	July 1, 2014

IT IS HEREBY ORDERED that this Order amends Order 2012-0011-DWQ. Additions to Order 2012-0011-DWQ are reflected in blue-underline text and deletions are reflected in ~~red-strikeout~~ text, or as otherwise noted in Attachments 1 thru 3.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order 2012-0011-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on May 20, 2014.

AYE:

NAY:
ABSENT:
ABSTAIN:

_____
Jeanine Townsend
Clerk of the Board

ATTACHMENT NO. 1 TO ORDER 2014-XXXX-DWQ

Order 2012-0011-DWQ

The following **Findings** are revised as shown:

35. TMDL WLAs in this Order are not limited by the MEP standard. ~~Implementation requirements for many TMDLs are partially or fully specified in Regional Water Board Water Quality Control Plans (Basin Plans) and are an enforceable part of this Order. Applicable Basin Plan amendments and resolutions are identified in Attachment IV for each TMDL listed. Compliance may include, but is not limited to, implementation of BMPs and control measures contained in TMDL implementation plans sufficient to achieve the WLA, or a demonstration that the numeric WLA has been achieved.~~ Due to the nature of storm water discharges, and the typical lack of information on which to base numeric WQBELs, federal regulations (40 C.F.R., § 122.44, subd. (k)(2)) allow for the implementation of BMPs to control or abate the discharge of pollutants from storm water.

36. The Department reported in its 2008-09 Annual Report to the State Water Board that it is subject to over 50 TMDLs and is in the implementation phase of over 30 TMDLs. The State Water Board has since determined that the Department is subject to 85 TMDLs. WLAs and LAs for some TMDLs are shared jointly among several dischargers, with no specific mass loads assigned to individual dischargers. In some of these cases, multiple dischargers are assigned a grouped or aggregate waste load allocation, and each discharger is jointly responsible for complying with the aggregate waste load allocation.

37. The high variance in the level of detail and specificity in the TMDLs developed by the Regional Water Boards and USEPA necessitates the development of more specific permit requirements in many cases, including deliverables and required actions, derived from each TMDL's WLA and implementation requirements. These requirements will provide clarity to the Department regarding its responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to notice and a public comment period. ~~Given the number of TMDLs that apply to the Department, it is not possible to develop TMDL-specific permit requirements for every TMDL listed in Attachment IV without severely delaying the issuance of this Order.~~ Because most of the TMDLs were developed by the Regional Water Boards, and because some of the WLAs are shared by multiple dischargers, the development of TMDL-specific permit requirements ~~is best~~ has been coordinated initially at the Regional Water Board level.

38. Attachment IV specifies TMDL-specific permit implementation requirements~~, including deliverables, actions, and compliance due dates,~~ for the Lake Tahoe Sediment and Nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. These

requirements are consistent with the assumptions and requirements of applicable WLAs assigned to the Department, and with the adopted and approved TMDL, Basin Plan, and related ~~Lahontan~~ Regional Water Board Orders and Resolutions.

39. For all remaining TMDLs identified in Attachment IV, the Regional Water Boards, in consultation with the State Water Board and the Department, developed categorical pollutant permit requirements. ~~will develop TMDL-specific permit requirements where necessary within one year of the adoption date of this Order will also Regional Water Board staff will also~~prepared The Fact Sheet contains supporting analyses explaining how the proposed ~~TMDL-specific~~ categorical pollutant permit requirements will implement the TMDL, are consistent with the assumptions and requirements of any applicable WLA, and ~~where a BMP-based approach to permit limitations is selected,~~ how the BMPs will be sufficient to implement applicable WLAs. Following a notice and comment period, Attachment IV of this Order and the Fact Sheet was ~~will be~~ reopened consistent with provision E.11.c. for incorporation of these requirements and supporting analysis into the Order and Fact Sheet.

40. This Order ~~does not specify~~ specifies the requirements to be followed for TMDL ~~specific~~ monitoring. TMDL monitoring requirements are found in ~~some of the adopted and approved TMDLs.~~ Attachment IV, Section III. The Regional Water Boards may ~~include specific TMDL monitoring requirements in the permit requirements developed and incorporated into this Order through the reopener as described in Finding 39, and/or~~ require additional monitoring through Regional Water Board orders pursuant to Water Code section 13383.

The following **Provisions** are revised as follows:

E.2.c.2)a)ii) Total Maximum Daily Load Watersheds

The Department shall comply with the TMDL monitoring requirements ~~as expressed in the approved TMDL, in the TMDL specific permit requirements of~~ in Attachment IV, or in orders of the Regional Water Boards pursuant to Water Code section 13383 that require TMDL-related monitoring. TMDL monitoring shall also include the constituents listed in Attachment II. ~~If there is a conflict between this Order and the requirements of the TMDL, the TMDL requirements will apply, except that the constituents listed in Attachment II shall be monitored even if not required by the TMDL.~~

Determinations of compliance with the TMDL shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance with the TMDL, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1) and monitoring of Attachment II constituents will be discontinued. This provision applies

regardless of any continued monitoring that may be required at the site pursuant to the TMDL.

E.4. TMDL Compliance Requirements

a. Implementation

The Department shall comply with all TMDL-related requirements identified~~s listed~~ in Attachment IV.

~~Waste Load Allocations, Load Allocations, effluent limitations, implementation requirements, and monitoring requirements for the TMDLs listed in Attachment IV are specified in the adopted and approved Regional Water Board Basin Plans or in USEPA-established TMDLs, which are incorporated herein by reference as enforceable parts of this Order. Applicable Basin Plan Amendments and resolutions are identified in Attachment IV for Regional Water Board-established TMDLs that the Department is subject to. TMDL-specific permit requirements, including deliverables and actions with their associated due dates, are also specified in Attachment IV for the Lake Tahoe sediment and nutrients TMDL. TMDL-specific permit requirements for all other TMDLs in Attachment IV will be incorporated into Attachment IV through a reopener as described in provisions E.4.b and E.11.c. below.~~

In addition, consistent with provision E.11.b of this Order, the State Water Board may reopen this Order to incorporate any modifications or revisions to the TMDLs in Attachment IV, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to the Department or that identify the Department as a responsible party in the TMDL implementation plan.

~~b. TMDL-Specific Permit Requirements~~

~~Within six months of the adoption date of this Order, the Department shall consult with each Regional Water Board, and the State Water Board to identify the WLAs, deliverables and actions to be implemented by the Department in meeting the TMDLs identified in Attachment IV. The Regional Water Boards have been directed to propose and submit, within one year of the adoption date of this Order, specific requirements for incorporation into Attachment IV through a reopener under provision E.11.c. The submission will include:~~
~~1) Proposed TMDL-specific permit requirements, including deliverables, actions, and compliance due dates consistent with the TMDLs,~~
~~2) An explanation of how the proposed TMDL-specific permit requirements, including deliverables, actions, and compliance due dates, are consistent with the assumptions and requirements of any applicable WLA and how these will achieve the goal of the TMDL, and~~
~~3) Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable WLAs.~~

~~The State Water Board will reopen this Order consistent with provision E.11.c to incorporate into Attachment IV, the Fact Sheet, and any other Permit provisions as necessary, TMDL-specific permit requirements. Once the TMDL-specific permit requirements are adopted, the Department shall comply with the incorporated requirements in accordance with the specified compliance due dates.~~
~~Compliance due dates that have already passed are enforceable as of the effective date of the approval of the TMDL-specific permit requirements. TMDL-specific compliance due dates that exceed the term of this Order may be included for reference, and will become enforceable in the event that the Order is administratively extended .~~

b~~c~~. Status Review Report

The Department shall prepare a ***TMDL STATUS REVIEW REPORT*** to be submitted with each Annual Report. The ***TMDL STATUS REVIEW REPORT*** shall include all information required ~~the following information for all TMDLs listed~~ in Attachment IV.

~~1) An analysis of the effectiveness of existing BMPs and activities in meeting existing TMDLs;~~
~~2) A summary update of monitoring activities for each TMDL and any monitoring needed to demonstrate compliance with an approved TMDL;~~
~~3) A summary of measures implemented to comply with existing TMDLs;~~
~~4) A summary of measures and a time schedule to meet existing TMDLs;~~
~~5) An update of the Department Statewide TMDLs table;~~
~~6) A summary of TMDLs adopted during the past year where the Department is assigned a WLA or the Department is identified as a responsible party in the implementation plan.~~
~~7) Discussion on whether the Department's considers work in the reach complete.~~

ATTACHMENT NO. 2 TO ORDER 2014-XXXX-DWQ

Amendment to

FACT SHEET

FOR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AND WASTE DISCHARGE REQUIREMENTS FOR

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

NPDES No. 2012-0011-DWQ

Revise the text in section titled Total Maximum Daily Load (TMDL) in the Fact Sheet (starting on page 23) as follows, and delete the existing Table 1 and subsequent text in the section:

Total Maximum Daily Loads (TMDL)

Section 303(d) of the Clean Water Act requires States to identify waters ("impaired" water bodies) that do not meet water quality standards after applying certain required technology-based effluent limits. States are required to compile this information in a list and submit the list to the USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters.

As part of the listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations (WLAs) for point sources of pollution, plus the load allocations (LAs) for nonpoint sources of pollution, plus the contribution from background sources of pollution and a margin of safety. The State Water Board and Regional Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs.

TMDLs are developed by either the Regional Water Boards or USEPA in response to Section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Basin Plan amendments. TMDLs developed by USEPA typically contain the total load and load allocations required by Section 303(d), but do not contain comprehensive implementation provisions. Subsequent steps after Regional Water Board TMDL development are:

approval by the State Water Board, approval by the Office of Administrative Law, and ultimately, approval by USEPA.

The Department has been assigned mass based and concentration based WLAs for constituents contributing to a TMDL in specific regions. The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions.

These TMDLs are summarized in Table 1 of this Fact Sheet below, and Table IV.2 of Attachment IV of this Order.

~~Table 1. Department Statewide TMDLs~~

~~Water Body~~	~~Pollutant~~	~~USEPA Approved/Established~~
~~*North Coast Region*~~		
~~Albion River~~	~~Sediment~~	~~December 2001~~
~~Big River~~	~~Sediment~~	~~December 2001~~
~~Eel River, Lower HA~~	~~Temperature & Sediment~~	~~December 18, 2007~~
~~Eel River, Middle Fork, Eden Valley and Round Valley HSAs~~	~~Temperature & Sediment~~	~~December 2003~~
~~Eel River, Middle Main HA~~	~~Temperature & Sediment~~	~~December 2005~~
~~Eel River, North Fork HA~~	~~Sediment & Temperature~~	~~December 30, 2002~~
~~Eel River, South Fork HA~~	~~Sediment & Temperature~~	~~December 16, 1999~~
~~Eel River, Upper Main HA~~	~~Sediment & Temperature~~	~~December 29, 2004~~
~~Garcia River~~	~~Sediment~~	~~March 16, 1998~~
~~Gualala River~~	~~Sediment~~	~~November 29, 2004~~
~~Klamath River~~	~~Temperature, Dissolved Oxygen, Nutrient, & Microcystin~~	~~December 28, 2010~~

~~Water Body~~	~~Pollutant~~	~~USEPA Approved/Established~~
~~Lost River~~	~~Nitrogen and Biochemical Oxygen Demand~~	~~December 30, 2008~~
~~Mad River~~	~~Sediment & Turbidity~~	~~December 21, 2007~~
~~Mattole River~~	~~Sediment & Temperature~~	~~December 21, 2003~~
~~Navarro River~~	~~Temperature & Sediment~~	~~December 27, 2000~~
~~Noyo River~~	~~Sediment~~	~~December 16, 1999~~
~~Redwood Creek~~	~~Sediment~~	~~December 30, 1998~~
~~Scott River~~	~~Sediment~~	~~August 11, 2006~~
~~Shasta River~~	~~Dissolved Oxygen & Temperature~~	~~January 26, 2007~~
~~Ten Mile River~~	~~Sediment~~	~~December 2000~~
~~Trinity River~~	~~Sediment~~	~~December 20, 2001~~
~~Trinity River, South Fork HA~~	~~Sediment~~	~~December 1998~~
~~Van Duzen River & Yager Creek~~	~~Sediment~~	~~December 16, 1999~~
~~***San Francisco Bay Region***~~		
~~Napa River~~	~~Sediment~~	~~January 20, 2011~~
~~Richardson Bay~~	~~Pathogens~~	~~December 18, 2009~~
~~San Francisco Bay~~	~~PCBs~~	~~March 29, 2010~~
~~San Francisco Bay~~	~~Mercury~~	~~February 12, 2008~~
~~Sonoma Creek~~	~~Sediment~~	~~September 8, 2010~~
~~Urban Creek~~	~~Diazinon & Pesticide Toxicity~~	~~May 16, 2007~~

~~**Water Body**~~	~~**Pollutant**~~	~~**USEPA Approved/Established**~~
~~***Central Coast Region***~~		
~~San Lorenzo River (*includes Carbonera Lompico, Shingle Mill Creeks)*~~	~~Sediment~~	~~February 19, 2004~~
~~Morro Bay *(includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)*~~	~~Sediment~~	~~January 20, 2004~~
~~***Los Angeles Region***~~		
~~Ballona Creek~~	~~Trash~~	~~August 1, 2002 & February 8, 2005~~
~~Legg Lake~~	~~Trash~~	~~February 27, 2008~~
~~Los Angeles River~~	~~Trash~~	~~July 24, 2008~~
~~Machado Lake~~	~~Trash~~	~~February 27, 2008~~
~~Malibu Creek Watershed~~	~~Trash~~	~~June 26, 2009~~
~~Revolon Slough and Beardsley Wash~~	~~Trash~~	~~August 1, 2002 & February 8, 2005~~
~~Ventura River Estuary~~	~~Trash~~	~~February 27, 2008~~
~~Ballona Creek, Ballona Estuary, and Sepulveda Channel~~	~~Bacteria~~	~~March 26, 2007~~
~~Harbor Beaches of Ventura County (Kiddie Beach and Hobie Beach)~~	~~Bacteria~~	~~December 18, 2008~~
~~Malibu Creek and Lagoon~~	~~Bacteria~~	~~January 10, 2006~~

~~Water Body~~	~~Pollutant~~	~~USEPA Approved/Established~~
~~Marina del Rey, Harbor Back Basins, Mother's Beach~~	~~Bacteria~~	~~March 18, 2004~~
~~Santa Monica Bay Beaches during Dry & Wet Weather~~	~~Bacteria~~	~~June 19, 2003~~
~~Ballona Creek~~	~~Metals~~	~~December 22, 2005 and reaffirmed on October 29, 2008~~
~~Calleguas Creek and its Tributaries and Mugu Lagoon~~	~~Metals and Selenium~~	~~March 26, 2007~~
~~Los Cerritos~~	~~Metals~~	~~March 17, 2010~~
~~Los Angeles River~~	~~Metals~~	~~December 22, 2005 and October 29, 2008~~
~~San Gabriel River~~	~~Metals~~	~~March 26, 2007~~
~~Machado Lake~~	~~Eutrophic, Algae, Ammonia, and Odors (Nutrient)~~	~~March 11, 2009~~
~~Santa Clara River Reach 3~~	~~Chloride~~	~~June 18, 2003~~
~~Ballona Creek Estuary~~	~~Toxic Pollutants~~	~~December 22, 2005~~
~~Colorado Lagoon~~	~~Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals~~	~~June 14, 2011~~
~~Machado Lake~~	~~Pesticides and Polychlorinated Biphenyls~~	~~March 20, 2012~~
~~Marina del Rey Harbor~~	~~Toxic Pollutants~~	~~March 16, 2006~~
~~Calleguas Creek its Tributaries and Mugu Lagoon~~	~~Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation~~	~~March 14, 2006~~

~~Water Body~~	~~Pollutant~~	~~USEPA Approved/Established~~
~~***Central Valley Region***~~		
~~Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch~~	~~Mercury~~	~~February 7, 2007~~
~~Clear Lake~~	~~Nutrients~~	~~September 21, 2007~~
~~Sacramento – San Joaquin Delta~~	~~Methylmercury~~	~~October 20, 2011~~
~~***Lahontan Region***~~		
~~Lake Tahoe~~	~~Sediment and Nutrients~~	~~August 16, 2011~~
~~Truckee River~~	~~Sediment~~	~~September 16, 2009~~
~~***Colorado River Region***~~		
~~Coachella Valley Storm Water Channel~~	~~Bacterial Indicators~~	~~April 27, 2012~~
~~***Santa Ana Region***~~		
~~Big Bear Lake~~	~~Nutrients for Hydrological Conditions~~	~~September 25, 2007~~
~~Lake Elsinore and Canyon Lake~~	~~Nutrients~~	~~September 30, 2005~~
~~Rhine Channel Area of the Lower Newport Bay~~	~~Chromium and Mercury~~	~~June 14, 2002~~
~~San Diego Creek and New Port Bay~~	~~Metals (Cadmium, Copper, Lead, & Zinc)~~	~~June 14, 2002~~
~~San Diego Creek Watershed~~	~~Selenium~~	~~June 14, 2002~~
~~San Diego Creek Watershed and the Upper & Lower~~	~~Organochlorine (DDT, Chlordane, Dieldrin, PCBs, and Toxaphene)~~	~~June 14, 2002~~

~~Water Body~~	~~Pollutant~~	~~USEPA Approved/Established~~
~~Newport Bay~~		
~~*San Diego Region*~~		
~~Chollas Creek~~	~~Diazinon~~	~~November 3, 2003~~
~~Chollas Creek~~	~~Dissolved Copper, Lead, and Zinc~~	~~December 18, 2008~~
~~Rainbow Creek~~	~~Total Nitrogen and Total Phosphorus~~	~~March 22, 2006~~
~~Project 1 – Revised Twenty Beaches and Creek in the San Diego Region (Including Tecolote Creek)~~	~~Indicator Bacteria~~	~~June 22, 2011~~

~~Because the TMDL-based requirements of this Order have been imposed to comply with 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the requirements are not subject to the MEP standard. The Department must implement all controls necessary to meet the WLAs or LAs included with the TMDL, or to meet the specifically assigned actions to implement the TMDL. Implementation requirements for some of the TMDLs are contained in the Regional Water Board Basin Plans and adopted orders and are incorporated into this Order by reference (see Attachment IV). TMDLs approved during the term of this Order are expected to be incorporated into this Order through a reopener.~~

~~Pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the effluent limitations for NPDES permits must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. Where effluent limitations are expressed as BMPs, there should be adequate demonstration in the administrative record of the permit that the BMPs will be sufficient to comply with the WLAs.~~[1]

[1] ~~On November 12, 2010, USEPA issued a revision to a November 22, 2002, memorandum, recommending that "where the TMDL includes WLAs for stormwater sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable stormwater permits." The revision further stated, however, that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an~~

(footnote continued on next page)

~~This Order requires the Department to comply with all TMDLs listed in Attachment IV. Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and USEPA that assign the Department a Waste Load Allocation (WLA) or that specify the Department as a responsible party. In addition, Attachment IV identifies TMDLs established by USEPA that specify the Department as a responsible party or that identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL. For many of the TMDLs, WLAs, LAs, effluent limitations, implementation requirements, and monitoring requirements are specified in the adopted and approved Regional Water Board Basin Plans, which are incorporated by reference as enforceable parts of this Order. The Order additionally requires the Department to prepare a TMDL Status Review report with each Annual Report.~~

~~Where complete implementation requirements have not been specified in the TMDLs or otherwise approved by the Regional Water Boards as of the date of adoption of this Order, it is necessary that specific requirements and clear deliverables be developed to ensure consistency of this permit with assigned WLAs and to provide clear and enforceable conditions for the Department. It is expected that Regional Water Boards will develop such specific TMDL permit requirements, in consultation with the Department as necessary, within one year of the effective date of this Order and that Attachment IV will be reopened consistent with provision E.11.c. for incorporation of such requirements into the Order. In order to be incorporated into Attachment IV, TMDL specific permit requirements developed by the Regional Water Board staff must be accompanied by a statement of how the requirements implement the TMDL, how the effluent limitations and conditions are consistent with the assumptions and requirements of any applicable WLA, and, where a BMP-based approach to permit limitations is selected, how these will achieve the goal of the TMDL.~~

~~The requirements of this Order, including the implementation requirements contained in the TMDL implementation plans which are incorporated by reference, are expected to be sufficient to implement the WLAs in each TMDL for which the Department has been assigned a WLA.~~

(footnote continued from previous page)
~~analysis of the specific facts and circumstances surrounding the permit. USEPA has since invited comment on the revisions to the memorandum and will be making a determination as to whether to "either retain the memorandum without change, to reissue it with revisions, or to withdraw it."~~
~~http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf~~

~~Attachment IV incorporates TMDL-specific permit requirements for the sediments and nutrients TMDL for Lake Tahoe. The TMDL requires the Department to meet pollutant load reduction requirements and to develop and implement a comprehensive Pollutant Load Reduction Plan (PLRP).~~

~~Attachment IV specifies that the Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016. It additionally specifies that the load reductions shall be measured in accordance with the processes outlined in the Lake Clarity Crediting Program Handbook. The Lahontan Regional Water Board developed the Lake Clarity Crediting Program to establish protocols for accounting and tracking pollutant load reductions within the urban environment. The Lake Clarity Crediting Handbook defines one Lake Clarity Credit as equal to 1 x 10^{16} fine sediment particles, providing a water quality metric that is directly related to the Lake Tahoe TMDL primary pollutant of concern.~~

~~On February 9, 2011 the Lahontan Regional Water Board Executive Officer issued the Department an Order to submit a technical report in accordance with California Water Code Section 13267 requiring the development of jurisdiction-specific baseline load estimates for the Lake Tahoe TMDL pollutants of concern. The submitted baseline pollutant load estimate provides the basis for translating percentage based pollutant load reduction requirements defined by the TMDL into jurisdiction-specific, particle and mass-based pollutant load reduction requirements. The baseline basin-wide pollutant loads for the TMDL reflect conditions as of water year 2003/2004 (October 1, 2003 – September 30, 2004), hereafter referred to as "baseline." The Department has estimated its baseline fine sediment particle load to be 3.72 x 10^{19} particles. To meet the required 10% fine sediment particle load reduction, the Department must reduce its fine sediment particle load to 3.35 x 10^{19} fine sediment particles, a difference of 3.70 x 10^{18} fine sediment particles. Dividing the needed fine sediment particle reduction (3.70 x 10^{18}) by the Lake Clarity Credit definition (1 x 10^{16} fine sediment particles per Credit) results in the requirement for the Department to earn 370 Lake Clarity Credits which is reflected in Attachment IV.~~

~~Consistent with the TMDL provisions, Attachment IV also requires the Department to develop, implement, and maintain a PLRP to guide stormwater activities and project implementation. The PLRP will describe how proposed operations and maintenance activities, capital improvements, facilities retrofit projects, and other actions are expected to meet required pollutant load reduction requirements. The PLRP lays out Department Plans to achieve required pollutant load reductions for the first five year period. The PLRP will be updated in 2017 to demonstrate how the Department will achieve pollutant load reduction requirements for the second five-year TMDL~~

~~implementation period. The PLPR will also describe what areas or "catchments" the Department plans to perform load reduction activities and claim Lake Clarity Credits. The process of proposing Lake Clarity Credit awards is described as "catchment registration" in the Lake Clarity Crediting Program Handbook.~~

~~Attachment IV additionally requires submission of a Progress Report documenting pollutant load reductions and the preparation and submission of a Stormwater Monitoring Plan for review and approval by the Regional Water Board.~~

Replace the deleted Table 1 and the subsequent deleted text with the following underlined Table 1 and text:

Table 1. Department Statewide TMDLs

Water Body	Pollutant	USEPA Approved/Established
North Coast Region		
Albion River *	Sediment	December 2001
Big River *	Sediment	December 2001
Lower Eel River *	Temperature & Sediment	December 18, 2007
Middle Fork Eel River *	Temperature & Sediment	December 2003
South Fork Eel River *	Sediment & Temperature	December 16, 1999
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) *	Sediment & Temperature	December 29, 2004
Garcia River	Sediment	March 16, 1998
Gualala River *	Sediment	November 29, 2004
Klamath River	Temperature, Dissolved Oxygen, Nutrient, & Microcystin	December 28, 2010
Lost River	Nitrogen and Biochemical Oxygen Demand	December 30, 2008
Mad River *	Sediment & Turbidity	December 21, 2007
Navarro River *	Temperature & Sediment	December 27, 2000
Noyo River *	Sediment	December 16, 1999
Redwood Creek *	Sediment	December 30, 1998
Scott River	Sediment and Temperature	August 11, 2006
Shasta River	Dissolved Oxygen & Temperature	January 26, 2007

Water Body	Pollutant	USEPA Approved/Established
Ten Mile River *	Sediment	December 2000
Trinity River *	Sediment	December 20, 2001
South Fork Trinity River and Hayfork Creek *	Sediment	December 1998
Van Duzen River & Yager Creek *	Sediment	December 16, 1999
San Francisco Bay Region		
Napa River	Sediment	January 20, 2011
Richardson Bay	Pathogens	December 18, 2009
San Francisco Bay	PCBs	March 29, 2010
San Francisco Bay	Mercury	February 12, 2008
San Pedro and Pacifica State Beach	Bacteria	August 1, 2013
San Francisco Bay Urban Creeks	Diazinon & Pesticide-Related Toxicity	May 16, 2007
Sonoma Creek	Sediment	September 8, 2010
Central Coast Region		
San Lorenzo River *(includes Carbonera Lompico, Shingle Mill Creeks)*	Sediment	February 19, 2004
Morro Bay *(includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)*	Sediment	January 20, 2004
Los Angeles Region		
Ballona Creek	Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium	December 22, 2005 and reaffirmed on October 29, 2008
Ballona Creek	Trash	August 1, 2002 and February 8, 2005
Ballona Creek Estuary	Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs)	December 22, 2005
Ballona Creek, Ballona Estuary and Sepulveda Channel	Bacteria	March 26, 2007
Ballona Creek Wetlands *	Sediment and Invasive Exotic Vegetation	March 26, 2012

Water Body	Pollutant	USEPA Approved/Established
Calleguas Creek and its Tributaries and Mugu Lagoon	Metals and Selenium	March 26, 2007
Calleguas Creek its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	March 14, 2006
Colorado Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals	June 14, 2011
Dominguez Channel, Greater Los Angeles and Long Beach Harbor Waters	Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs	March 23, 2012
Legg Lake	Trash	February 27, 2008
Long Beach City Beaches and Los Angeles & Long Beach Harbor Waters *	Indicator Bacteria	March 26, 2012
Los Angeles Area (Echo Park Lake) *	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Lake Sherwood) *	Mercury	March 26, 2012
Los Angeles Area (North, Center, and Legg Lakes) *	Nitrogen and Phosphorus	March 26, 2012
Los Angeles Area (Peck Road Park Lake) *	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Puddingstone Reservoir) *	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	March 26, 2012
Los Angeles River and Tributaries	Metals	December 22, 2005 and October 29, 2008 & Reopened and Modified on November 3, 2011
Los Angeles River	Trash	July 24, 2008
Los Angeles River Watershed	Bacteria	March 23, 2012
Los Cerritos *	Metals	March 17, 2010
Machado Lake	Pesticides and Polychlorinated Biphenyls	March 20, 2012
Machado Lake	Trash	February 27, 2008

Water Body	Pollutant	USEPA Approved/Established
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrient)	March 11, 2009
Malibu Creek and Lagoon	Bacteria	January 10, 2006
Malibu Creek and Lagoon *	Sedimentation and Nutrients to Address Benthic Community Impairments	July 2, 2013
Malibu Creek Watershed	Trash	June 26, 2009
Marina del Rey Harbor	Toxic Pollutants	March 16, 2006
Marina del Rey, Harbor Back Basins, Mother's Beach	Bacteria	March 18, 2004
Revolon Slough and Beardsley Wash	Trash	August 1, 2002 and February 8, 2005
San Gabriel River *	Metals (Cu, Pb, & Zn) and Selenium	March 26, 2007
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	January 13, 2012
Santa Clara River Reach 3 *	Chloride	June 18, 2003
Santa Monica Bay *	DDTs and PCBs	March 26, 2012
Santa Monica Bay Nearshore & Offshore	Debris (trash & plastic pellets)	March 20, 2012
Santa Monica Bay Beaches during Dry & Wet Weather	Bacteria	June 19, 2003
Upper Santa Clara River	Chloride	April 6, 2010
Ventura River Estuary	Trash	February 27, 2008
Ventura River and its Tributaries	Algae, Eutrophic Conditions, and Nutrients	June 28, 2013
Central Valley Region		
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	February 7, 2007
Clear Lake	Nutrients	September 21, 2007
Sacramento – San Joaquin Delta	Methylmercury	October 20, 2011
Lahontan Region		

Water Body	Pollutant	USEPA Approved/Established
Lake Tahoe	Sediment and Nutrients	August 16, 2011
Truckee River	Sediment	September 16, 2009
Colorado River Region		
Coachella Valley Storm Water Channel	Bacterial Indicators	April 27, 2012
Santa Ana Region		
Big Bear Lake	Nutrients for Hydrological Conditions	September 25, 2007
Lake Elsinore and Canyon Lake	Nutrients	September 30, 2005
Rhine Channel Area of the Lower Newport Bay *	Chromium and Mercury	June 14, 2002
San Diego Creek and New Port Bay, including the Rhine Channel *	Metals (Cadmium, Copper, Lead, & Zinc)	June 14, 2002
San Diego Creek and Upper Newport *	Cadmium	June 14, 2002
San Diego Creek Watershed	Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene)	November 12, 2013
Upper & Lower Newport Bay	Organochlorine Compounds (DDT, Chlordane, & PCBs)	November 12, 2013
San Diego Region		
Chollas Creek	Diazinon	November 3, 2003
Chollas Creek	Dissolved Copper, Lead, and Zinc	December 18, 2008
Los Peñasquitos Lagoon	Sediment	Pending
Rainbow Creek	Total Nitrogen and Total Phosphorus	March 22, 2006
Project 1 – Revised Twenty Beaches and Creek in the San Diego Region (Including Tecolote Creek)	Indicator Bacteria	June 22, 2011
* USEPA Established TMDL		

The TMDL-based requirements of this Order are not limited to the maximum extent practical (MEP) standard. The TMDL-based requirements have been imposed in accordance with 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B). Pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the effluent limitations for NPDES permits must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and

approved by EPA, or established by EPA. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans (basin plans), including TMDL requirements that have been incorporated into the basin plans.

Effluent limitations for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs). (See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3).) Where effluent limitations are expressed as BMPs, there should be adequate demonstration in the administrative record of the permit, including in the Fact Sheet, that the BMPs will be sufficient to comply with the WLAs.[2] (See 40 C.F.R. §§ 124.8, 124.9 & 124.18.) The NPDES permit must also specify the monitoring necessary to determine compliance with permit limitations. (See 40 C.F.R. § 122.44(i).) Where effluent limitations are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data). The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.[3]

As detailed below, this Order establishes BMP-based requirements for TMDL implementation that are consistent with the requirements and assumptions of the relevant WLAs. This Order further requires implemented BMPs to be monitored for effectiveness and to be adaptively managed for modifications as necessary to achieve WLAs.

Overview

The State Water Board and Regional Water Boards have reviewed the WLAs, implementation requirements, and monitoring requirements specified in the adopted and approved Regional Water Board Basin Plans or in USEPA-established TMDLs applicable to the Department. In most of the relevant TMDLs, the Department's contribution to impairment is a small portion of the overall contribution from multiple sources (less than 5 percent). While the Department is generally a small contributor to impairment, the statewide reach of its highway system means that it is a contributor in numerous impaired watersheds. The Department must comply with applicable TMDLs across the state.

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[2] "Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," Memorandum, USEPA, November 22, 2002. On November 12, 2010, USEPA issued a revision to the November 22, 2002, memorandum, recommending that "where the TMDL includes WLAs for storm water sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable storm water permits." The revision further stated, however, that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit.

[3] *Ibid.*

The fact that one discharger – the Department – must implement requirements for over 85 TMDLs administered by nine Regional Water Boards poses a unique challenge in permitting. Many of the TMDLs are designed to address the same pollutants causing impairment, and progress in achievement of the WLA for these pollutant categories requires implementation of similar control measures coupled with monitoring and adaptive management. In past regulatory actions, however, the Department has been directed to comply with the TMDL requirements by reference to the sections of the relevant basin plan and through coordination with the relevant Regional Water Board. As a result, the Department has devoted significant effort to coordination and exercises to determine the next steps, with limited progress in installing on-the-ground control measures to achieve actual water quality improvements. This Order provides a focused and streamlined process for TMDL compliance so that the Department may proceed as quickly as possible to installation of control measures and monitoring, and adaptive management of those control measures to result in water quality improvements. The Order's TMDL requirements provide consistency in determining compliance requirements, where appropriate. To allow for consistency, with resulting time and cost-efficiency, in achieving compliance with the TMDL requirements applicable to the Department, the State Water Board has developed a set of pollutant category requirements to be implemented by the Department.

The pollutant categories are as follows:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDLs
2. Metals/Toxics/Pesticides TMDLs
3. Trash TMDLs
4. Bacteria TMDLs
5. Diazinon TMDLs
6. Selenium TMDLs
7. Temperature TMDLs
8. Chloride TMDLs

Table IV.2 of Attachment IV of this Order lists all TMDLs applicable to the Department. For each TMDL, Table IV.2 cross-references one or more pollutant category. The Department must implement the cross-referenced pollutant category requirements to achieve compliance with the TMDL provisions of the Order. Where TMDL-specific, rather than, or in addition to, pollutant category-specific permit requirements are appropriate (because of the unique local conditions or specific requirements in the TMDL), those requirements are also noted in Table IV.2. In addition, Table IV.2 cross-references the monitoring, reporting and adaptive management requirements applicable to all pollutant categories.

Attachment IV of this Order recognizes that, because the Department must comply with numerous TMDLs, the Department must phase in implementation requirements for TMDLs over several years. To achieve the highest water quality benefit as quickly as feasible in the permit term, this phase-in must be accomplished in a manner that

addresses discharges with the highest impact on water quality first. Accordingly, Attachment IV requires the Department, by October 1, 2014, to prepare and submit an inventory of all impaired reaches subject to TMDLs to which the Department discharges with prioritized implementation of controls for these reaches based on a set of qualitative criteria. In preparing the initial prioritization, the Department must consider the degree of impairment of the water body, measured by the percent pollution reduction needed to achieve the WLA, the contributing drainage area from the Department's right of way (ROW) relative to the watershed draining to the reach, and the relative connectivity of the sites within a reach to the receiving water.

The State Water Board will allow a 30-day public comment period on the Department's initial prioritization and will work with the Department and the Regional Water Boards to compile a final prioritization to be approved by the State Water Board Executive Director. Criteria for final prioritization to be considered by the Department, the State Water Board and Regional Water Boards include:

a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS.
b. Multiple TMDLs that can be addressed by a single BMP within a reach.
c. TMDL deadlines specified in a Basin Plan.
d. Regional Water Board and State Water Board priorities.
e. Accessibility for construction and/or maintenance (i.e. safety considerations).
f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

In finalizing the prioritization, the State Water Board and Regional Water Boards will consider the compliance date for attainment of the WLAs established in the Basin Plans and may adjust the prioritization accordingly.

Upon State Water Board Executive Director approval of final prioritization, the Department must implement control measures to achieve 1650 Compliance Units (CUs) per year. One CU is equivalent to one acre of the Department's ROW, from which the runoff is retained, treated, or otherwise controlled prior to discharge to the relevant reach. BMPs installed during construction activities in TMDL watersheds may receive CU credit for that portion of the treatment volume that exceeds the baseline treatment control requirements specified in the Order. A CU may be claimed when the BMP retrofit project enters the Project Initiation Document (PID) phase of implementation per the requirements of the Order. If a BMP retrofit project is not completed within the approved time schedule, the CU(s) will be revoked unless the Executive Director approves a delay.

The determination of the number of CUs the Department must complete each year is based on the objective of addressing every TMDL in Attachment IV within 20 years. A primary factor considered in the determination of the number of CUs to be

completed each year is the compliance due date for the final WLA for many of the relevant TMDLs. The State Water Board considered two approaches in determining the annual number of CUs.

The first approach is based on a simple calculation of the number of acres of ROW that must be treated to ensure that all TMDL watersheds are addressed over a 20 year time frame. Data submitted by the Department indicate that there are 68,000 acres of ROW within TMDL watersheds.

It is not possible or necessary to treat 100 percent of the runoff from TMDL watersheds. In evaluating monitoring sites for discharges into ASBS, staff found that approximately 64 percent of the sites considered could not be addressed, either due to access limitations or safety considerations. Similar conditions are expected to exist in TMDL watersheds, although the percentage will not be as high because the terrain found along most of California's coastline is more difficult and rugged than the terrain that typically exists in the rest of the state. Accordingly, for purposes of this calculation, the percentage of inaccessible/unsafe sites is reduced by one-half for TMDL watersheds, or 32 percent, translating into approximately 22,000 fewer acres (68,000 x 32 percent = 22,000) that must be treated. Therefore, the Department will have to address approximately 46,000 acres of ROW to comply with the TMDL requirements of Attachment IV. With the objective of addressing all TMDLs in Attachment IV within 20 years, the Department must treat or otherwise address 2300 acres per year (46,000/20 = 2300) throughout the state within the TMDL watersheds listed in Attachment IV.

The second approach for determination of CUs considered by the State Water Board is based on a proposal provided by the Department that segregated the TMDLs into eight pollutant categories, similar to those presented in Attachment IV, including sediments, metals, trash and bacteria. The Department proposed annual CU commitments based upon the individual categories, with 600 CUs for sediments, a combined 710 CUs for metals and trash, and 340 CUs for bacteria, for an annual total of 1650 CUs. The proposal does not include other pollutant categories in which the acreage and controls for sediments, metals, trash, and bacteria would overlap with the acreage and controls for these other pollutants. This overlap of coverage was identified for the above categorical annual commitments so that the total ROW acreage requiring treatment equates to 33,000 acres.

Though the two approaches produce similar results, the State Water Board confirms that the second approach is sufficient for TMDL-implementation planning at the current stage of TMDL implementation; therefore the second compliance unit determination approach described above is implemented in this Order. The State Water Board believes that 1650 CUs represent a reasonable balance of resources and environmental protection, and will be sufficient to address the TMDLs in Attachment IV in the foreseeable future. This permit expires in 2018; therefore Attachment IV of this Order requires the Department to present to the State Water Board, at a public meeting to be scheduled approximately 180 days prior to the expiration of the Order, a TMDL Progress Report containing an evaluation of the

progress achieved during this permit term. The State Water Board will then evaluate the compliance unit approach and the Department's progress in meeting the 20 year objective before consideration of subsequent requirements in a subsequently renewed permit.

Using an average cost $176,000 per BMP/acre[4], the proposed annual cost to meet this requirement relying solely on retrofits is approximately $290,000,000.

The Department's contribution to impairment in any given TMDL is generally a small portion of the overall contribution from multiple sources. In many cases, synergistic effects can be achieved and water quality improvements are better served through coordinated efforts with other parties to the TMDL. To encourage collaborative implementation, Attachment IV of this Order allows CUs for collaborative efforts based on the amount of financial participation made by the Department. To determine an appropriate financial equivalence staff used the cost data submitted by the Department of $176,000 per BMP/acre or per CU. However, to encourage collaborative efforts, staff proposes a 50% discount for participation in these types of agreements. Attachment IV accordingly sets the CU equivalent at $88,000. Based on the same approach described above, and relying solely on contributions to collaborative efforts, the annual cost to the Department is approximately $145,000,000.

Attachment IV reflects the State Water Board's commitment to streamlining TMDL compliance for the Department to proceed as quickly as feasible to implement on-the-ground control measures and obtain measurable improvement in water quality. In the prioritization process, the Department and the Water Boards will consider the final compliance deadlines under the TMDLs; however, the State Water Board recognizes that the requirements in Attachment IV do not mirror all specific interim deadlines for studies, reports, and pollutant reductions in the TMDLs included to demonstrate progress toward meeting the WLAs. The requirements in Attachment IV are general yet consistent with specific planning, study, and reporting requirements in the TMDLs.

The Department is required annually to include in the TMDL Status Review Report its proposal for reaches to be addressed in the upcoming year, with selected control measures and projected schedule for implementation. The Department is also required to report a set of information that encompasses updates on cooperative and individual implementation activities completed, as well as an analysis of the effectiveness of existing BMPs and activities in meeting the WLAs. This information will be reviewed by the State Water Board and the Regional Water Boards and will be publicly available.

Attachment IV does not list the final required WLAs for each TMDL. With few exceptions, the WLAs are to be achieved jointly by a number of storm water

[4] Based on information provided by Department staff.

dischargers and accordingly are of limited use in determining and enforcing the Department's specific responsibilities under the TMDL. The State Water Board finds that effective implementation and enforcement of Attachment IV is better achieved through clear requirements for implementation of controls, and monitoring and adaptive management of such controls, than by implementation of joint WLAs into the permit requirements.

Nevertheless, the WLAs, both Department-specific and joint with other dischargers, are discussed in the sections below. While the WLAs are not incorporated into Attachment IV as permit requirements, the discussion establishes that Attachment IV is consistent with the requirements and assumptions of the WLAs. In general, the Department is a relatively small contributor to the impairment to be addressed by the relevant TMDLs.[5] Attachment IV requires a focused effort to address the priority discharges through measurable and streamlined progress in implementation of controls, effectively addressing the relatively small contribution from the Department. The Department must verify progress through reporting of subsequent monitoring and adaptive management activities.

As an additional step in determining compliance toward achievement of WLAs, the Department must submit a TMDL Progress Report with its application for permit reissuance in January of 2018, analyzing the effectiveness of the control measures installed for each reach and whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final TMDL compliance deadlines. The TMDL Progress Report will be subject to public review and comment and will inform the State Water Board as it considers subsequent requirements in a subsequently reissued permit.

A. General Requirements for all TMDLs: Comprehensive TMDL Monitoring, Reporting, and Adaptive Management

As previously discussed, an NPDES permit must specify the monitoring necessary to determine compliance with effluent limitations. Where effluent limitations are specified as BMPs, the permit should specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved. The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance. Attachment IV requires continuation of existing monitoring plans as approved by the Regional Water Board Executive Officer. Where there is no approved monitoring plan in place for a TMDL, the Department is required to submit a plan to the State Water Board by January 1, 2015, with a time schedule to implement the plan. The submitted plan must be designed to assess the effectiveness of implemented BMPs and to inform BMP selection. The

[5] In the few instances where the Department's contribution is a relatively high percentage of the total contribution from identified sources, as identified in this Fact Sheet, the State Water Board would expect the Department to prioritize addressing such discharges and evaluating the performance and effectiveness of the selected BMPs.

Department shall use the monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs and shall use the assessment to inform modifications to control measures to achieve WLAs and other applicable performance standards.

BMP effectiveness monitoring and the adaptive management strategy related to BMP implementation allows for flexibility in source control methods until the most appropriate BMPs are identified and installed for the control of a pollutant. The Department will evaluate the effectiveness of the controls that were implemented each year and submit the results of the evaluation in the TMDL Status Review Report, which is submitted as part of the Annual Report. If the controls implemented are shown to be ineffective, then the Department must either re-design the BMP or implement a new type of control measure to address the inadequacies of the current design. The process of assessing the performance and effectiveness of BMPs and using that assessment to modify or replace inadequate BMPs ensures that the Department will make progress toward achieving the requirements of the TMDLs within the permit term.

The Department must also prepare and submit a TMDL Progress Report to the State Water Board as part of its permit reissuance application. That report must include: (1) a summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of BMP effectiveness assessment, (2) a determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines, (3) where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants, and (4) a summary of the estimated amount of pollutants that were prevented from entering into the receiving waters. The TMDL Progress Report will be subject to public review and comment and will inform the requirements of the reissued permit.

B. Sediments/Nutrients/Mercury/Siltation/Turbidity Pollutant Category

General Description of Pollutant Category

The TMDLs in this pollutant category identify sediment from roads as a significant or primary source of these pollutants. Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment, suspended material, and settleable material. Excess sediment delivery to stream channels is associated with several natural processes as well as anthropogenic sources.

Sources of Pollutant and How Pollutants Enters the Waterway
Natural sources include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Mercury is negatively impacting the beneficial uses of many waters of the state. As of 2010, more than 180 water bodies are designated as impaired by mercury, and fish in these waters can have mercury concentrations that pose a health risk for humans and wildlife that eat the fish, including threatened and endangered species. The beneficial uses impacted by mercury include, but may not be limited to, COMM, WILD, and RARE beneficial uses. Also REC-1 has been used for many waters to indicate fish consumption as part of fishing. Sources of mercury include gold and mercury mines, naturally mercury enriched soils, atmospheric deposition, improper disposal of mercury containing items, such a batteries and dental amalgam. Mercury from many of these sources can end up in storm water and industrial and municipal wastewater.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas and therefore, addressing the problem at the appropriate level for the Sediment, Nutrients, Mercury, Siltation and Turbidity TMDLs.

Control Measures
Attachment IV requires the Department to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

In addition to TMDL requirements, the Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities.

This BMP program includes implementation, maintenance and evaluation of BMPs, and the investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to achieve the applicable standards. Erosion control BMPs are typically used on construction sites, although some are also used as permanent, post-construction BMPs.

Department's Contribution

The Department's discharge contribution is discussed under the individual TMDLs below. The TMDLs in this pollutant category attribute most anthropogenic sediment related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities routinely include extensive construction and maintenance of unpaved roads which range over large areas, whereas the Department maintains a network of paved highways which account for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

The requirements in Attachment IV are generally sufficient to address the sediment TMDLs that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

NORTH COAST REGION SEDIMENT TMDLS

As discussed under individual TMDLs below, the TMDLs in this pollutant category attribute most anthropogenic sediment-related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities in the North Coast region routinely include extensive construction and maintenance of unpaved roads which range over large areas of the Coast Range's vertical topography, whereas the Department maintains a network of paved highways which accounts for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

WLAS

The North Coast Regional Water Board has adopted the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region" on November 29, 2004. The goals of the Policy are to control sediment waste discharges to impaired water bodies so that the TMDLs are met, sediment water quality objectives are attained, and beneficial uses are no longer adversely affected by sediment. This policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards.

The sediment control requirements in Attachment IV (TMDL Requirements) of this Order are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges. The North Coast Regional Water Board's basin plan has the following narrative water quality objectives which apply to sediment-related discharges to receiving waterbodies:

Parameter	Water Quality Objectives
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Turbidity	Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

Department's Contribution:
The Department's specific discharge contribution is discussed under the individual TMDLs below.

Albion River Sediment TMDL, December 2001

Final WLA
USEPA states that there are no significant individual point sources of sediment in the Albion River watershed.

Final WLA Specific to the Department
USEPA states that there are no significant individual point sources of sediment in the Albion River watershed. As a consequence, its wasteload allocation is set to zero.

Final Deadlines
USEPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading**)**
Approximately 5 percent of the total miles of roads within the watershed are paved, whereas logging road construction, logging road usage, and other activities

associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department's paved roadways thus constitute some undetermined fraction of the total paved road mileage: its wasteload allocation is set to zero.

Big River Sediment TMDL, December 2001

Final WLA
USEPA states that there are no significant individual point sources of sediment in the Big River watershed, so the wasteload allocation is zero.

Final WLA Specific to the Department
USEPA states that there are no significant individual point sources of sediment in the Big River watershed.

Final Deadlines
USEPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading**)**
Approximately 3 percent of the miles of roadways within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department is not listed as a source of point source discharges of sediment.

Lower Eel River Sediment & Temperature TMDL, December 18, 2007

Final Sediment WLA
For the Department's facilities, construction sites, and municipalities, the wasteload allocation is expressed as equivalent to the load allocations, as specified in the following table:

Sediment Source		Average Daily		Average Daily		Percent Reduction 1955 -2003
		1955 – 2003 Loading	Load Allocation	1955 – 2003 Loading	Load Allocation	
		(tons/mi^2/yr)	(tons/mi^2/yr)	(tons/mi^2/day)	(tons/mi^2/day)	
Natural Load Allocation		718	718	2.0	2.0	0%
Roads	Episodic	43	9	0.1	0.02	80%
	Chronic	115	17	0.3	0.05	85%
Timber Harvest		590	147	1.6	0.4	75%
Skid Trail		7	1	0.02	0.5	90%
Bank Erosion		21	6	0.1	0.03	70%
Total Human-related Load Allocation		775	180	2.1	0.5	77%
Total Load Allocations Natural and Human-Related Sources		1,493	898	4.1	2.5	

Final WLA Specific to the Department
As stated above, USEPA's wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Deadlines
As noted above, USEPA did not set a specific sediment WLA for the Department.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative sediment contribution is not known.

Eel River (Middle-Fork) Eden Valley and Round Valley HSAs Temperature and Sediment TMDL, December 2003

Final Sediment WLA
USEPA states that because discharge from point sources cannot be readily determined, and because possible loading from point sources is not distinguished from general management-related loading in the source analysis, USEPA considers

the rates set as load allocations (i.e., for nonpoint sources) to also represent wasteload allocations (i.e., for those point sources that would be covered by general NPDES permits).

Table 7: Sediment TMDLs and Allocation (t/mi^2/yr)

Source	Black Butte	Elk Creek	Round Valley	Upper MF	Williams Thatcher	BASINWIDE Load
TOTAL Natural	724	1,059	374	410	417	574
Percent Reduction over current	0%	0%	0%	0%	0%	0%
Subtotals Landslides	9	12	10	2	2	6
Percent Reduction over current	0%	5%	5%	0%	5%	5%
Subtotal Small Management Sources	7	41	9	8	19	23
Percent Reduction over current	0%	32%	95%	0%	89%	70%
Total Management-Related	16	53	19	10	21	29
Percent Reduction over current	0%	27%	91%	0%	88%	65%
TMDL – ALL SOURCES	740	1,112	393	420	438	603
Percent Reduction over current	0%	2%	32%	0%	26%	8%
Percent Natural	98%	95%	95%	98%	95%	95%
Percent Management	2%	5%	5%	2%	5%	5%

Final Sediment WLA Specific to the Department

As discussed above, USEPA did not assign a specific sediment WLA to the Department.

Final Sediment Deadlines

USEPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
USEPA states that the Department's discharges of sediment, like other point sources of anthropogenic sediment discharges in this TMDL, are comparatively minor sources of this pollutant.

South Fork Eel River Temperature & Sediment TMDL, December 16, 1999
USEPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does USEPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, USEPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in USEPA's calculations for the margin of safety in this TMDL.

Final Sediment WLA
USEPA set the wasteload allocation to zero because it found that there are no point sources of sediment in this watershed.

Final Sediment WLA Specific to the Department
As stated above, USEPA states that there are no point source discharges of sediment within this TMDL, so the Department's wasteload allocation is set to zero.

Final Sediment Deadlines
USEPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
USEPA states that there are no discharges from point sources within this TMDL, and because of this finding, the Department's potential contribution to anthropogenic sediment loading is insignificant.

Upper Main Eel River Temperature & Sediment TMDL, December 29, 2004

Final Sediment WLA
For the sediment TMDL, USEPA states that point sources are not significant, and sets the waste load allocation to zero.

Final Sediment WLA Specific to the Department
USEPA views point source contributions to sediment loading in this TMDL, so the Department's wasteload allocation is set to zero.

Final Deadlines
USEPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
USEPA considers all point sources of anthropogenic sediment loading to be insignificant for purposes of this TMDL.

Garcia River Sediment & Temperature TMDL, March 16, 1998

Final Sediment WLA
The wasteload allocation is effectively set to zero for "controllable" anthropogenic discharges of sediment, including those associated with roads, since all controllable discharges of sediment from roadways are prohibited.

Final Sediment WLA Specific to the Department
Although not specifically included in this TMDL, the wasteload allocation for all "controllable" anthropogenic discharges of sediment from roadways is effectively set to zero.

Final Sediment Deadlines
The structure of this 2002 TMDL requires responsible parties to choose an option for controlling 'sediment delivery', and some 'due dates' have already passed, e.g., Jan., 2005 was the deadline for the Long Term Road System Plan- it is unclear which option, if any, has been selected by the Department.

Department's Sediment Contribution (relative contribution to pollutant loading)
The Department's relative sediment pollutant loading is not known.

Gualala River Sediment &Temperature TMDL, November 29, 2004

Final Sediment WLA
USEPA set the wasteload allocation for sediment discharges to zero, noting that point sources of sediment pollution are insignificant within the area described in this TMDL.

Final Sediment WLA Specific to the Department
There is no wasteload allocation specifically assigned to the Department, but as mentioned above, USEPA set these to zero because of their comparative insignificance as sources.

Final Sediment Deadlines
USEPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
Approximately 3 percent of the miles of roadways included within this TMDL are paved. The Department's potential contribution to pollutant loading is some unspecified fraction of the former, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. Due to its relative insignificance as a source of sediment pollution the Department's wasteload allocation is set to zero.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Nutrients WLA
Daily mass-based nutrient (total phosphorus and total nitrogen) and organic matter load allocations are assigned to segments of the Klamath River and its tributaries.

Source Area	Daily TP Load Allocations (lbs/day)	Daily TN Load Allocations (lbs/day)
Stateline	245+	3,139+
Upstream of Copco 1 Reservoir	(61)+	(330)+
Stateline to Iron Gate Dam inputs	22+	339+
Δ Iron Gate Hatchery	0+	0+
Tributaries between Iron Gate Dam and the Shasta River	49+	317+
Shasta River	75+	220+
Tributaries between Shasta River and Scott River	17+	97+
Scott River	87+	1,279+
Tributaries between Scott River and Salmon River	187+	1,050+
Salmon River	193+	1,583+
Tributaries between Salmon River and Trinity River	90+	504+
Trinity River	762+	5,783+
Tributaries between Trinity River and Turwar Creek	179+	1,004+

Source Area	Daily TP Load Allocations (lbs/day)	Daily TN Load Allocations (lbs/day)
Total Maximum Daily Load	1,845	14,985

Final Nutrients WLA Specific to the Department
There are no WLAs that are assigned specifically to the Department. The Department is expected to address nutrient inputs into the Klamath River watershed through control of sediment from its road and highway facilities.

Final Nutrients Deadlines
There are no final deadlines for achievement of WLAs. However, the Department shall submit annual reports to the North Coast Regional Water Board documenting progress in implementing

Department's Nutrients Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the nutrient pollutant loading is not known.

Lost River Nitrogen Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments December 30, 2008

The Lower Lost River TMDL was developed by the North Coast Regional Water Quality Control Board and approved by U.S. Environmental Protection Agency (USEPA) (regional board resolution number R1-2010-0026). It established TMDLs for Nitrogen and Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments. The Lower Lost River TMDLs implementation plan which was established by USEPA is included in the Klamath River TMDL. Both the Klamath River TMDL and the Lower Lost River TMDL were both approved on December 28, 2010.

Final Nitrogen WLAs

Segment	Total Dissolved Inorganic Nitrogen WLA (average kg/day)	Total Carbonaceous Biochemical Oxygen Demand (CBOD) (average kg/day)
Lost River from Border of Tule Lake Refuge	0.3	0.5
Tule Lake Refuge TMDLs	3.0	10.1
Lower Klamath Refuge TMDLs	0.3	0.5

Final Nitrogen WLAs Specific to the Department

Segment	Dissolved inorganic nitrogen, (average kg/day)	Carbonaceous biochemical oxygen demand (CBOD) (average kg/day)
Lost River from border of Tule Lake Refuge	0.3	0.5
Tule Lake Refuge TMDLs	0.3	0.5
Lower Klamath Refuge TMDLs	0.3	0.5

Final Nitrogen Deadlines
There are no deadlines associated with these TMDLs.

Department's Nitrogen Contribution (relative contribution to pollutant loading)

Segment	Percentage of Total Dissolved inorganic nitrogen WLA	Percentage of Total Carbonaceous biochemical oxygen demand (CBOD) WLA
Lost River from border of Tule Lake Refuge	100	100
Tule Lake Refuge TMDLs	3.0	10.1
Lower Klamath Refuge TMDLs	100	100

Mad River Sediment and Turbidity TMDL, December 21, 2007
USEPA states that almost all sources of sediment in the Mad River watershed are from diffuse, nonpoint sources, including runoff from roads, timber operations, and natural background. In the Mad River basin, individual point sources are negligible sources of sediment and suspended sediment. To ensure protection of the cold water beneficial use, EPA has determined that it is appropriate to consider the rates set forth in these TMDLs as load allocations to also represent wasteload allocations for the *diffuse* discharges in the watershed that are subject to NPDES permits, as discussed below.

Final WLAs for Sediment and Turbidity
Wasteload allocations for diffuse, permitted point sources function similarly to and are represented by the nonpoint source load allocations, and wasteload allocations for permitted point sources are provided concentration-based wasteload allocations equivalent to what is included in the permits in order to account for incidental sediment and suspended sediment discharges. The TMDLs for sediment and turbidity include separate but identical load allocations for nonpoint sources and wasteload allocations for the diffuse point sources for each subarea. These WLAs are equivalent to and represented by the LAs, and the LAs are expressed on a unit

loading basis (tons/mi2/year); therefore, they are not added to the LAs in the TMDL equation.

Table 20. Total Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source		Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
		1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	
Natural Load Allocation		**894**	**894**	**2.4**	**2.4**	**0%**
Roads	Landslides	1,298				
	Surface	242				
Roads Subtotal		**1,540**	**174**	**4.2**	**0.5**	**89%**
Harvest	Landslide	38				
	Surface	2				
Harvest Subtotal		40	5	0.1	0.01	89%
Total Human-related Load		1,580	179	4.3	0.5	89%
Total Load: All Sources		**2,474**	**1,073**	**6.8**	**2.9**	**57%**
Note: values have been rounded.						

Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21 (below). The reductions reflect similar priorities as for the total sediment load. Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21. The reductions reflect similar priorities as for the total sediment load.

Table 21. Suspended Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source		Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
		1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	
Natural Load Allocation		809	809	2.2	2.2	0 %
Road	**Landslides**	1,174				
	Surface	219				
Roads Subtotal		**1,393**	**158**	**3.8**	**0.4**	**89%**
Harvest	**Landslides**	34				

Sediment Source	Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	
Surface	2				
Harvest Subtotal	36	4	0.1	0.01	89%
Total Human-related Load	1,430	162	3.9	0.4	89%
Total Load: All Sources	2,238	971	6.1	2.7	57%

Final WLAs for Sediment and Turbidity Specific to the Department

USEPA grouped the Department's discharges under its NPDES municipal storm water permit with other "diffuse" NPDES-permitted storm water discharges occurring in this TMDL. USEPA's source analysis did not distinguish between land areas subject to NPDES regulation and nonpoint sources of sediment and turbidity. USEPA's TMDLs thus include separate but identical load allocations (LAs) for nonpoint sources and wasteload allocations (WLAs) for the "diffuse" point sources for each subarea. These WLAs are equivalent to and represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi2/year); therefore, they are not added to the LAs in the TMDL equation.

For the diffuse permitted sources such as the Department's discharges under its municipal storm water permit, the waste load allocation is expressed as equivalent to the load allocation for (all) roads. The load allocations for roads are listed in the tables given above.

USEPA also states that the Regional Water Board may wish to refine these TMDLs and allocations further in the future.

Final Sediment and Turbidity Deadlines

USEPA did not specify deadlines for implementation.

Department's Sediment and Turbidity Contribution

USEPA states that non-NPDES nonpoint sources are responsible for nearly all sediment loading in the watershed, but does not estimate the Department's potential contribution to sediment and turbidity waste loading in this TMDL. Only 6% of the roads in this watershed are paved, and some unspecified portions of the latter are State highways.

Navarro River Sediment and Temperature TMDL, December 27, 2000

Final Sediment WLA
The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools, and to reduced wetted channel width/depth ratios.

Final Sediment WLA Specific to the Department
The Department is not specifically mentioned as a source of pollutant loading for temperature sediment, nor are any other point sources of these pollutants: the wasteload allocation for the Department is therefore presumed to be set to zero.

Final Sediment Deadlines
USEPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution
As mentioned above, neither Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so USEPA has determined that these potential sources are insignificant in this TMDL.

Noyo River Sediment TMDL, December 16, 1999

Final Sediment WLA (is it a joint-WLA or listed in a table)
USEPA apportioned the total load among several non-point sources of sediment, after accounting for background load. As a consequence, this TMDL does not include wasteload allocations for point sources.

Final Sediment WLA Specific to the Department
USEPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative to pollutant loading)
As stated above, USEPA did not establish wasteload allocations for point sources of sediment.

Redwood Creek Sediment TMDL, USEPA Established December 30, 1998

Final Sediment WLA
USEPA did not establish wasteload allocations for point sources in this TMDL.

Final WLA

USEPA established this TMDL on December 30, 1998 and it became effective immediately.

Final WLA Specific to the Department and the Department's Contribution
As stated above, USEPA did not establish wasteload allocations for point sources of sediment.

Final Deadlines
USEPA did not specify deadlines for implementation of this TMDL.

Department's Contribution (relative to pollutant loading)
The Department's contribution relative sediment pollutant loading is not known.

Scott River Sediment and Temperature TMDL, August 11, 2006

Final Sediment WLA
USEPA states that there are no point sources of sediment and/or temperature related discharges within the area encompassed by this TMDL, so the wasteload allocation is set to zero.

Final Sediment WLA Specific to the Department
None

Final Sediment Deadlines
USEPA directed Regional Water Board staff to evaluate the Department's state-wide NPDES permit in the North Coast Region by September 8, 2008. The purpose of the evaluation was to determine the adequacy and effectiveness of the Department's storm water program in preventing and reducing elevated water temperatures in the North Coast Region, including the Scott River watershed.

Department's Sediment Contribution (relative to pollutant loading)
As noted above, USEPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero. The Department's point source contribution is therefore judged to be insignificant.

Ten Mile River Sediment TMDL, December 2000

Final Sediment WLA
USEPA states that there are no point sources of sediment discharges within the area included within this TMDL: wasteload allocations are therefore set to zero.

Final Sediment WLA Specific to the Department As stated above, USEPA did not establish wasteload allocations for point sources such as the Department in this TMDL, so the wasteload allocations are set to zero.

Final Sediment Deadlines
USEPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative pollutant loading)
The Department's relative sediment contribution is judged to be insignificant.
Trinity River Sediment TMDL, December 20, 2001

Final Sediment WLA
USEPA did not subdivide waste load and load allocations into specific sources such as roads and timber harvest, unlike several of its other sediment-related TMDLs in Region 1. USEPA divided the basin into subareas because of the wide range of sediment delivery rates within each of the several subareas. USEPA further states that although nonpoint sources are responsible for most sediment loading in the watershed, point sources also discharge some sediment.

The TMDL identified wasteload allocations for point sources and load allocations for nonpoint sources as pollutant loading rates (tons/square mile/year) for subareas within the Trinity Basin. The source analysis supporting these allocations evaluated sediment loading at a subarea scale, and did not attempt to distinguish sediment loading at the scale of specific land ownership, nor did the source analysis specifically distinguish between land areas subject to NPDES regulation and land areas not subject to NPDES regulation. As a consequence, the TMDL includes separate but identical load allocations for nonpoint sources and wasteload allocations for point sources for each subarea. The joint LA/WLA's for each subarea are given in the following tables:

Table 5-2. TMDL and Allocations by Source Category for Upper Area

Source Categories		Subareas within the Upper Assessment Area				
		Reference Subwatersheds[1]	Westside Tributaries[2]	Upper Trinity[3]	East Fork Tributaries[4]	East Side Tributaries[5]
Current Sediment Delivery Rate						
Background (non-management)		1,125	421	2,759	258	241
Management	Roads	129	101	162	319	48
	Timber Harvest	240	31	1,084	46	22
	Legacy (Roads, Mining)	7	25	21	26	96
	Total	376	157	1,267	391	96

Source Categories	Subareas within the Upper Assessment Area				
	Reference Subwatersheds[1]	Westside Tributaries[2]	Upper Trinity[3]	East Fork Tributaries[4]	East Side Tributaries[5]
Mgmt.					
Total Sediment Delivery	1,051	578	4,026	649	337
Total as percent of background	133%	137%	146%	252%	140%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)					
TMDL (= 1.25 X Background)	1,406	526	3,449	323	301
Background Allocation	1,125	421	2,759	258	241
Total Management Allocation (= TMDL – Background)	281	105	690	65	60
Percent reduction needed in management to attain TMDL	25%	33%	46%	83%	37%

1. Stuarts Fork, Swift Creek, Coffee Creek
2. Stuart Arm Area, Stoney Creek, Mule Creek, East Fork Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek;
3. Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstem Area, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch Area, Scorpion Creek
4. East Fork Trinity, Cedar Creek, Squirrel Gulch Area
5. East Side Tributaries, Trinity Lake

Table 5.3 TMDL and Allocations by Source Category for Upper Middle Area

Source Categories		Subareas within the Upper Assessment Area					
		Weaver and Rush Creeks (72 mi^2)	Deadwood Creek, Hoadley Gulch and Poker Bar Area (47 mi^2)	Lewiston Lake Area (25 mi^2)	Grass Valley Creek[1] (37 mi^2)	Indian Creek (34 mi^2)	Reading and Brown Creek (104 mi^2)
Current Sediment Delivery Rates ($tons/mi^2/yr$)							
Background (non-management)		675	273	195	175	324	263
Management	Roads	144	220	83	287	1.570	125
	Timber Harvest	61	280	37	1,136	330	204
	Legacy (Roads, Mining)	81	62	69	65	68	42
	Total Mgmt.	286	562	189	1,488	1,968	372
Total Sediment Delivery		961	835	384	1,663	2,292	635
Total as percent of background		142%	305%	197%	950%	707%	241%
Loading Capacity (TMDL) and Allocations ($tons/mi^2/yr$)							
TMDL (= 1.25 X Background)		844	341	244	219	405	329
Background Allocation		675	273	195	175	324	263
Total Management Allocation (= TMDL – Background)		169	68	49	44	81	66
Percent reduction needed in management to attain TMDL		41%	88%	74%	97%	96%	82%

1. The rates in Grass Valley Creek do not account for the amount of sediment trapped by Buckhorn Dam and Hamilton Ponds.

Table 5.4 TMDL and Allocations by Source Category for Lower Middle Assessment Area

Source Categories		Subareas within the Lower Middle Assessment Area				
		Reference Subwatersheds[1] (434 mi^2)	Canyon Creek (64 mi^2)	Upper Tributaries[2] (72 mi^2)	Middle Tributaries[3] (54 mi^2)	Lower Tributaries[2] (96 mi^2)
Current Sediment Delivery Rates (tons/mi^2/yr)						
Background (non-management)		1,568	1,302	268	210	221
Management	Roads	11	2,482	60	37	41
	Timber Harvest	4	4	29	16	20
	Legacy (Roads, mining)	9	17	46	28	29
	Total Mgmt.	24	2,503	135	81	90
Total Sediment Delivery		1,592	3,805	403	291	311
Total as percent of background		102%	292%	150%	139%	141%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)						
TMDL (= 1.25 X Background)		1,592	1,628	335	263	276
Background Allocation		1,568	1,302	268	210	221
Total Management Allocation (= TMDL – Background)		24	326	67	53	55
Percent reduction needed in management to attain TMDL		0	87%	50%	35%	39%

1. New River, Big French, Manzanita, North Fork, East Fork North Fork.
2. Dutch, Soldier, Oregon Gulch, Conner Creek Area.
3. Big Bar Area, Prairie Creek, Little French Creek.
4. Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quinby Creek Area, Hawkins, Sharber.

Table 5.5. TMDL and Allocations by Source Category for Lower Assessment Area

Source Categories		Subareas within the Lower Assessment Area. Outside of Hoopa Valley Tribe Reservation Boundaries				
		Reference Subwatersheds Horse Linto Creek: 64 mi^2)	Mill Creek and Tish Tang (39mi^2)	Willow Creek (43 mi^2)	Campbell Creek and Supply Creek (11 mi^2)	Lower Mainstem Area and Coon Creek (32mi^2)
Current Sediment Delivery Rates (tons/mi^2/yr)						
Background (non-management)		2,110	839	374	7,845	252
Management	Roads	483	703	854	14,349	76
	Timber Harvest	87	83	201	785	15
	Legacy (Roads, Mining)	26	26	26	26	22
	Total Mgmt.	596	812	1,081	15,160	113
Total Sediment Delivery		2,706	1,651	1,455	23,005	365
Total as percent of background		128%	197%	389%	293%	145%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)						
TMDL (= 1.25 X Background)		2,638	1,049	468	9,806	315
Background Allocation		2,110	839	374	7,845	245
Total Management Allocation (= TMDL – Background)		528	210	94	1,961	63
Percent reduction needed in management to attain TMDL		11%	74%	91%	87%	44%

Note:
Since Background rates for Lower Mainstem Area and Coon Creek were not available from GMA (2001), USEPA used the same rate as was calculated for the Quinby Creek Area is comparable in size and underlain by the same geology type (Galice Formation).

Final Sediment Deadlines
USEPA did not specify deadlines for implementation.

Final Sediment WLA Specific to the Department USEPA issued joint LAs and WLA's, as noted above, so source-specific wasteload allocations were not developed for this TMDL.

Department's Sediment Contribution (relative pollutant loading)
It is not possible to estimate the Department's point source contribution from the source analysis developed by USEPA.

South Fork Trinity River Watershed Sediment Total Maximum Daily Load (USEPA, 1998)

Final Sediment WLA
USEPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department
There is no waste load allocation for the Department's discharges. In keeping with USEPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Deadlines
No deadlines were specified.

Department's Pollutant Contribution
The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 36 and 101.

Van Duzen River Watershed Sediment Total Maximum Daily Load (USEPA, 1999)

Final Sediment WLA
USEPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department
There is no waste load allocation for the Department's discharges. In keeping with USEPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Sediment TMDL Deadlines
No deadlines were specified.

Department's Pollutant Contribution
The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 36 and 101.

SAN FRANCISCO BAY REGION SEDIMENT AND MERCURY TMDLS

Napa River Sediment TMDL, January 20, 2011

Final Sediment WLA

The wasteload allocations are listed in the following table:

Point Source Category	Current Load		Reduction Needed (percentage)	Wasteload Allocations	
	Metric (Tons/year)	Percentage of Natural Background		Metric (Tons/year)	Percent of Natural Background
Construction Storm Water Order No. 99-08-DWQ	500	0.3	0	500	.03
Municipal Storm Water NPDES Permit No. CAS000001	800	0.5	0	800	0.5
Industrial Storm Water NPDES Permit No. CAS000001	500	0.3	0	500	0.3
Department Storm Water-Order No. 99-06-DWQ	600	0.4	0	600	0.4
Wastewater Treatment Plant Discharges [a]					
City of St. Helena NPDES Permit No. CA0038016	30	<0.1	0	30	<0.1
Town of Yountville/CA Veteran's Home NPDES Permit No. CA0038121	30	<0.1	0	30	<0.1
City of Calistoga NPDES Permit No. CA0037966	40	<0.1	0	40	<0.1
TOTAL	**2,500**	**2**		**2,500**	**2**

a. For wastewater treatment plant discharges, compliance with existing permit effluent limit of 30 mg/L of TSS is consistent with these wasteload allocations.

Note: Above estimates for loads, percent reductions, and allocations are rounded to two significant figures.

Final Sediment WLA Specific to the Department

The Department's wasteload allocation is 600 metric tons/year.

Final Sediment Deadlines
The Department is deemed to be implementing appropriate control measures if it discharges in compliance with its municipal storm water permit, and if it conducts the monitoring program included in its storm water permit.

Department's Sediment Contribution (relative to pollutant loading)
The Regional Water Board indicates that the Department is a fairly minor anthropogenic source of sediment discharges, and attributes its current discharges to only 0.4% of natural background loading. As a consequence, the Regional Water Board has determined that compliance with its NPDES permit will enable the Department to meet its sediment wasteload allocation.

Sonoma Creek Sediment TMDL, September 8, 2010

Final WLA
Although roadways are cited as a major source of sediment loading in the Sonoma Creek watershed, the Regional Water Board has determined that compliance with its NPDES permit for storm water will enable the Department to meet its wasteload allocation for sediment.

Final Sediment WLA Specific to the Department
The Department's wasteload allocation is 100 tons/year, which is its current (2005) estimated annual discharge of sediment within the area encompassed by this TMDL.

Final Sediment Deadlines
In collaboration with stakeholders in the watershed, Water Board staff will develop a detailed monitoring program to assess progress of TMDL attainment and provide a basis for reviewing and revising TMDL elements or implementation actions. As an initial milestone, by fall 2011, the Regional Water Board and watershed partners were required to complete monitoring plans to evaluate: a) attainment of water quality targets; and b) suspended sediment and turbidity conditions. Initial data collection, based on the protocols established in these monitoring plans was anticipated to begin in the winter of 2011-2012.

Department's Sediment Contribution (relative to pollutant loading)
The Regional Water Board estimates that the Department's point source discharges of sediment constitute approximately 8% of total point sources discharges of sediment.

San Francisco Bay Mercury TMDL, February 12, 2008

The San Francisco Bay Mercury TMDL was adopted by the San Francisco Bay Regional Water Quality Control Board as Resolution Number R2-2006-0052 on August 9th, 2006. It was approved by USEPA on February 12th, 2008.

Final Mercury WLA
There are no WLAs specific to the Department. Instead, the Department's WLA is an unspecified portion of the WLA assigned to the city or municipal NPDES permit in which the Department's roads or facilities reside

Final Mercury WLA Specific to the Department
No deadlines specified.

Final Mercury Deadlines
The WLAs must be attained by February 12th, 2028.

Department's Mercury Contribution (relative contribution to pollutant loading)
The Department's contribution is unknown.

CENTRAL COAST SEDIMENT TMDLS

Although roadways are cited as a major source of sediment loading in some Central Coast watersheds, the Central Coast Regional Water Board has determined that compliance with the Department's NPDES permit will meet the Department's wasteload allocation.

San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks) Sediment TMDL, February 19, 2004

Final Sediment WLA
The sediment load to the San Lorenzo River derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
Upland Timber Harvest Plan (THP) Roads	0	419	362	25,215
Streamside THP Roads on Steep Slopes	0	182	164	10,949
Upland Public/ Private Roads	146	1,235	367	13,835
Streamside Public/Private Roads on Steep Slopes	77	135	239	6,178
THP Land	0	23	16	1,057
Other Urban and Rural Land	310	2,622	965	43,368
Mass Wasting	0	4,082	6,440	157,388
Channel/Bank Erosion	324	3,030	989	48,149
Total Allocation = TMDL[3]	857	11,728	9,542	306,139

Note:
3 The term "TMDL" is used here for familiarity. The allowable loads for the San Lorenzo River and its tributaries are actually expressed as a Total Annual Loads (tons/year). This expression of load accounts for seasonal variation in sediment loads explained by the seasonality of rainfall in this region of the Central Coast.

Final Sediment WLA Specific to the Department
As stated above, no specific waste load allocation was assigned to the Department.

Final Sediment Deadlines
Compliance with its municipal storm water permit is deemed to be sufficient to meet the Department's waste load allocation for sediment.

Department's Sediment Contribution (relative contribution to pollutant loading)
This TMDL does not estimate the relative contribution of the Department's roadways/facilities to sediment discharges, but this source appears to be moderate based on this TMDL's source analysis.

Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Sediment TMDL, January 20, 2004

Final WLA (is *it a joint-WLA or listed in a table)*
The sediment load to Morro Bay, Los Osos Creek and Chorro Creek derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Final Sediment WLA Specific to the Department

	Watershed	**Total (Tons/Yr)** Rounded to the nearest ton
Loading Allocations (TMDL expressed as annual load)	Chorro Creek at Reservoir	6,541
	Dairy Creek	440
	Pennington Creek	966
	San Luisito Creek	7,315
	San Bernardo Creek	10,269
	Minor Tributaries	4,489
	Chorro Creek (Subtotal)	**30,020**
	Los Osos Creek	3,052
	Warden Creek and Tributaries	1,812
	Los Osos Creek (Subtotal)	**4,864**
	Morro Bay Watershed (Total)	**34,885**

Final Sediment WLA Specific to the Department
Although no specific wasteload allocation was assigned to the Department, this TMDL states that discharges which are in compliance with their respective storm water (and other) NPDES permits are meeting their portion of shared responsibility for achieving sediment load reduction.

Final Sediment Deadlines
Implementation will rely on the State's Plan for NPS pollution control (CWC §13369) and continued implementation of existing regulatory controls as appropriate for point sources, including storm water pursuant to NPDES surface water discharge regulations and Waste Discharge Requirements under Porter-Cologne. Final compliance with sediment load reductions is scheduled to be achieved by 2054 (50 years from the adoption of the TMDL).

Department's Sediment Contribution (relative contribution to pollutant loading)
The Department's contribution to sediment loading was not estimated in this TMDL.

LOS ANGELES REGION SEDIMENT/NUTRIENTS/MERCURY TMDLS

Department's Pollution Contribution:
Although roadways are cited as a major source of sediment loading in some watersheds, for purposes of current sediment-related TMDLs, the Los Angeles Regional Water Board has determined that compliance with its NPDES permit will meet the Department's wasteload allocations for sediment.

Ballona Creek Wetlands Sediment and Invasive Exotic Vegetation TMDLs, March 26, 2012

Final Sediment WLA
USEPA established wasteload allocations (WLAs) for sediment to address the impairments identified for the Ballona Creek Wetlands. WLAs are assigned to the Los Angeles County MS4 and their co-permittees, and the Department, who are responsible for the loading of sediment into Ballona Creek Wetlands. The WLAs are the total allowable sediment load that can be discharged into Ballona Creek Wetlands. This total sediment load includes both suspended sediment and sediment bed load that are transported from Ballona Creek Watershed into Ballona Creek Wetlands.

Since the current existing discharge of sediment load is not contributing to the listed impairments or otherwise causing a negative impact to Ballona Creek Wetlands, this TMDL establishes joint WLAs based on existing conditions. The allowable WLA is set at 58,354 yd^3/yr (or 44,615 m^3/yr). The joint wasteload allocation is as follows:

Responsible Jurisdiction	Input	Sediment Wasteload Allocation[1] (yd^3/yr)	Existing Total Sediment Load (yd^3/yr)
Los Angeles County MS4 , Co-Permittees & Department	Ballona Creek Watershed	58,354	58,354

Final Sediment WLA Specific to the Department
As stated above, there is no WLA specific to the Department. The joint point source WLA is 58,354 cubic yards of sediment per year, which is equivalent to the current estimated total sediment loading contributed by these sources.

Final Sediment Deadlines
USEPA did not specify deadlines for implementation of this TMDL.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to anthropogenic sediment loading is not estimated or quantified in this TMDL. However, the joint WLAs are set to the current estimated sediment discharges, which the Department can meet through compliance with its NPDES municipal storm water permit.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals (including Mercury) and Selenium TMDL, March 26, 2007

Final Mercury WLA
The Department shares group mass-based WLAs for mercury for Calleguas Creek and Revolon Slough with other Permitted Storm water Dischargers (PSDs). Final WLAs are mass-based and are dependent upon annual flow ranges.

Final Mass-based WLAs for Annual Flow Ranges, Mercury in Suspended Sediment

Flow Range, Millions of Gallons per Year	**Calleguas Creek** (lbs/yr)	**Revolon Slough** (lbs/yr)
0-15,000 MGY	0.4	0.1
15,000-25,000 MGY	1.6	0.7
Above 25,000 MGY	9.3	1.8

Final Mercury WLA Specific to the Department
There is no specific allocation for the Department.

Final Mercury Deadlines
The final WLAs must be achieved within 15 years after the effective date of the amendment, or March 26th, 2022.

Department's Mercury Contribution (relative contribution to pollutant loading)
The Department's areal proportion of the watershed is not known.

The Los Angeles Area Lakes and Reservoir TMDLs specific to the Department include targets for the following lakes:

- Echo Park Lake: nitrogen phosphorus, chlordane, dieldrin, PCBs, and trash
- Lake Sherwood: mercury
- Legg Lakes (North, Center and Legg): nitrogen and phosphorus
- Peck Road Park Lake: nitrogen and phosphorus

- Puddingstone Reservoir: nitrogen, phosphorus, chlordane, DDT, PCBs, Hg, and Dieldrin

Wasteload allocations were assigned to responsible jurisdictions based on existing loading of nitrogen and phosphorus to each lake. To allow flexibility in implementing the nutrient TMDLs, responsible jurisdictions receiving required reductions have the option to submit a request to the Regional Board for alternative concentration-based wasteload allocations. These jurisdictions can receive alternative concentration-based wasteload allocations not to exceed 1.0 and 0.1 milligrams per liter total nitrogen and total phosphorus, respectively.

During wet weather, runoff from industrial sites has the potential to contribute pollutant loadings. During dry weather, the potential contribution of pollutant loadings from industrial storm water is low because non-storm water discharges are prohibited or authorized by the permit only under the following circumstances: when they do not contain significant quantities of pollutants, where Best Management Practices are in place to minimize contact with significant materials and reduce flow, and when they are in compliance with Regional Board and local agency requirements.

Los Angeles Area (Echo Park Lake) Total Nitrogen, Total Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012)

Final Nutrient WLAs

	Total Phosphorus, lbs/year	Total Nitrogen, lbs/year
TOTAL	83.3	682

Final Nutrient WLAs Specific to the Department

Subwatershed	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
Northern	0.608	4.77
Southern	0.051	0.403

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contributions *(relative contribution to pollutant loading)*

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	0.6 %	0.7 %
Southern	0.05 %	0.06 %

Los Angeles Area (North, Center & Legg Lakes) Nitrogen and Phosphorus, TMDLs, March 26, 2012

Final Nutrient WLA Nitrogen & Phosphorous TMDLs

	Total Phosphorus (lbs/year)	Total Nitrogen lbs/year
TOTAL	1,541	9,135

Final WLAs Specific to the Department

Subwatershed	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
Direct to Center Lake	4.6	15.5
Direct to Legg Lake	1.2	4.0
Direct to North Lake	19.1	64.1
Northwestern	9.4	29.3
Northeastern	10.9	34.0

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Direct to Center Lake	0.1	1.0
Direct to Legg Lake	0.1	1.0
Direct to North Lake	0.1	1.0
Northwestern	0.1	1.0
Northeastern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Direct to Center Lake	0.2 %	0.2 %
Direct to Legg Lake	0.1 %	<0.1 %
Direct to North Lake	1.0 %	0.6 %
Northwestern	0.5 %	0.3 %
Northeastern	0.6 %	0.3 %

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012

Final Nutrient WLAs

	Total Phosphorus lbs/year	Total Nitrogen (lbs/year)
TOTAL	19,319	186,845

Final Nitrogen & Phosphorus WLA Specific to the Department

Subwatershed	Total Phosphorus lbs/year	Total Nitrogen (lbs/year)
Eastern	158	1,165
Western	34.2	251

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Eastern	0.8 %	0.6 %
Western	0.2 %	0.1 %

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, March 26, 2012

Final Nutrient WLAs for Puddingstone Reservoir

Final Nitrogen and Phosphorus WLAs

	Total Phosphorus lbs/year	Total Nitrogen (lbs/year)
TOTAL	4,226	18,756

Final Nitrogen, Phosphorus WLAs Specific to the Department

Subwatershed	Total Phosphorus lbs/year	Total Nitrogen (lbs/year)
Northern	167	745
Southern	14.8	68.2

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Northern	0.1	1.0
Direct Southern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	3.6 %	3.4 %
Southern	0.3 %	0.3 %

Final Mercury WLA for Puddingstone Reservoir

Final Waste Load Allocations are assigned to the Department for sub-watersheds for Puddingstone Reservoir and Lake Sherwood, and must be met at the Department's discharge points.

Final Mercury WLA for Puddingstone Reservoir Specific to the Department

Mercury WLAs for Puddingstone Reservoir and Lake Sherwood

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Puddingstone-Northern	110	1.32	1.85	0.702
Puddingstone-Southern	11.6	0.0960	0.13	0.051

Fish Harbor is impaired for mercury in sediment. The Department is named as a responsible party for WLAs to Fish Harbor. The final concentration-based WLA for sediment in Fish Harbor is 0.15 mg per kilogram of dry sediment.

Final Mercury Deadlines for Puddingstone Reservoir
The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Mercury Contribution for Puddingstone Reservoir (relative contribution to pollutant loading)

Subwatershed	**Annual Hg Load** (g/yr)	**Percent of Total Load**
Northern	1.32	1.85
Southern	0.096	0.13
Total	**1.42**	**1.99**

Machado Lake Eutrophic, Algae, Ammonia, and Odors (Nutrients), March 11, 2009

Final Nutrients WLA
Final concentration-based Waste Load Allocations are established for total phosphorus and total nitrogen (defined as the sum of the concentrations of Total Kjeldhal Nitrogen, Nitrate as N, and Nitrite as N). For most storm water permittees, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients WLA Specific to the Department
For the Department, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients Deadlines
The Department must achieve its final WLAs by September 11, 2018.

Department's Nutrients Contribution (relative contribution to pollutant loading)
The Department's contribution to the overall loading is not defined in the TMDL. The draft Machado Lake Nutrients TMDL Implementation Plan, submitted on March 11, 2011, by the Department states that the Department's roadways and facilities comprise approximately 1.2 percent of the Machado Lake Watershed.

Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients, July 2, 2013
Sediment loading into Malibu Lagoon is much higher than naturally expected. The excess sediment accumulates in the Lagoon tidal channels and carries greater nutrient loads and cause algae blooms with likely adverse impacts on benthic macroinvertebrates.

Final Sedimentation WLA
Allocations for Sedimentation as listed in Table 10-2. (based on SCAG 2008 land use and Jurisdictional maps provided by MS4 Co-permittees)

Type of Allocation	Responsible Party	Impervious Area (total acres)	Pervious Area (acres)	Allocation Fraction	Sedimentation Allocation (tons/yr)
WLA	WLA Los Angeles Co. below	887	10.612	17.4%	1,012
WLA	Department below Malibou Lake	60	61	0.8%	44
LA	Unincorporated area draining to Las Virgenes Creek**	8	267	0.3%	16
LA	Protected land below Malibou Lake*	**253**	**16,820**	**13.7**	**796**
LA	Load Allocation at outlet of Malibou Lake	**3,669**	**37,550**	**67.9%**	**3,950**
Total		**4,878**	**65,310**	**100.0 %**	**5,817**

Final Sedimentation WLA Specific to the Department
See Table 10-2 above for the Department's below Malibou Lake.

Final Sedimentation Deadlines
EPA did not develop final deadlines for this TMDL.

Department's Sedimentation Contribution (relative contribution to pollutant loading)
See the Department's Nutrients Contribution below.

Final Nutrients WLA

There are no total final WLAs for Malibu Creek and Lagoon. Below are the concentration-based numeric targets as listed in Table 10-4 of this TMDL.

Season	Total Nitrogen (mg/l)	Total Phosphorus (mg/l)
Summer (Apr 15 – Nov 15)	0.65	0.1
Winter (Nov 16 - Apr 14)	1.0	0.2

Final Nutrients WLA Specific to the Department

Final WLAs are established Total Nitrogen (TN) and Total Phosphorus (TP) for summer and winter as listed in Table 10-4 of this TMDL.

Summer TN, mg/l (Apr 15 – Nov 15)	Winter TN, mg/l (Nov 16 – Apr 14)	Summer TP, mg/l (Apr 15 – Nov 15)	Winter TP, mg/l (Nov 16 – Apr 14)
1.0	4.0	0.1	0.2

Final Nutrients Deadlines

EPA did not develop final deadlines for this TMDL.

Caltrans' Nutrients Contribution (relative contribution to pollutant loading**)**

Caltrans' total area within the watershed is 206 acres, of a total of 65,310 acres or 0.317% of the total watershed.

The Department's contribution to the nutrient loads is not specified in the TMDL, but it can be assumed that the contribution is nearly the same as the allocation fraction for sediment in Table 10-2, at 0.8%. Multiplying the monthly watershed loads for winter and summer from Tables 5-3 and 5-4, respectively, by the Department's' allocation fraction provides an approximation of the Department's' total contribution to the monthly load.

Source	Summer TN Load kg/mo (Apr 15 – Nov 15)	Winter TN Load kg/mo (Nov 16 – Apr 14)	Summer TP Load kg/mo (Apr 15 – Nov 15)	Winter TP Load kg/mo (Nov 16 – Apr 14)
Total Load	789	20,442	140	2,842
Department Runoff (estimate based on area)	6.31	164	1.12	227

Ventura River and its Tributaries Algae, Eutrophic Conditions, and Nutrients TMDL, June 28, 2013

This TMDL establishes dry-weather and wet-weather WLAs for nitrogen and a dry-weather TMDL for phosphorus.

Final Nutrients WLA

The final dry-weather Total Nitrogen and Total Phosphorus loads are not explicitly stated in the TMDL.

Final Nutrients WLA specific to the Department

The final total dry-weather total nitrogen WLA for Caltrans is 1.1 lb/day. The final dry-weather total phosphorus WLA for Caltrans is 0.11 lb/day.

Wet-weather allocations for "nitrogen", defined as the sum of Nitrate-N and Nitrite-N, are the same for all storm water dischargers and are site-specific to the reaches of the watershed:

Reach	Nitrate-N + Nitrite-N (mg/L)
Estuary	7.4
Reach 1	7.4
Reach 2	10
Cañada Larga	10
Reach 3	5
San Antonio Creek	5
Reach 4	5
Reach 5	5

Final Nutrients Deadlines

Wet-weather WLAs for the Department apply on the effective date of the TMDL. Dry-weather WLAs for the Department must be achieved by June 28, 2019.

Department's Nutrients Contribution

The Department's proportional contributions to the final WLAs are estimated to be approximately 1% each.

CENTRAL VALLEY REGION NUTRIENTS AND MERCURY TMDLS

Clear Lake Nutrients TMDL, September 21, 2007

Final Nutrients WLA

The final WLA for phosphorus for Clear Lake is 2100 kg per year.

Final Nutrients WLA Specific to the Department

The Department is given a final WLA for phosphorus of 100 kg per year.

Final Nutrients Deadlines
The Department shall achieve its WLAs by September 21, 2017.

Department's Nutrients Contribution (relative contribution to pollutant loading**)**
The Department's contributes 4.8% to the final phosphorus WLA.

Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch Mercury TMDL, February 7, 2011

Final Methylmercury WLA
Implementation Summary Cache Creek and Bear Creek Methylmercury Allocations

Source	Acceptable Annual Load (g/yr)
Cache Creek (Clear Lake to North Fork Confluence	11
North Fork Cache Creek	12.4
Harley Gulch	0.04
Davis Creek	0.7
Bear Creek @ Highway 20	3
In-channel production and un-gauged tributaries	32
Bear Creek @ Bear Valley Road	0.9
Sulphur Creek	0.8
In-channel production and un-gauged tributaries	1

Final Mercury WLA Specific to the Department
No specific WLA assigned to Caltrans

Final Mercury Deadlines
None specified

Department's Mercury Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to pollutant loading is not known.

Sacramento-San Joaquin River Delta Estuary Methylmercury TMDL, October 20, 2011

Final Methylmercury WLA

Delta Methylmercury Allocations

Permittee	NPDES Permit	Waste Load Allocation (g/yr)
Central Delta		
County of Contra Costa	CAS083313	0.75
City of Lodi	CAS000004	0.053
Port of Stockton MS4	CAS084077	0.39
County of San Joaquin	CAS000004	0.57
Stockton Area MS4	CAS083470	3.6
SUBTOTAL		*5.4*
Marsh Creek		
County of Contra Costa	CAS083313	0.30
SUBTOTAL		*0.30*
Mokelumne River		
County of San Joaquin	CAS000004	0.016
SUBTOTAL		*0.016*
Sacramento River		
City of Rio Vista	CAS000004	0.0078
Sacramento Area MS4	CAS082597	1.0
County of San Joaquin	CAS000004	0.11
County of Solano	CAS000004	0.041
City of West Sacramento	CAS000004	0.36
County of Yolo	CAS000004	0.041
SUBTOTAL		*1.6*
San Joaquin River		
City of Lathrop	CAS000004	0.097
Port of Stockton MS4	CAS084077	0.0036
County of San Joaquin	CAS000004	0.79
Stockton Area MS4	CAS083470	0.18
City of Tracy	CAS000004	0.65
SUBTOTAL		*1.7*
West Delta		
County of Contra Costa	CAS083313	3.2
SUBTOTAL		*3.2*
Yolo Bypass		
County of Solano	CAS00004	0.021
City of West Sacramento	CAS00004	0.28
County of Yolo	CAS00004	0.083
SUBTOTAL		*0.38*
TOTAL		***12.596***

Final Methylmercury WLA Specific to the Department
There are no WLAs specific to the Department. However, allocations for each of the defined municipal entities in the above table include all current and future permitted dischargers within the geographic boundaries of these municipalities and unincorporated areas, including the Department.

Final Methylmercury Deadlines
The final WLAs for dischargers in the Delta and Yolo bypass shall be met as soon as possible, but no later than January 1st, 2030.

Department's Methylmercury Contribution (relative contribution to pollutant loading)
The Department's contribution to the methylmercury load is not known.

LAHONTAN REGION SEDIMENT/NUTRIENTS TMDLS

Lake Tahoe Sediment and Nutrients TMDL, August 16, 2011
Attachment IV incorporates TMDL-specific permit requirements for the sediments and nutrients TMDL for Lake Tahoe. The TMDL requires the Department to meet pollutant load reduction requirements and to develop and implement a comprehensive Pollutant Load Reduction Plan (PLRP).

Final Sediment WLA
The pollutant load reduction requires the Department to reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7% and 8% respectively by September 30, 2016. The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reductions.

Final Sediment Deadlines
This plan is to be submitted no later than September 15, 2013. By March 15, 2014, the Department shall submit a Progress Report documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. The Department shall also prepare and submit a Storm water Monitoring Plan for review and approval by the Regional Board by July 15, 2013 and implement the approved plan.

Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Sediment Contribution (relative contribution to pollutant loading**)**
Final Nutrient WLA

Constituent	**Basin-Wide Load** (MT/yr)	**Urban Upland Load**	**Final Urban Upland Reduction** %	**Final WLA,** (MT/yr)
Nitrogen	345	63	50	31.5
Phosphorus	38	18	46	8.28

Final Nutrient WLA Specific to the Department
Caltrans' specific contributions to the loads are not defined. The Department is part of a group of Urban Upland (storm water) dischargers. The Department was required to submit a 2004 baseline load estimate specific to its jurisdiction by August 16, 2013.

Final Nutrient Deadlines
Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's' relative contribution to pollutant loading is not known.

Truckee River Sediment TMDL, September 16, 2009

Final Sediment WLA
TMDL attainment will be evaluated through the TMDL targets: these targets express desired conditions in the watershed, rather than sediment mass reductions. This was deemed to be appropriate because sediment mass reductions are not a practical indication of beneficial use protection due to the inherent natural variability of sediment delivery and the uncertainties associated with accurately measuring sediment loads and reductions.

Final Sediment WLA Specific to the Department
For the most part, point source dischargers' compliance with their respective NPDES permits are deemed to be evidence of compliance with their respective responsibilities to help achieve desired watershed conditions, as described above.

Final Sediment WLA Specific to the Department
The Department's compliance with its storm water permit is deemed to be evidence of compliance with its responsibility to help achieve desired watershed conditions, as described above.

Final Sediment TMDL Deadlines
These are no longer applicable: this TMDL is scheduled to be rescinded in the near future.

Department's Contribution (relative contribution to pollutant loading)
The Department's' relative contribution to sediment pollutant loading is not known.

SANTA ANA REGION NUTRIENTS AND MERCURY TMDLS

Big Bear Lake Nutrients for Dry Hydrological Conditions, TMDL September 25, 2007
This TMDL contains waste load allocations for phosphorus loads under dry hydrological conditions, defined as an average tributary inflow to Big Bear Lake ranging from 0 to 3,049 acre-feet, average lake levels ranging from 6,671 to 6,735 feet and annual precipitation ranging from 0 to 23 inches.

Final Nutrients WLA
The total Waste Load Allocation is 475 lbs/year.

Final Nutrients WLA Specific to the Department
There is no WLA specific to the Department.

Final Nutrients Deadlines
The WLA must be achieved by December 31, 2015.

Department's Nutrients Contribution (relative contribution to pollutant loading)
The Department's relative contribution to nutrient pollutant loading is not known.

Lake Elsinore and Canyon Lake Nutrients TMDL, September 30, 2005
The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. If the Department doesn't fulfill its Lake Elsinore/Canyon Lake Task Force obligations or if the Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies then the Department will have to implement the requirements listed in Table IV.2. of Attachment IV.

Final Nutrients WLA

Waterbody	Final Total Phosphorus Waste Load Allocation (kg/year)	Final Total Nitrogen Waste Load Allocation (kg/year)
Canyon Lake	487	6,248

Waterbody	Final Total Phosphorus Waste Load Allocation (kg/year)	Final Total Nitrogen Waste Load Allocation (kg/year)
Lake Elsinore	3,845	7,791

Final Nutrients WLA Specific to the Department
There are no WLAs specific to the Department.

Final Nutrients Deadlines
Final allocation compliance is to be achieved by December 31, 2020.

Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the nutrient pollutant loading is not available.

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, USEPA Established on June 14, 2002

Mercury Final WLA
A WLA for mercury to Rhine Channel is 0.225 kg/yr.

Mercury Final WLA Specific to the Department
The final mass-based Mercury WLA for Caltrans is 0.0027 kg/yr.

Mercury Final Deadlines
The Santa Ana Regional Water Quality Control Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed

Department's Mercury Contribution (relative contribution to pollutant loading
The Department's relative contribution to the mercury loading is approximately 3%. This WLA was developed by taking the available load and dividing it roughly in proportion to the land areas associated with the remaining source categories (including the Department).

SAN DIEGO REGION SEDIMENT AND NUTRIENTS TMDLS

Historical loading of sediment to some coastal wetlands within Region 9 has resulted in impacts to natural wetland functions. The excess deposition and movement of sediment within remaining coastal wetlands has greatly altered the natural conditions. Urbanized development of the watershed and the channel straightening has modified

both the sediment supply and the ability of flows to transport sediments. Additionally, channelization of streams has cut off the banks and floodplains of natural rivers within these watersheds. Sediments carried in flows are not stored within the banks but are rather transported to the outlet of coastal estuaries where they are deposited. Recurring dredging operations in coastal areas also affect sediment transport and deposition patterns in these watersheds. Wetland and estuarine habitats tend to be fragmented by existing roads, infrastructure, and surrounding urbanized development.

In some Region 9 watersheds, natural processes of erosion have been accelerated due to anthropogenic watershed disturbances, resulting in impairment of additional principally biological resources, but also recreational uses, including: RARE, MIGR, SPWN, WILD, EST, MAR, BIOL, REC1, REC2, NAV.

Los Peñasquitos Lagoon Sediment TMDL, Pending

Final Sediment WLA
The Regional Water Board assigned a joint waste load allocation of 2,580 tons/year to the responsible parties, and this specifically includes Caltrans' discharges of sediment under its current storm water permit.

Final Sediment WLA Specific to the Department
As indicated above, there is no specific wasteload allocation assigned to the Department in this TMDL.

Final Sediment Deadlines
The TMDL requires the parties which are jointly responsible for point source discharges of sediment into Los Peñasquitos Lagoon to achieve compliance with the joint WLA in 20 years (i.e., by 2032).

Department's Sediment Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to sediment pollutant loading is not estimated in this TMDL.

Rainbow Creek Total Nitrogen and Total Phosphorus TMDL, March 22, 2006

Final Nutrient WLA
The final WLA for nitrogen is 82 kg/year. The final WLA for phosphorus is 8 kg/year.

Final Nutrient WLA Specific to the Department
The final WLA for nitrogen for Caltrans is 49 kg/year. The final WLA for phosphorus for Caltrans is 5 kg/year.

Final Nutrient Deadlines
The Department shall achieve the final WLA by December 31, 2021.

Department's Nutrient Contribution (relative contribution to pollutant loading**)**
The Department's contribution to the nitrogen and phosphorus WLAs is 3% of the total.

C. Metals/Toxics/Pesticides TMDL Pollutant Category

General Description of Pollutant Category
Toxic pollutants, including but not limited to Pesticides, Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyls (PCBs), cause several impairments to California's water quality.

Sources of Pollutant & How it Enters the Waterway
The main transport mechanism for these pollutants is through fine sediment. Once the contaminated fine sediments wash of the roadways and into storm drains or nearby receiving waters they re-suspend in the water column and become bioavailable.

Metals including copper, zinc, lead, cadmium, nickel and chromium are toxic to aquatic life and cause impairments to California's waterbodies. Toxic metals are present in water as both dissolved and total recoverable fractions. During times of high precipitation (storm events), the primary transport mechanism for metals, especially in the total recoverable fraction, is again the mobilization of fine sediment. Accumulated contaminated fine sediment washes off roadways and into storm drains or nearby receiving waters. Metals in the sediment become bioavailable while suspended in the water column. During times of low precipitation, flows that reach storm drains or discharge points are typically insufficient to mobilize fine sediment, but dissolved metal ions are still bioavailable and reach discharge points.

Mechanical components of automobiles, especially those that are subjected to frictional stresses are either known or supposed sources of these metals (i.e., copper from brake pads and zinc from synthetic rubber tires). Some toxic metals are also present in petroleum-based lubricants and in gasoline and diesel fuel (i.e. cadmium).

Watershed Contribution
The Department is identified in many TMDLs as a source of toxic pollutants because they own and operate the roadways which act as conveyance systems of fine sediments. However, in most cases the Department makes up a relatively minor load for toxic pollutants because the models used to develop TMDLs rely on the percentage of land use to determine WLAs.

The Department is named in the TMDLs below as a source of metals in storm water because it owns, operates and maintains roadways and facilities present in these watersheds. As with toxics, in most cases, the Department is assigned a relatively minor proportion of the entire storm water WLA for each metal because its roadways and facilities comprise a small proportion of the total watershed area.

Control Measures

The Requirements in Part C of Attachment IV of this permit address both dissolved and sediment-bound sources of toxics and metals. Section C.1 addresses treatment of the fine sediment fraction of toxics and metals and requires that the Department implement structural controls/BMPs.

Dissolved fraction metal impairments require an inventory of outfalls/discharge points to waterbodies within each prioritized reach impaired by dissolved fraction metals and to propose and implement appropriate controls consistent with the report.

The Reach Prioritization and Implementation Requirements in Section 1, Part Section I.A. and B. of Attachment IV place a priority on identifying and addressing the highest source generating areas. This strategy will control the largest sources of fine sediment for a minor pollutant source and allow for attainment of the applicable WLAs consistent with the Toxic and Metal pollutant TMDLs identified in Table IV.2 of Attachment IV.

In Section III.C.1, the options for controlling sediment-bound toxics and metals are essentially the same. The types of BMPs expected to be implemented to address fine sediment discharges under C.1 are those expected to be implemented to address sediment discharges for the sediment TMDLs discussed above.

Section III.C.2 explains that Dissolved Fraction Metals levels in storm water are reduced when contaminated sediment is removed or mitigated, but additional structural and non-structural BMPs may still be necessary to achieve compliance. In some cases, this may require building or instituting BMPs in addition to those used for metals in fine sediments for the same discharge points. Structural BMPS might include Infiltration or detention basins/trenches, filtration using metal-absorbing media, etc.

Section III.C.3. Water Effects Ratio (WER) explains that the Department is encouraged to submit any required WER studies to the State Water Board by June 30, 2018. WER studies are encouraged to allow the discharger a relaxation of load requirements and less stringent limits and lower life-time cost to better assure compliance.

Section III.C.4. Pesticides. The Department is to comply with the Vegetation Control provision that specifies practices for the safe handling and use of pesticides, including compliance with federal, state and local regulations, and label directions.

SAN FRANCISCO BAY REGION TOXIC TMDLS

San Francisco Bay PCBs TMDL, March 29, 2010
The TMDL identifies storm water runoff as a major source for PCB transport and includes the Department roadways, non-roadway facilities, and rights-of-way.

Final PCBs WLA
The total WLA for all storm water runoff sources is 2 kg/yr.

Final PCBs WLA Specific to the Department
All storm water runoff sources share a 2 kg/yr WLA.

Final PCBs Deadlines
The WLA of 2kg/yr is broken up by county and is to be achieved within 20 years or March 29, 2030.

Department's PCBs Contribution (relative contribution to pollutant loading**)**
The TMDL also directs the storm water sources to implement this TMDL through the applicable NPDES permits.

***San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity,* May 16, 2007**

Final Pesticide Toxicity WLA
The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The WLA for each storm water entity is $1TUC_a$ (TUC_a = 100/No Observed Adverse Effect Concentration) and $1TUC_c$ (TUC_c = 100/No Observed Effect Concentration) in water and sediment.

Final Pesticide Toxicity WLA Specific to the Department
The Department's level of responsibility is not identified.

Final Pesticide Toxicity Deadlines
The TMDL specifies that all NPDES permits for runoff management agencies, including the Department, require implementation of best management practices and control measures that reduce pesticides in urban runoff to the maximum extent practicable. No final compliance date is specified, however, the Regional Water Board may require additional control measures if the Department fails to meet the TMDL targets

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pesticide toxicity pollutant loading is not known.

LOS ANGELES REGION METALS AND TOXICITY TMDLS

Ballona Creek Metals & Selenium TMDL, December 22, 2005 and reaffirmed on December 29, 2008
The TMDL identifies storm water as a significant contributor to loadings of copper, *lead and zinc (and selenium) to Ballona Creek and Sepulveda Canyon Channel in both dry weather and wet weather.*

Final Metals WLA
Storm water allocations are divided among the MS4 and general permits named in the TMDL based on an areal weighting approach.

Final Metals WLA Specific to the Department
The Department is assigned separate dry-weather and wet-weather Waste Load Allocations (WLAs). Dry-weather conditions apply to days when the maximum daily flow in Ballona Creek is less than 40 cubic feet per second (cfs), and wet-weather conditions apply to days when the maximum daily flow in Ballona Creek is equal to or greater than 40 cfs. Both dry-weather and wet-weather WLAs are mass-based, although alternate concentration-based dry-weather WLAs are allowed due to the expense of obtaining accurate flow measurements.

Dry-weather WLAs g/day, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
Ballona Creek	11.2	6.0	143.1
Sepulveda Channel	5.1	2.7	64.7

Wet-weather WLAs, g/day, Total Recoverable Metal; V is daily flow volume in liters:

Waterbody	Copper	Lead	Zinc
All	$2.37 * V * 10^{-7}$	$7.78 * V * 10^{-7}$	$1.57 * V * 10^{-6}$

Alternate dry-weather WLAs, µg/L, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
All	24	13	304

Final Metals Deadlines
The Department is responsible for meeting its assigned mass-based WLAs, but has the option to work with the other MS4 permittees. Each municipality and permittee is required to meet the storm water waste load allocation at designated TMDL effectiveness monitoring points. The MS4 permittees including the Department may use a combination of structural and non-structural BMPs to achieve compliance with the storm water WLAs. Total compliance is to be achieved by January 11th, 2021.

Department's Metals Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to metals pollutant loading is not known.

***Ballona Creek Estuary Toxic Pollutants TMDL*, December 22, 2005**

Final OC-Compounds & PAHs WLA
The storm water WLAs are apportioned between the MS4 permittees, the Department, the general construction, and the general industrial storm water permits based on an areal weighting approach.

Final WLA Specific to the Department
The Department is assigned the following WLAs based on the 1.3% land area associate with the Department:

Total Chlordane (g/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)	Total PAHs (g/yr)
0.05	0.15	2	400

Final OC-Compounds & PAHs WLA Deadlines
The implementation schedule for the MS4 and the Department permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed with total compliance to be achieved within 15 years of the TMDL effective date or January 11, 2020.

Department's OC-Compounds & PAHs WLA Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the pollutant loading is unknown.

Calleguas Creek OC Pesticides, PCBs, and Siltation TMDL, March 14, 2006

Final OC Pesticides & PCBs WLA
In accordance with current USEPA practice, a group concentration-based WLA has been developed for MS4s, including the Department MS4. The grouped allocation

will apply to all NPDES-regulated municipal storm water discharges in the Calleguas Creek Watershed. Storm water WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and are expected to be achieved through the implementation of BMPs as outlined in the implementation plan.

Interim WLAs as an In-stream Annual Average (ng/g)

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total Chlordane	25.0	17.0	48.0	3.3	3.3	3.4
4,4-DDD	69.0	66.0	400.0	290.0	14.0	5.3
4,4-DDE	300.0	470.0	1,600.0	950.0	170.0	20.0
4,4-DDT	39.0	110.0	690.0	670.0	25.0	2.0
Dieldrin	19.0	3.0	5.7	1.1	1.1	3.0
Total PCBs	180.0	3,800.0	7,600.0	25,700.0	25,700.0	3,800.0
Toxaphene	22,900.0	260.0	790.0	230.0	230.0	260.0

Final WLAs as an In-stream Annual Average

Pollutant	Mugu Lagoon (ng/g)	Calleguas Creek (ng/g)	Revolon Slough (ng/g)	Arroyo Las Posas (ng/g)	Arroyo Simi (ng/g)	Conejo Creek (ng/g)
Total Chlordane	3.3	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0	2.0
4,4-DDE	2.2	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3	0.3
Dieldrin	4.3	0.2	0.1	0.2	0.2	0.2
Total PCBs	180.0	120.0	130.0	120.0	120.0	120.0
Toxaphene	360.0	0.6	1.0	0.6	0.6	0.6

Final OC Pesticides & PCBs WLA Specific to the Department

See Tables above

Final OC Pesticides & PCBs Deadlines

The above Final WLAs (ng/g) as an in-stream annual average are to be achieved by March 24, 2026, but the schedule and allocations can be altered based on the results of several special studies required in the TMDL implementation place

Department's OC Pesticides & PCBs Contribution (relative contribution to pollutant loading**)**
The Departments relative pesticide and PCB contribution is not known.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Final Metals WLAs

Urban storm water runoff was identified as a source for metals pollution in the TMDL. The Department shares group WLAs for nickel, copper and selenium with other Permitted Storm water Dischargers (PSDs). Concentration-based interim limits for nickel, copper and selenium are effective from the date of the TMDL for all PSDs. Final WLAs are mass-based. There are final WLAs for both dry-weather and wet-weather conditions. The dry-weather WLAs apply to days when flows in the stream are less than the 86th percentile flow rate for each reach. The wet-weather WLAs apply to days when flows in the stream exceed the 86th percentile flow rate for each reach. Dry weather limits are based on chronic California Toxics Rule (CTR) criteria. Wet weather limits are based on acute CTR criteria.

Interim Concentration-based Wet and Dry Weather Limits

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L
Copper	23	19	204	23	19	204
Nickel	15	13	*	15	13	*
* The current loads do not exceed the TMDL under wet conditions: interim limits not required						

Final Mass-based Dry-weather WLAs, lbs/day, Total Recoverable Metal in Water Column

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Low	Average	Elevated	Low	Average	Elevated
Copper (lbs/day)	0.04 * WER – 0.02	0.12 * WER – 0.02	0.18 * WER – 0.03	0.03 * WER – 0.01	0.06 * WER – 0.03	0.13 * WER – 0.02
Nickel (lbs/day)	0.100	0.120	0.440	0.050	0.069	0.116

Final Mass-based Wet-weather WLAs, lbs/day, total recoverable metal in water column

Metal	Calleguas Creek	Revolon Slough
Copper (lbs/day)	(0.00054*Q^2*0.032*Q -0.17)*WER – 0.06	(0.0002*Q^2 +0.0005*Q)*WER
Nickel (lbs/day)	0.014*Q^2 + 0.82*Q	0.027*Q^2 + 0.47*Q

A WER is applied to final numeric targets for copper for the Mugu Lagoon, Calleguas Creek 2, and Revolon/Beardsley reaches; the WER defaults to a value of 1 unless a site-specific study is approved. The mass-based WLAs apply to the Permitted Storm water Dischargers as a group, and the Department has no specific proportional WLA.

Final Metals WLA Specific to the Department
The WLAs above apply to all permitted storm water dischargers, including the Department. The Department has no specific final WLAs.

Final Metals Deadlines
All PSDs have required interim reductions of 25% and 50% by March 26th, 2012 and March 26th, 2017, respectively. The final WLAs must be achieved within 15 years after the effective date of the amendment (March 26th, 2022). Implementation shall be achieved through BMPs; the Department was originally tasked with submitting an Urban Water Quality Control Plan by March 26th, 2012. Implementation is meant to be achieved using BMPs; the Department was required to conduct a source control study and submit an Urban Water Quality Management Program for copper, nickel, selenium and mercury by March 26th, 2009.

Department's Metals Contribution (relative contribution to pollutant loading**)**
The Department's contribution to the metal loads is unknown.

Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs and Metals TMDL, June 14, 2011
The TMDL identifies the point sources of OC pesticides, PCBs, PAHs, and metals discharged to Colorado Lagoon are urban runoff and storm water discharges from the MS4 and the Department. The Colorado Lagoon watershed is divided into five sub-basins that discharge storm water and urban dry weather runoff to Colorado Lagoon. Each of the sub-basins is served by a major storm sewer trunk line and supporting appurtenances that collect and transport storm water and urban dry weather runoff to Colorado Lagoon.

Final WLAS for OC Pesticides, PCBs, and PAHs
The Department and the City of Long Beach shall each be responsible for achieving the following final mass-based WLAs assigned to the Line I Storm Drain as it conveys storm water from both the Department' facilities and the City of Long Beach:

Final Mass-based WLA for MS4 Discharges

Total Chlordane	Dieldrin (mg/yr)	Total PAHs (mg/yr)	Total PCBs (mg/yr)	Total DDTs (mg/yr)
3.65	0.15	29,321.50	165.49	11.52

In addition, concentration-based WLAs for sediment are assigned to MS4 permittees including the City of Long Beach, LACFCD, and the Department. Concentration-based WLAs for sediment are applied as average monthly limits. Compliance with the concentration-based WLAs for sediment shall be determined by pollutant concentrations in the sediment in the lagoon at points in the West Arm, North Arm, and Central Arm that represent the cumulative inputs from the MS4 drainage system to the lagoon. Concentration-based interim WLAs for sediment are set to allow time for removal of contaminated sediment through proposed implementation actions. Interim WLAs are based on the 95th percentile value of sediment data collected from 200-2008. The following interim and final WLAs will be included in MS4 permits in accordance with NPDES guidance and requirements:

Concentration-based WLAs

Pollutants	Interim WLAs (µg/dry kg)	Final WLAs (µg/dry kg)
Total Chlordane	129.65	0.50
Dieldrin	26.20	0.02
Total PAHs	4,022	4,022
Total PCBs	89.90	22.7
Total DDTs	149.80	1.58

Final WLAs for Metals

The Department is jointly responsible with the City of Long Beach in attaining final mass-based WLAs for lead and zinc in sediment and storm water conveyed to Colorado Lagoon via the Line I Storm Drain. In addition, concentration-based interim limits are established for all storm water dischargers, including the Department.

Interim Concentration-based WLAs for Metals in Sediment

Metal	Average Monthly Sediment	
	Interim WLA (µg/kg)	Final WLA (µg/kg)
Lead	399,500	46,700
Zinc	565,000	150,000

Final Mass-based WLAs for Metals in Line I Storm Drain

Metal	mg/yr
Lead	340,455.99
Zinc	1,093,541.72
Proposed BMPs that may apply to the Line I Storm Drain include: Low-flow diversion, trash separation devices, vegetated bioswales, cleaning of existing culverts, or direct removal of accumulated sediment	

Final OC Pesticides, PCBs & PAHs WLA Specific to the Department
See tables above

Final OC Pesticides, PCBs & PAHs Deadlines
The Department is subject to the prescribed point source interim WLAs which are effective as of July 28, 2011. Compliance with all final WLAs is required by July 28, 2018.

The Department's OC Pesticides, PCBs & PAHs Contribution (*relative contribution to pollutant loading****)***
The Department's relative contribution to the OC Pesticides, PCBs, and PAHs pollutant loading is not known.

Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL, March 23, 2012
The toxic pollutants included in this TMDL include Copper, lead, zinc, DDT, PAHs, and PCBs.

Final WLAs for OC Pesticides PCBs, and PAHs
Interim and final WLA are assigned to storm water discharges including those from the Department's MS4. Dominguez Channel freshwater allocations are set for wet weather only because exceedances have only been observed in wet weather. Mass-based allocations have been set where sufficient data was available to calculate mass-based allocations; otherwise, concentration-based allocations have been set. Interim and final WLAs shall be included in permits in accordance with state and federal regulations and guidance.

An interim freshwater toxicity allocation of 2 chronic toxicity units (TUc) applies to all point sources to Dominguez Channel during wet weather including the Department. A final freshwater toxicity allocation of 1 TUc applies to all point sources to Dominguez Channel during wet weather including the Department.

Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006. The final mass-based allocations for PAHs expressed as an annual loading (kg/yr) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The final mass-based allocations for Total DDT and Total PCBs, expressed annual loading (g/yr) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters.

OC Pesticides PCBs, and PAHs Interim and Final WLAs

Interim Concentration-Based Sediment Allocations			
	Total PAHs (mg/kg)	Total DDTs (mg/kg)	Total PCBs (mg/kg)
Dominguez Channel Estuary	31.60	1.727	1.490
Long Beach Inner Harbor	4.58	0.070	0.060
Los Angeles Inner Harbor	90.30	0.341	2.107
Long Beach Outer Harbor	4,022	0.075	0.248
Los Angeles Outer Harbor	4,022	0.097	0.310
Los Angeles River Estuary	4.36	0.254	0.683
San Pedro Bay	4,022	0.057	0.193
Cabrillo Marina	36.12	0.186	0.199
Consolidated Slop	386.00	1.724	1.920
Cabrillo Beach Area	4,022	0.145	0.033
Fish Harbor	2102.7	40.5	36.6

Final Mass-Based Sediment Allocations for the Department			
	Total PAHs (kg/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)
Dominguez Channel Estuary	0.0023	0.004	0.004
Consolidated Slip	0.00009	0.00014	0.00006
Inner Harbor	0.0017	0.0010	0.0011
Outer Harbor	0.00021	0.000010	0.00004
Fish Harbor	0.000021	0.0000010	0.000006
Cabrillo Marina	0.0000016	0.00000028	0.00000024
Inner Cabrillo Beach	N/A	0.0001	0.0003
San Pedro Bay	0.077	0.002	0.019
LA River Estuary	0.333	0.014	0.047

Final Concentration-based Sediment WLAs for Other Bioaccumulative Compounds (dry sediment)		
Total Chlordane (µg/kg)	Dieldrin (µg/kg)	Toxaphene (µg/kg)
0.5	0.02	0.10

Final OC Pesticides PCBs, and PAHs WLAs for Metals

Interim and final WLAs for copper, lead and zinc are assigned to storm water discharges including those from the Department's MS4. Freshwater allocations for Dominguez Channel are set for wet weather only because exceedances have only been observed in wet weather. Wet weather conditions in Dominguez Channel and

all of its upstream tributaries apply to any day when the maximum daily flow is greater than 62.7 cfs at any point in Dominguez Channel. Mass-based allocations have been set where sufficient data were available to calculate mass-based allocations; otherwise, WLAs are concentration-based.
Interim allocations for Dominguez Channel and Torrance Lateral are assigned to storm water dischargers, including the Department, and are based on the 95th percentile of total metals data collected from January 2006 to January 2010 using a log-normal distribution. Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006.

Interim Concentration-Based WLAs for Dominguez Channel and Torrance Lateral

Total Copper (µg/L)	**Total Lead** (µg/L)	**Total Zinc** (µg/L)
207.51	122.88	898.87

Interim Concentration-Based Sediment Allocations (mg/kg sediment)

Waterbody	**Copper** (mg/kg)	**Lead** (mg/kg)	**Zinc** (mg/kg)
Dominguez Channel Estuary	220.0	510.0	789.0
Long Beach Inner Harbor	142.3	50.4	240.6
Los Angeles Inner Harbor	154.1	145.5	362.0
Long Beach Outer Harbor	67.3	46.7	150
Los Angeles Outer Harbor	104.1	46.7	150
Los Angeles River Estuary	53.0	46.7	183.5
San Pedro Bay	76.9	66.6	263.1
Cabrillo Marina	367.6	72.6	281.8
Consolidated Slip	1470.0	1100.0	1705.0
Cabrillo Beach Area	129.7	46.7	163.1
Fish Harbor	558.6	116.5	430.5

Wet-weather freshwater metals allocations are assigned to Dominguez Channel and all of its upstream reaches and tributaries above Vermont Avenue. Mass-based (g/day) WLAs are divided between the Department and other MS4 permittees by subtracting the other storm water or NPDES WLAs, air deposition and margin of safety from the total loading capacity. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates for Dominguez Channel (62.7 cfs).

Final Caltrans mass-based water WLAs for Dominguez Channel

Total Copper	**Total Lead**	**Total Zinc**
32.3 *(g/day)*	142.6 *(g/day)*	232.6 *(g/day)*

For the Torrance Lateral subwatershed, concentration-based freshwater WLAs for both water and sediment are assigned to all dischargers, including the Department.

Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates.

Final Caltrans concentration-based WLAs for Torrance Lateral

Media (units)	Total Copper	Total Lead	Total Zinc
Water (µg/L, unfiltered)	9.7	42.7	69.7
Sediment (mg/kg, dry)	31.6	35.8	121

The final mass-based allocations for metals are expressed as an annual loading (kg/yr) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The Interim and Final WLAs are:

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Dominguez Channel Estuary	0.384	0.93	4.7
Consolidated Slip	0.043	0.058	0.5
Inner Harbor	0.032	0.641	2.18
Outer Harbor	0.0018	0.052	0.162
Fish Harbor	0.0000005	0.00175	0.0053
Cabrillo Marina	0.00019	0.0028	0.007
San Pedro Bay	0.88	2.39	9.29
LA River Estuary	5.1	9.5	34.8

In addition to the above, Fish Harbor is impaired for mercury in sediments, Consolidated Slip is impaired for mercury, cadmium and chromium in sediments and Dominguez Channel Estuary is impaired for cadmium in sediments. These waterbodies are assigned no interim WLAs but are assigned final concentration-based WLAs. The Department is NOT named as a responsible party for WLAs to Consolidated Slip.

Final concentration-based sediment WLAs for other metals, dry sediment

Reach	Cadmium mg/kg	Chromium mg/kg	Mercury mg/kg
Dominguez Channel Estuary	1.2	-	-
Fish Harbor	-	-	0.15
Note: The Department is NOT specifically named as a responsible party for implementation actions to Dominguez Channel proper in the 1st Phase of implementation to reduce the amount of sediment transport from point sources that directly or indirectly discharge to the Dominguez Channel and the Harbor waters, even though it has specific WLAs.			

Final Toxic Pollutant WLA Specific to the Department

See tables above

Final Toxic Pollutant Deadlines
The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Toxic Pollutant Contribution (relative contribution to pollutant *loading***)**
The Department's relative contribution to the toxic pollutant loading is not known.

Los Angeles Area Lakes for Organochlorine Pesticides and PCBs
To assess compliance with the organochlorine (OC) compounds TMDLs, monitoring should include monitoring of fish tissue at least every three years as well as once yearly sediment and water column sampling. For the OC pesticides and PCBs TMDLs a demonstration that fish tissue targets have been met in any given year must at minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350mm in length. At a minimum, compliance monitoring should measure the following in-lake water quality parameters: total suspended sediments, total PCBs, total chlordane, dieldrin, and total DDTs; as well as the following in-lake sediment parameters: total organic carbon, total PCBs, total chlordane, dieldrin, and total DDTs. WLAs are assigned to storm water inputs. These sources should be measured near the point where they enter the lakes once a year during a wet weather event. Sampling should be designed to collect sufficient volumes of suspended solids to allow for the analysis of at minimum: total organic carbon, total suspended solids, total PCBs, total chlordane, dieldrin, and total DDTs. Measurements of the temperature, dissolved oxygen, pH and electrical conductivity should also be taken.

USEPA established TMDLs do not include an implementation plans so all WLAs are considered in effect as of the approval date.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, and Trash TMDLs, USEPA Established on March 26, 2012
The entire watershed of Echo Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department's areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, and Dieldrin and each have specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs one of which relies on the meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final WLAs

PCBs WLA

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (µg/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.77	0.17
Southern	Department	State Highway Storm water	1.77	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	2.10	0.59
Southern	Department	State Highway Storm water	2.10	0.59

If Fish Tissue Targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.59
Southern	Department	State Highway Storm water	3.24	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.80	0.14
Southern	Department	State Highway Storm water	0.80	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department
See tables above.

Final OC Compounds Deadlines
USEPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the OC Pesticide pollutant loading is unknown.

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash

Final OC Compounds WLA
The entire watershed of Peck Road Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each have specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs one of which relies on the meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final OC Compounds WLA Specific to the Department

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.29	0.17
Western	Department	State Highway Storm water	1.29	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	59.8	0.17
Western	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.73	0.59
Western	Department	State Highway Storm water	1.73	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	3.24	0.59
Western	Department	State Highway Storm water	3.24	0.59

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	5.28	0.59
Western	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	0.43	0.14
Western	Department	State Highway Storm water	0.43	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.90	0.14
Western	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department
See tables above.

Final OC Compounds Deadlines
USEPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, USEPA Established on March 26, 2012

Final OC Compounds WLA
In the Puddingstone Reservoir watershed, WLAs are required for all permittees in the northern subwatershed and the Department's areas in the southern subwatershed. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each have specific WLAs for the Department which are detailed below.

Final OC Compounds WLA Specific to the Department
The TMDLs have two sets of WLAs one of which relies on the meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Total PCBs TMDL

Subwatershed	**Responsible Jurisdiction**	**Input**	**Suspended Sediment WLAs (ug/kg dry weight)**	**Water Column WLAs (ng/L)**
Northern	Department	State Highway Storm water	0.59	0.17
Southern	Department	State Highway Storm water	0.59	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	**Responsible Jurisdiction**	**Input**	**Suspended Sediment WLAs (ug/kg dry weight)**	**Water Column WLAs (ng/L)**
Northern	Department	State Highway Storm water	0.75	0.57
Southern	Department	State Highway Storm water	0.75	0.57

If the Fish Tissue targets are met:

Subwatershed	**Responsible Jurisdiction**	**Input**	**Suspended Sediment WLAs (ug/kg dry weight)**	**Water Column WLAs (ng/L)**
Northern	Department	State Highway Storm water	3.24	0.57
Southern	Department	State Highway Storm water	3.24	0.57

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.94	0.59
Southern	Department	State Highway Storm water	3.94	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	5.98	0.59
Southern	Department	State Highway Storm water	5.98	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.22	0.14
Southern	Department	State Highway Storm water	0.22	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department
See tables above.

Final OC Compounds Deadlines
USEPA did not establish deadlines.

Department's OC Compounds *Contribution* *(relative contribution to pollutant loading)*

The Department's relative contribution to pollutant loading is not known.

Los Angeles River Watershed Metals TMDL, September 6, 2007

Final Metals WLA

This TMDL includes wet-weather and dry-weather WLAs for copper, lead, and zinc. Wet-weather conditions are when the maximum daily flow of the LA River is greater than or equal to 500 cfs. Dry-weather conditions are where maximum daily flow is less than 500 cfs; critical flows are also listed for each of the reaches in this TMDL.

Final Metals WLA Specific to the Department

For dry-weather conditions, the Department is assigned grouped WLAs with other MS4 permittees.

WERs are explicitly included in these WLAs, but default to a value of 1 (unit less) unless site-specific values are approved by the Regional Water Board. Concentration-based limits are also allowed for dry weather due to the expense of obtaining accurate flow measurements; in this case, the concentration-based limits are equal to dry-weather reach-specific dry-weather numeric targets.

Final Mass-based Dry-weather WLAs for Storm water and MS4s, Total Recoverable Metals

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 6	7.20	0.53 x WER	0.33 x WER	-
LAR 5	0.75	0.05 x WER	0.03 x WER	-
LAR 4	5.13	0.32 x WER	0.12 x WER	-
LAR 3	4.84	0.06 x WER	0.03 x WER	-
LAR 2	3.86	0.13 x WER	0.07 x WER	-
LAR 1	2.58	0.14 x WER	0.07 x WER	-
Bell Creek	0.79	0.06 x WER	0.04 x WER	-
Tujunga Wash	0.03	0.001x WER	0.0002xWER	-
Burbank Channel	3.3	0.15 x WER	0.07 x WER	-
Verdugo Wash	3.3	0.18 x WER	0.10 x WER	-
Arroyo Seco	0.25	0.01 x WER	0.01 x WER	-
Rio Hondo Reach 1	0.50	0.01 x WER	0.006 x WER	0.16 x WER
Compton Creek	0.90	0.04 x WER	0.02 x WER	-
Note: All WERs are equal to 1 (unit less)				

Final Concentration-based reach-specific numeric targets, total recoverable metals

Waterbody	Copper (µg/L)	Lead (µg/L)	Zinc (µg/L)
LA River Reach 6	WER[1] * 30	WER[1] * 19	-
LA River Reach 5	WER[1] * 30	WER[1] * 19	-
LA River Reach 4	WER[2] * 26	WER[1] * 10	-
LA River Reach 3 above LA-Glendale WRP	WER[2] * 23	WER[1] * 12	-
LA River Reach 3 below LA-Glendale WRP	WER[2] * 26	WER[1] * 12	-
LA River Reach 2	WER[2] * 22	WER[1] * 11	-
LA River Reach 1	WER[2] * 23	WER[1] * 12	-
Bell Creek	WER[1] * 30	WER[1] * 19	-
Burbank Western Channel (above WRP)	WER[2] * 26	WER[1] * 14	-
Burbank Western Channel (below WRP)	WER[2] * 19	WER[1] * 9.1	-
Verdugo Wash	WER[2] * 23	WER[1] * 12	-
Compton Creek	WER[1] * 19	WER[1] * 8.9	-
Arroyo Seco	WER[2] * 22	WER[1] * 11	-
Rio Hondo Reach 1	WER[1] * 13	WER[1] * 5.0	WER[1] * 131
Monrovia Canyon	-	WER[1] * 8.2	-

Note:
[1] WER is equal to 1 (unit less)
[2] WER for this constituent in this reach is 3.96

Wet-weather allocations are apportioned among storm water permit holders based on percent area of the watershed served by storm drains.

Final Mass-based wet-weather WLAs, Total Recoverable Metals

Metal	Waste Load Allocation (kg/day) Total Recoverable
Cadmium	WER * 5.3 * 10^{-11} * daily volume (L) – 0.03
Copper	WER * 2.9 *10^{-10} * daily volume (L) – 0.2
Lead	WER * 1.06 * 10^{-09} * daily volume (L) – 0.07
Zinc	WER * 2.7 * 10^{-09} * daily volume (L) – 1.6

Final Metals Deadlines

By January 11th, 2024, the jurisdictional group shall demonstrate that 100% of the group's total drainage area served by the storm drain system is effectively meeting the dry-weather WLAs and 50% of the group's total drainage area served by the storm drain system is effectively meeting the wet-weather WLAs. By January 11th, 2028, the jurisdictional group shall demonstrate that 100% of the group's total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs.

MS4s and the Department may meet the TMDL using a phased implementation approach using a combination of structural and non-structural BMPs.

Department's Metals Contribution (relative contribution to pollutant loading)
Unknown

Los Cerritos Channel Metals TMDL, March 17, 2010

Final Metals WLA

This TMDL assigns the Department wet-weather WLAs for copper, lead and zinc and a dry-weather WLA for copper only. Wet weather is defined as where the maximum daily flow of Los Cerritos Channel is greater than 23 cfs, and dry weather is where the maximum daily flow of the Channel is less than 23 cfs. For dry-weather copper targets, a site-specific translator was used, defined as the median value of the ratio of direct measurements to CTR criteria. Only the Department and other MS4s have a mass-based WLA for copper for dry weather, and this is divided among permittees based on estimates of respective percentage of total watershed area.

Final mass-based wet-weather WLAs are divided among the Department, other MS4 permittees, General Construction permittees and General Industrial permittees based on an estimate of the percentage of land area covered under each permit. The Department's estimated percent area of the watershed is 0.8%.

Final Metals WLA Specific to the Department

Copper Dry-weather WLA, Total Recoverable Metal	
Copper	1.0 g/day

Metals Wet-weather WLAs, Total Recoverable Metal (V is daily flow volume in liters)		
Copper g/day	**Lead** g/day	**Zinc** g/day
$0.070 * V * 10^{-6}$	$0.397 * V * 10^{-6}$	$0.680 * V * 10^{-6}$

Final Metals Deadlines

USEPA did **not** include implementation measures for the TMDL, and as such implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures for this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department's Metals Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the metals pollutant loading is not known.

Machado Lake Pesticides and PCBs TMDL, March 20, 2012

The point sources of pesticides and PCBs into Machado Lake are storm water and urban runoff discharges including those from the Department's MS4. Storm water and urban runoff dischargers to Machado Lake occur through the following sub-drainage systems: Wilmington Drain, Project 77 and Project 510.

Final Pesticides and PCBs WLA

The following WLAs apply to all point sources:

Pollutants	**WLAs** (ug/kg dry weight)
Total PCBs	59.8
DDT (all congeners)	4.16
DDE (all congeners)	3.16
DDD (all congeners)	4.88
Total DDT	5.28
Total Chlordane	3.24
Dieldrin	1.9

Final Pesticides and PCBs WLA Specific to the Department

See table above

Final Pesticides and PCBs Deadlines

The TMDL WLAs are applied with a 3-year averaging period and shall be incorporated into MS4 permits, including the Department's MS4 permit, and general construction and industrial storm water NPDES permits and any other non-storm water NPDES permits. Storm water dischargers may coordinate compliance with the TMDL. Permitted storm water dischargers can implement a variety of implementation strategies to meet the required WLAs, such as non-structural and structural BMPs, and/or diversion and treatment to reduce sediment transport from the watershed to the lake. Compliance with the TMDL may be based on a coordinated Monitoring and Reporting Program. The Department is subject to the prescribed point source WLAs with a final compliance date of September 30, 2019.

Department's Pesticides and PCBs Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Marina Del Rey Harbor Toxics Pollutants TMDL, March 26, 2006

Final Toxic Pollutant WLAs

The Department is assigned mass-based WLAs for copper, lead and zinc along with other storm water permittees in the watershed. The Copper, Lead, and Zinc WLAs are apportioned between the permittees based on an estimate of the percentage of land area covered under each permit.

Total Mass-based Storm Water Metal WLAs:

Copper (kg/yr)	Lead (kg/yr)	Zinc (kg/year)
2.06	2.83	9.11

Total Mass-based Storm Water Organics WLAs:

Total Chlordane (g/yr)	Total PCBs (g/yr)
0.03	1.38

Final Toxic Pollutants WLAs Specific to Caltrans

Mass-based Metals WLAs for Caltrans

Copper (kg/yr)	Lead (kg/yr)	Zinc (kg/year)
0.022	0.03	0.096

Mass-based Organics WLAs for Caltrans:

Total Chlordane (g/yr)	Total PCBs (g/yr)
0.0003	0.015

Final Toxic Pollutant Deadlines

The implementation schedule for the MS4 permittees and the Department consists of a phased approach. A combination of non-structural and structural BMPs may be used to achieve compliance with the WLAs, with compliance to be achieved in prescribed percentages of the watershed. Total compliance is to be achieved within 10 years or March 22, 2016. However, the Regional Board may extend the implementation period up to 15 years or March 22, 2021, if an integrated water resources approach is employed.

Department Toxic Pollutant Contribution (relative contribution to pollutant loading)
The Department is assigned approximately 1% of the WLA for each pollutant, based on an estimate of area within the watershed.

San Gabriel River Metals & Selenium TMDL, USEPA Established on March 26, 2007

Final Metals WLA

The Department is assigned WLAs for dry-weather and wet-weather for copper, lead and zinc (as well as selenium). For San Gabriel River Reach 2, the critical flow for wet weather is 260 cfs; for Coyote Creek, the critical flow is 156 cfs. The combined storm water WLA is allocated to individual permits based on percent area of the developed portion of the watershed.

For dry-weather copper, all MS4 storm water permittees, including the Department, are assigned concentration-based WLAs specific to San Gabriel River Reach 1, Coyote Creek, and the San Gabriel River Estuary.

Dry-weather Concentration-Based Copper WLAs for Storm water Permittees

Waterbody	**Concentration-based WLA** (µg/L)
Estuary	3.7
San Gabriel Reach 1	18
Coyote Creek	20

The TMDL establishes wet-weather WLAs to San Gabriel River Reach 2 for lead, and the Department is part of a grouped mass-based WLA. For Coyote Creek, mass-based WLAs are applied to copper, lead, and zinc. These WLAs are further divided among municipal storm water, industrial storm water, and construction storm water permits that are expressed as an area-based proportion of the total WLA. The Department and other MS4s share WLAs because there is not enough data on the relative reach-specific extent of these permittees' areas. The mass-based WLAs for the grouped Department's and MS4s are defined as the daily storm volume times the numeric target of the metal for the waterbody times the estimated percentage of watershed covered by these permits.

WLAs for San Gabriel River Reach 2, Coyote Creek and to all of their respective Tributaries

Reach	**Copper** (kg/day)	**Lead** (kg/day)	**Zinc** (kg/day)
San Gabriel Reach 2	--	Daily storm vol * 166 µg/L * 49%	--
Coyote Creek	Daily storm vol * 27 µg/L * 91.5%	Daily storm vol * 106 µg/L * 91.5%	Daily storm vol * 158 µg/L * 91.5%

Final Metals WLA Specific to the Department

No specific WLAs

Final Metals Deadlines
USEPA did not include implementation measures for the TMDL, and implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures or this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department's Metals Contribution (relative contribution to pollutant loading)
The Department's contribution to the metals loads is not known.

Santa Monica Bay PCBs and DDTs TMDLs, USEPA Established on March 26, 2012

Final PCBs and DDTs WLA
The grouped WLAs are apportioned to the Los Angeles County MS4 permit, the Department's MS4 permit, and enrollees under the general construction and industrial storm water permits. Mass-based WLAs are to be partitioned among the four groups based on the percent area of each major group in the watersheds draining to Santa Monica Bay. Permittees covered under the general construction and storm water permittees are not expected to perform individual sampling; instead monitoring should be conducted on a coordinated, watershed-wide base consistent with the WLAs in the TMDL. The establishment of watershed efforts to identify and address sources of DDTs and PCBs within the watersheds and reporting of the total storm water loadings of DDT and PCB to Santa Monica Bay is encouraged.

The analysis of DDT and PCBs on suspended particle loadings from the mass emission stations will provide more robust measures of mass loadings. If additional data indicates that existing storm water loadings differ from the storm water WLAs defined in the TMDL, the Los Angeles Regional Water Board should consider re-opening the TMDL to better reflect actual loadings.

BMPs and pollutant removal are the most suitable courses of action to reduce DDT and PCBs in the Santa Monica Bay Watershed. Attention should be focused on those watersheds with the highest potential loadings to Santa Monica Bay, such as those that are more heavily urbanized. BMPs should also be targeted to reduce potential PCB loads from industrial and construction runoff as studies have shown that these may be a major source of PCBs. USEPA also recommends implementation of a PCB Source Identification and Control program within storm water permits to evaluate and identify controllable sources of PCBs.

Final PCBs and DDT WLAs Specific to the Department

Final PCBs and DDTs WLAs

Total PCBs (g/yr)	Total DDTs (g/yr)
3.9	0.75

Final PCBs and DDTs Deadlines

USEPA recommends that storm water WLAs be evaluated based on a three year averaging period. This will provide more robust assessment for compliance and should smooth out variability due to wet years. This is consistent with timeframes provided for the Los Angeles Harbor/Long Beach TMDL.

Department's PCBs and DDTs Contribution (relative contribution to pollutant loading)

The footprint of the Department storm water permit (CAS000003) is 2.7% of the area within the Santa Monica Bay watersheds.

SANTA ANA REGION METALS/TOXICS/PESTICIDES TMDLS

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, USEPA Established on June 14, 2002

Final Chromium WLA

For Rhine Channel, the final Chromium WLA is 7.44 kg/yr in sediment.

Final Chromium WLA Specific to the Department

The final mass-based Chromium WLA for the Department is 0.89 kg/yr in sediment

Final Chromium Deadlines

The Santa Ana Regional Water Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed.

Department's Chromium Contribution (relative contribution to pollutant loading**)**

The Department's relative contribution to the Chromium loading is approximately 3% of the total, based on area.

San Diego Creek and Newport Bay, including Rhine Channel Metals (Copper and Zinc) TMDL, USEPA Established on June 14, 2002

Final Metals WLA

WLAs are established for cadmium, copper, lead and zinc in the San Diego Creek watershed, for cadmium, copper, lead and zinc in Newport Bay, and for cadmium, copper, lead, zinc and chromium (and mercury) in Rhine Channel. San Diego Creek is a fresh water stream, while Newport Bay and Rhine Channel are saltwater.

Final Metals WLA Specific to the Department

For San Diego Creek, the Department is assigned concentration-based WLAs for cadmium, copper, lead, and zinc. There are no wet-weather or dry-weather WLAs, but there are **four sets** of WLAs for each metal for four different flow tiers. All flow tiers have an acute and chronic WLA, except for the highest flow tier, which only has an acute WLA.

Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers, µg/L

Metal	< 20 cfs); H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cu	50	29.3	40	24.3	30.2	18.7	25.5
Pb	281	10.9	224	8.8	162	6.3	134
Zn	379	382	316	318	243	244	208
* Applies to Upper Newport Bay Only							

For Newport Bay, mass-based WLAs for cadmium, copper, lead and zinc were assigned to the Department. These WLAs were developed on estimates made using Best Professional Judgment because insufficient data were available to accurately estimate relative contributions to existing loads. The Department's share of the estimated loads is based on the relative proportion of watershed land area among the Department and adjacent permit-holders.

Final mass-based WLAs in Newport Bay, Dissolved Metals

Metal	Cu	Pb	Zn
Total	423 lbs/yr	2,171 lbs/yr	22,866 lbs/yr

Additional concentration-based limits apply only to sources which discharge directly to the Bay, including storm water dischargers from storm drains direction to Bay segments.

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cu	4.8	3.1
Pb	210	8.1

Zn	90	81
* Applies to Upper Newport Bay Only		

Final Metals Deadlines
USEPA did not include implementation measures for the TMDL.

Department's Metals Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the metals pollutant loading is not known.

San Diego Creek and Upper Newport Bay Cadmium TMDL, USEPA Established on June 14, 2002

Final Cadmium WLA
Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers

Metal	**< 20 cfs); H = 400 mg/L**		**21 – 181 cfs**		**182 - 815 cfs**		**> 815 cfs**
	Acute	**Chronic**	**Acute**	**Chronic**	**Acute**	**Chronic**	**Acute**
Cd (µg/L)	19.1	6.2	15.1	5.3	10.8	4.2	8.9
* Applies to Upper Newport Bay Only							

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	**Dissolved saltwater Acute TMDLs and allocations** (µg/L)	**Dissolved saltwater chronic TMDLs and allocations** (µg/L)
Cd	42	9.3
* Applies to Upper Newport Bay Only		

Final Cadmium WLA Specific to the Department
See Table above

Final Cadmium Deadlines
USEPA did not include implementation measures for the TMDL.

Department's Cadmium Contribution
The Department's relative contribution to the cadmium pollutant loading is not known.

San Diego Creek Watershed, Organochlorine Compounds and PCBs TMDLs, November 12, 2013

Final OC Compounds WLA

The Department is listed as a primary source of pollutant loads to the San Diego Creek watershed. The mass-based WLAs were expressed as both daily and annual values. Pollutants include Total DDT, Chlordane, Total PCBs and Toxaphene.

WLAs Expressed as a Daily Value (grams/day)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
San Diego Creek	Department (11%)	0.11	0.07	0.03	0.002

WLAs Expressed as a Annual Value (grams/year)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
San Diego Creek	Department (11%)	39.2	25.2	12.4	0.6

Final OC Compounds WLA Specific to the Department

See Tables above

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Department's facilities and roadways make up 11% of the land area and are assigned a proportion of the overall WLAs accordingly.

Upper & Lower Newport Bay Organochlorine Compounds TMDL, November 12, 2013

Final OC Compounds WLA

Upper Newport Bay and Lower Newport Bay OC Compounds WLAs

WLAs Expressed as a Daily Value (grams/day)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
Upper Newport Bay	Department (11%)	0.04	0.03	0.02	
Lower Newport Bay	Department (11%)	0.02	0.01	0.07	
WLAs Expressed as a Annual Value (grams/year)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
Upper Newport Bay	Department (11%)	15.8	9.2	9.1	
Lower Newport Bay	Department (11%)	5.8	3.4	23.9	

Final OC Compounds WLA Specific to the Department

See Tables above

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Caltrans facilities and roadways make up 11% of the land area and are assigned a proportion of the overall WLAs accordingly.

SAN DIEGO REGION METALS TMDL

Chollas Creek Dissolved Copper, Lead and Zinc TMDLs, December 18, 2008

Final Metals WLA
WLAs are concentration-based and set as the acute and chronic limits in the California Toxics Rule times 90% for all permitted dischargers, in units of µg/L, as dissolved metals. The final WLAs are based on statistical measures of hardness used in calculating permit requirements.

Final Concentration-based WLAs
Chollas Creek, Copper, Lead, and Zinc WLAs, Dissolved Metal

Metal	Numeric Target for Acute Conditions: Criteria Maximum Concentration, (µg/L)	Numeric Target for Chronic Conditions: Criteria Continuous Concentration, (µg/L)
Copper	(1) * (0.96) * {e^ [0.9422 * ln (hardness) - 1.700]} * 0.9	(1) * (0.96) * {e^[0.8545 * ln (hardness) - 1.702]} * 0.9
Lead	(1) * {1.46203 – [0.145712 * ln (hardness)]} * {e^ [1.273 * ln (hardness) - 1.460]} * 0.9	(1) * {1.46203 – [0.145712 * ln (hardness)]} * {e^[1.273 * ln (hardness) - 4.705]} * 0.9
Zinc	(1) * (0.978) * {e^ [0.8473 * ln (hardness) + 0.884]} * 0.9	(1) * (0.986) * {e^[0.8473 * ln (hardness) + 0.884]} * 0.9

Final Metals WLA Specific to the Department
There are no WLAs specific to the Department.

Final Metals Deadlines
The Department must fully attain the WLAs listed by December 18th, 2018.

Department's Contribution *(relative contribution to pollutant loading)*
The Department's contribution to the metal loads is not known.

D. Trash TMDL Pollutant Category

General Description of Pollutant Category
As discussed under the ten individual TMDLs below, the TMDLs in the trash pollutant category establish that the Department varies in the significance of a source of trash and debris. The scale of the Department as a source depends on the magnitude and location of the impacted water body and corresponding land uses. For the individual TMDLs, the Department is not the sole responsible party for source of trash and debris. Other point source responsible parties include Los Angeles County MS4 permittees, Ventura County MS4 permittees, and industrial permittees.

Since trash generation rates are dependent on land use, the requirements for the Department in Attachment IV Section III.D.1 focus on significant trash generating areas. These areas include: highway on- and off-ramps in high density residential, commercial and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments to be identified by the Department through pilot studies and/or surveys. The requirements in ATT-IV are expected to address the highest source of trash from the Department by focusing management practices on the highest problem areas.

Attachment IV Section III.D.1 establishes a prohibition of discharge of trash to receiving waters. All of the individual TMDLs set a numeric target of zero trash, since the receiving water body lacks an assimilative capacity for any piece of the trash. Attaining the numeric target is difficult due to the transport mechanisms of the trash, specifically for the Department whose users are temporary and transitory. Attachment IV Section III.D.2 sets forth two compliance options to achieve the prohibition of discharge. The compliance options focus on implementation of management practices, treatment controls, and institutional controls in the significant trash generating areas and the coordination with neighboring municipalities to implement treatment and institutional controls in significant trash generating areas and priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations).

Sources of Pollutant & How it Enters the Waterway

Trash and debris are the man-made products that are improperly discarded and transported to surface water bodies. Trash is considered a ‘gross pollutants’ and excludes sediments, oil and grease, and vegetation. Trash can include cigarette butts, paper, fast food containers, plastic grocery bags, cans and bottles, used diapers, construction site debris, industrial plastic pellets, old tires and appliances. Trash and debris cause impairments to beneficial uses of surface water bodies, including rivers, lakes, enclosed bays and estuaries, and ocean waters.

Watershed Contribution

Trash impacts aquatic habitat and life. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion or entanglement of trash. Ingestion and entanglement can be fatal for freshwater, estuarine, saline and marine aquatic life. Similarly, habitat alterations and degradations due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact several beneficial uses. The aquatic life beneficial uses that can be impacted by negative effects of trash include: Warm Freshwater Habitat (WARM); Cold Freshwater habitat (COLD); Inland Saline Water Habitat (SAL); Estuarine Habitat (EST); Marine Habitat (MAR); Wildlife Habitat (WILD); Preservation of Biological Habitats (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wetland Habitat (WET).

Trash impacts human activity by means of jeopardizing public health and safety and posing harm and hindrance in recreational, navigational, and commercial activities. The human beneficial uses impacted by trash and debris include: Navigation (NAV); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Aquaculture (AQUA); Shellfish Harvesting (SHELL); and Industrial Service Supply (IND).

Trash and debris, which is intentionally or accidentally discarded in watershed drainage areas, enter a water body through a transport mechanism. Transport mechanisms include the following:

1. Storm drains: trash is deposited throughout the watershed and is carried to a water body during and after significant rainstorms through storm drains.
2. Wind/wave action: trash can also blow into the waterways directly.
3. Direct disposal: direct dumping of trash to water body.

The amount and type of trash and debris that is washed into the storm drain system is generally a function of the surrounding land use. It is generally accepted that commercial, industrial, high density residential land use contribute larger loads of gross pollutants per area compared to low residential and open space and park land use areas.

Control Measures

Full capture system is a type of treatment control that is a device or series of devices that traps all particles that are 5 mm or greater and has a design treatment capacity that is not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area. For the Department, there are three types of full capture systems that fall under the category of Gross Solids Removal Devices (GSRDs). Gross Solids Removal Devices (GSRDs) were developed by Caltrans to be retrofitted into existing highway drainage systems or implemented in future highway drainage systems. GSRDs are structures that remove litter and solids 5 mm and larger from the storm water runoff using various screening technologies. Overflow devices are incorporated, and the usual design of the overflow release device is based upon the design storm for the roadway. Though designed to capture litter, the devices can also capture some of the vegetation debris. The devices shown below are generally limited to accept flows from pipes 30 inches in diameter and smaller.

The three types of potential GSRDs the Department could utilize are linear radial and two versions using an inclined screen. A linear radial device is relatively long and narrow, with flow entering one end and exiting the other end. It is suited for narrow and flat rights-of-way with limited space. It utilizes modular well screen casings with 5 mm louvers and is contained in a concrete vault, although it also could be attached to a headwall at a pipe outfall. While runoff flows enter into the screens, they pass radially through the louvers and trap litter in the casing. A smooth bottom to convey litter to the end of the screen sections is required, so a segment of the circumference

of each screen is uncovered. The louvered sections have access doors for cleaning by vacuum truck or other equipment. Under most placement conditions the goal would be to capture within the casing one year's volume of litter. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged.

Two Inclined Screen Devices have also been developed. Each device requires about 1-meter of hydraulic head and is better suited for fill sections. In the Type 1 device, the storm water runoff flows over the weir and falls through the inclined bar rack. The screen has 5-mm maximum spacing between the bars. Flow passes through the screen and exits via the discharge pipe. The trough distributes influent over the inclined screen. Storm water pushes captured litter toward the litter storage area. The gross solids storage area is sloped to drain to prevent standing water. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged. It has a goal of litter capture and storage for one year. The Type 2 Inclined Screen only comes in a sloped sidewall version.

Full capture devices and treatment controls are highly effective to capture and retain trash when properly maintained. However, there are locations that might be infeasible to install treatment controls. The Department may elect to employ institutional controls, which are non-structural best management practices that may include street sweeping and anti-litter education and outreach programs. Street sweeping minimizes trash loading to the river by removing trash from streets and curbs. Maintaining a regular street sweeping schedule reduces the buildup of trash on streets and prevents trash from entering catch basins and the storm drain system. Street sweeping can also improve the appearance of roadways. There are at least three types of street sweepers the Department may employ: 1) mechanical, 2) vacuum filter, and 3) regenerative air sweepers. Public education can be an effective implementation alternative to reduce the amount of trash entering water bodies. The public is often unaware that trash littered on the street ends up in receiving waters, much less the cost of abating it. The Department may elect to continue to participate in educational programs like 'Adopt-A-Highway' and 'Don't Trash California'.

As specified in Attachment IV Section III.D.3, the Department shall submit an annual status report of the selected treatment and institutional control measures implemented to comply with the prohibition of discharge of trash. In addition to the annual status report, the Department should conduct a pilot survey to further determine highway characteristics and sections that should be included in the category of significant trash generating areas. The pilot study will further assure compliance with the prohibition of discharge and reduction of trash to receiving water bodies from high trash generation areas from the Department's jurisdiction.

LOS ANGELES REGION TRASH TMDLS

Ballona Creek Trash TMDL, August 1, 2002 and February 8, 2005

Final WLA
The numeric target for this TMDL is zero trash in the water. Storm drains were identified as a major source of trash. WLAs were signed to permittees of the Los Angeles County MS4 permit and the Department.

Final WLA Specific to the Department
The Department is assigned the following baseline WLAs of trash.

Weight (lbs/mile^2)	**Volume** (ft^3/mile^2)
7479.36	66,566

Final Deadlines
The implementation schedule for the MS4 and the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100% reduction of trash from Baseline WLA, is to be achieved within twelve years from the effective date of the TMDL (September 30, 2015).

Department's Contribution (relative contribution to pollutant loading**)**
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 13%.

Legg Lake Trash TMDL, February 27, 2008

Final WLA
The numeric target for this TMDL is zero trash in Legg Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Legg Lake. WLAs were assigned to the permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following baseline WLAs assuming a trash generation rate of 6677 (gallons of uncompressed litter per mile^2 per year).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
0.09	586.92

Final Trash Deadlines
The implementation schedule for the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100% reduction of trash from Baseline WLA, is to be achieved within eight years from the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 7.9 percent.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA
The numeric target for this TMDL is zero trash in Echo Park Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

The Department is estimated to have the following baseline WLAs assuming a trash generation rate of 6,677 (gallons of uncompressed litter per mile^2 per year).

Point Source Area (mile^2)	**Current Point Source Trash Load** (gal/yr)
0.022	150

Final Trash WLA Specific to the Department
No WLAs were assigned to the Department

Final Trash Deadlines
There is no compliance and implementation schedule for the Echo Park Lake Trash TMDL.

Department's Trash Contribution (relative contribution to pollutant loading**)**
As there are no assigned WLA, the Department's contribution to the estimated point source trash loads is 16.7%.

Los Angeles Area (Peck Road Park) Lake Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA
The numeric target for this TMDL is zero trash in Peck Road Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
No WLAs were assigned to the Department

Final Trash Deadlines
There is no compliance and implementation schedule for the Peck Road Park Lake Trash TMDL

Department's Trash Contribution (relative contribution to pollutant loading**)**
As there are no assigned WLA, the Department's contribution to the estimated point source trash loads is 3.9% or 950 gal/yr.

Los Angeles River Trash TMDL, December 24, 2008

Final Trash WLA
The numeric target for the Los Angeles River Watershed Trash TMDL is zero trash in the water. Storm drains were identified as a major source of trash in the Los Angeles River. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following baseline WLAs for trash.

WLA (gal)	**WLA** (lbs)
59421	66,566

Final Trash Deadlines
The implementation schedule for the MS4 and the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100% reduction of trash from Baseline WLA, is to be achieved within seven years from the effective date of the TMDL (September 30, 2014).

Department's Trash Contribution (relative contribution to pollutant loading**)**
The Department Baseline WLA relative to all other point sources (municipal permittees) is 11.8 percent.

Machado Lake Trash TMDL, February 27, 2008

Final Trash WLA
The numeric target for this TMDL is zero trash in Machado Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Machado Lake. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following baseline WLAs assuming a trash generation rate of 5,334 (gallons of uncompressed litter per mile^2 per year).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
59,421	4,215.84

Final Trash Deadlines
The implementation schedule for the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100% reduction of trash from Baseline WLA, is to be achieved with eight years of from the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading**)**
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 4.5%.

Malibu Creek Watershed Trash TMDL, June 26, 2009

Final Trash WLAs
The numeric target for the Malibu Creek Watershed Trash TMDL is zero trash in or on the water and on the shoreline. For point sources, zero means that no trash is discharged into the water body of concern, shoreline, and channels. Both point source and nonpoint sources of trash were identified in the water bodies in the Malibu Creek Watershed. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
0.32	10,813

Final Trash Deadlines
The implementation schedule for the MS4 and the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from Baseline WLA, is to be achieved within eight years of from the effective date of the TMDL (July 7, 2017).

Department's Trash Contribution (relative contribution to pollutant loading)
The Caltrans' Baseline WLA relative to all other point sources (municipal permittees) is 65.5%.

Revolon Slough and Beardsley Wash Trash TMDL, August 1, 2002, February 8, 2005, and February 27, 2008

Final Trash WLA
The numeric target for the Revolon Slough and Beardsley Wash TMDL is zero trash within Revolon Slough, Beardsley Wash and their tributaries. Both point source and nonpoint sources of trash were identified in the Revolon Slough and Beardsley Wash. For point sources, WLAs were assigned to permittees of the Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following WLAs (gal/year) assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
1.68	11,215.45

Final Trash Deadlines
The implementation schedule for the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100% reduction of trash from Baseline WLA, is to be achieved within eight years of from the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 64.1 percent.

Santa Monica Bay Nearshore & Offshore Debris (trash and plastic pellets), March 20, 2012

Final Trash WLA
The numeric target for the Santa Monica Bay Debris TMDL is zero trash in Santa Monica Bay. For point sources, zero trash is defined as no trash discharged into water bodies within the Santa Monica Bay Watershed and into Santa Monica Bay or on the shoreline of Santa Monica Bay. For nonpoint sources, zero trash is defined as no trash on the shoreline or beaches, or in harbors adjacent to Santa Monica Bay. The numeric target for plastic pellets in the Santa Monica Bay Debris TMDL is zero plastic pellets in Santa Monica Bay. Both point source and nonpoint sources of trash were identified in Santa Monica Bay Nearshore and Offshore areas. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Baseline WLA for the Department was based on a trash generation rate of 33,452.8 gallons per mile^2 per year.

Point Source Area (mile^2)	**Baseline WLA** (gal/year)
1.08	36,129.0

Final Trash Deadlines
The implementation schedule for the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100% reduction of trash from Baseline WLA, is to be achieved within eight years of from the effective date of the TMDL (March 12, 2020).

Department's Trash Contribution (relative contribution to pollutants)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 32.8%.

Ventura River Estuary Trash TMDL, February 27, 2008

Final Trash WLA

The numeric target for the Ventura River Estuary Trash TMDL is zero trash in or on the water and on the shoreline. Both point source and nonpoint sources of trash were identified in the Ventura River Estuary.

Final Trash WLA Specific to the Department

The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter.

Point Source Area (mile^2)	Baseline WLA (gal/yr)
0.31	2,049.86

Final Trash Deadlines

The implementation schedule for the Department permittees consist of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from Baseline WLA, is to be achieved within eight years of from the effective date of the TMDL (March 8, 2016).

Department's Trash Contribution (relative contribution to pollutants)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 34.8percent.

E. Bacteria TMDL Pollutant Category

General Description of Pollutant Category

Receiving waters are often adversely affected by urban storm water runoff containing bacteria. Several reaches and tributaries have been impaired due to excessive amounts of coliform bacteria. There is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities. Fecal coliform bacteria may be introduced from a variety of sources including storm water runoff, dry-weather runoff, onsite wastewater and animal wastes. In addition, humans may be exposed to waterborne pathogens through recreation water use or by harvesting and consuming filter-feeding shellfish.

Attachment IV of this permit require the Department to prioritize reaches, including those within watersheds under a bacteria TMDL and then further to select each year the reaches for implementing control measures to address the highest priority reaches.

Sources of Pollutant & How it Enters the Waterway

Major contributors are flows and associated bacteria loading from storm water conveyance systems. The extent of bacteria loading from natural sources such as

birds, waterfowl and other wildlife, however, are unknown as data does not exist to quantify the impact of wildlife on the waterbodies.

Watershed Contribution

The TMDLs in the Bacteria Pollutant Category show that the Department is a relatively minor source of pollutants.

Control Measures

This prioritization strategy will control the largest sources of bacteria first and allow for attainment of the applicable WLAs consistent with the bacteria TMDLs identified in Part E of Attachment IV. The Department must install structural and nonstructural controls utilizing BMPs to variously control dry weather discharges and wet weather discharges.

The Department has options that would be effective for controlling non-storm water runoff during dry weather. The Department is required to implement control measures to ensure that the effective prohibition of non-storm water discharges is implemented. This can be achieved through infiltration, diversion, or other methods. Generally there should be no flow from areas during dry weather. Overwatering, broken sprinklers and irrigation pipes can be a source of dry weather flows. The Department can limit dry weather discharges by ensuring that broken sprinklers and irrigation pipes are fixed within 72 hours. To control overwatering and the resulting runoff, the Department could review watering schedules for irrigated areas on an annual basis.

To control runoff during wet weather, the Department should work with responsible agencies to jointly comply with the TMDL whenever possible. If the Department does not work with the other responsible agencies, non-structural and structural BMPs would be necessary. Increasing infiltration through the slowing of runoff and improving soil structure and texture to encourage infiltration of storm water are non-structural ways to reduce runoff. In addition, structural BMPs like biofiltration strips, biofiltration swales and detention basis can work in concert with the non-structural BMPs to capture of the runoff.

Wet-weather flows for the most part impacts water contact recreation beneficial use (REC-1). The Department shall implement control measures to prevent or eliminate the discharge of bacteria from its ROW through a combination of source control and treatment BMPs. These Treatment BMPs shall include retention/detention, infiltration, diversion of storm water or through preemptive activities such as sweeping, clean-up of illegal dumping, and public education on littering.

SAN FRANCISCO BAY BACTERIA TMDLS

Richardson Bay Pathogens TMDL, December 18, 2009

The TMDL identifies storm water runoff as a potential pathogen sources, along with sanitary sewer systems and houseboats and vessel marinas.
The Department is listed in the storm water runoff source category along with other implementing parties.

Final Pathogens WLA

The WLA for Fecal Coliform in the pollutant category of storm water runoff is a median of < 14 MPN/100 ml and a 90th percentile limit of <43 MPN/100 ml (no more than 10 percent of total samples during any 30-day period may exceed this number) [a footnote reads: Wasteload allocations for discharges from municipal separate storm sewer systems (NPDES permit Nos. CAS000004 and CAS000003).

The implementation plan for storm water runoff has the following actions:

1. Implement applicable storm water management plan.
2. Update/amend storm water management plan, as appropriate, to include specific measures to reduce pathogen loading, including additional education and outreach efforts, and installation of additional pet waste receptacles.
3. Report progress on implementation of pathogen reduction measures to the Water Board.

For most pollutants, TMDLs are expressed on a mass-load basis (e.g., kilograms per year). For pathogen indicators such as fecal coliforms, however, it is the number of organisms in a given volume of water (i.e., their density), and not their total number (or mass) that is significant with respect to public health risk and protection of beneficial uses. The density of fecal coliform organisms in a discharge and/or in the receiving waters is the technically relevant criteria for assessing the impact of discharges, water quality, and public-health risk. US EPA guidance recommends establishing density-based TMDLs for pollutants that are not readily controllable on a mass basis. Therefore, we propose density-based TMDLs and pollutant load allocations, expressed in terms of fecal coliform concentrations.

Establishment of a density-based, rather than a mass-based, TMDL carries the advantage of eliminating the need to conduct a complex and potentially error-prone analysis to link loads and projected densities. A load-based Pathogens TMDL would require calculation of acceptable loads based on acceptable bacterial densities and anticipated discharge volumes, and then back-calculation of expected densities under various load reduction scenarios. Since discharge volumes in Richardson Bay are

highly variable and difficult to measure, such an analysis would inevitably involve a great deal of uncertainty with no increased water quality benefit.

Pathogen WLA Specific to the Department
As stated in the TMDL, the Department's wasteload allocations for discharges from municipal separate storm sewer are set by NPDES permits No. CAS000004 [Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)] and CAS000003 (National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State Of California Department Of Transportation.

Final Pathogens Deadline
The completion date for these implementation actions is "as specified in approved storm water management plan and in applicable NPDES permit". Region 2 does not anticipate that the Department's storm water management plan will need to be revised because they believe that the source of bacteria in highway runoff is wildlife. The TMDL also notes that in 2013, the Water Board will evaluate monitoring results and assess progress towards attaining TMDL targets and load allocations.

Department's Pathogens Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pathogen pollutant loading is not known.

San Pedro and Pacifica State Beach Bacteria TMDL, August 1, 2013
The San Pedro and Pacifica State Beach Bacteria TMDL was developed by the San Francisco Bay Regional Water Quality Control Board and approved by USEPA on August 1, 2013. The TMDL identifies sanitary sewer systems, horse facilities and municipal storm water runoff and dry weather flows as source that have the potential to discharge bacteria, if not properly managed, to San Pedro Creek and Pacifica State Beach.

Final Bacteria WLA
The TMDL established a desired, or target condition for the water contact recreation use in San Pedro Creek and at Pacifica State Beach based on the water quality objectives for indicator bacteria. The wasteload allocations are based on the water quality objectives shown in the table below:

Bacteriological Water Quality Objectives for San Pedro Creek and Pacifica State Beach		
Indicator Type	**Pacifica State Beach (Marine REC-1)** MPN/100 mL	**San Pedro Creek (Freshwater REC-1)** MPN/100 mL[1]
	Single Sample *Maximum*	**90th Percentile/No Sample Greater Than**
E. coli	NA	235
Fecal Coliform	400	400
Enterococcus	104	NA
Total Coliform	10,000[2]	10,000
	Geometric Mean[3]	**Geometric Mean/Log Mean/Median**
E. coli	NA	126
Fecal Coliform	200	200
Enterococcus	35	NA
Total Coliform	1,000	240

Notes:
1. Based on a minimum of five consecutive samples equally spaced over a 30-day period.
2. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
3. Calculated based on the five most recent samples from each site during a 30-day period.

NA: not applicable.

For this TMDL, a reference system and antidegradation approach has been incorporated the wasteload allocations as an allowable number of times that the water quality objectives can be exceeded. The following table lists the allowable exceedances:

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		**Pacifica State Beach**		
	Dry Weather	**Wet Weather[5]**	**Summer Dry Weather** (Apr. 1 - Oct. 31)	**Winter Dry Weather** (Nov. 1 - Mar. 31)	**Wet Weather[5]**
Allowable Exceedances of Single-Sample Objectives (assuming daily sampling is conducted) [1,2,3]	4	26	0	2	30
Allowable Exceedances of Single-Sample Objectives (assuming	1	4	0	1	5

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		Pacifica State Beach		
	Dry Weather	Wet Weather[5]	Summer Dry Weather (Apr. 1 - Oct. 31)	Winter Dry Weather (Nov. 1 - Mar. 31)	Wet Weather[5]
weekly sampling is conducted)[4]					

Notes:
1. Allowable exceedances are calculated by multiplying exceedance rates observed in the reference system(s) by the number of days during each respective period in the reference year (1994).
2. To end up with whole numbers, where the fractional remainder for the calculated allowable exceedance days exceeds 0.1, then the number of days is rounded up.
3. The calculated number of exceedance days assumes that daily sampling is conducted.
4. To determine the allowable number of exceedance events given a weekly sampling regime, as practiced for monitoring San Pedro Creek and Pacifica State Beach, the number of exceedance days was adjusted by solving for "X" in the following equation: X = (exceedance days x 52 weeks) / 365 days.
5. Wet weather is defined as any day with 0.1 inches of rain or more and the following three days.

Final Bacteria Deadlines
The TMDLs, load allocations and wasteload allocations for Pacifica State Beach shall be attained within 8 years of the effective date of the TMDL (August 1, 2021). The TMDLs, load allocations and wasteload allocations to San Pedro Creek shall be attained within 15 years of the effective Date of the TMDL (August 1, 2028).

Storm water discharges from the (Department's stretch of Highway 1 crossing the northwestern edge of the San Pedro Creek watershed are not a significant source of indicator bacteria because that section of the highway does not include any typical bacteria-generating sources such as homeless encampments, restroom facilities, garbage bins, etc. The Department's existing BMPs and storm water NPDES permit requirements, as of the effective date of the TMDL (August 1, 2013), are sufficient to attain and maintain its portion of the wasteload allocation.

Department's Bacteria Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to bacteria pollutant loading is not known.

LOS ANGELES REGION BACTERIA TMDLS

Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL, March 26, 2007

Final Bacteria WLA
The Department is noted as a source of storm water runoff. The Department and municipal 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 and WLA assigned to waters tributary to impaired reaches. The County of Los Angeles, the Department, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies for the Ballona Creek Watershed.

For the single sample objectives of the impaired REC-1 and LREC-1 reaches, the proposed WLA for summer dry-weather are zero (0) days of allowable exceedances, and those for winter dry-weather and wet-weather are three (3) days and seventeen (17) days of exceedance, respectively. In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

For the single sample objectives of the impaired REC-2 reach, the proposed WLA for all periods is a 10 percent exceedance frequency of the REC-2 single sample water quality objectives. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

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 of Attachment A to Resolution No. 2006-011). See Chapter 3 of Region 4's Basin Plan for bacteriological objectives for Water Contact Recreation for Marine and Fresh Waters, for Limited Water Contact Recreation and for Non-contact Water Recreation.

Final Bacteria WLA Specific to the Department
There is no specific WLA assigned to the Department. The responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach.

Final Bacteria Deadlines
See Final WLA above.

Department's Bacteria Contribution (relative contribution to pollutant loading**)**
The Department's jurisdiction within the cities and unincorporated areas in the Ballona Creek Watershed totals 1206 acres. This equals 1.5% of the watershed.

Long Beach City Beaches Indicator Bacteria TMDL, March 26, 2012
The TMDL identifies storm water runoff from the Department's properties such as the highway system, park and ride facilities, and maintenance yards as a potential source

of bacteria. The Department has jurisdiction of some areas in the Los Angeles River (LAR) Estuary direct drainage, but not in the Long Beach City beaches direct drainage.

Final Bacteria WLA
To implement the single sample bacteria water quality objectives (total coliform, fecal coliform, enterococcus, and fecal-to-total coliform ratio) for waters designated REC-1, an allowable number of exceedance days for three seasons (summer dry, winter dry and winter wet) is set for marine waters using a reference system/anti-degradation approach. This approach ensures that bacteriological water quality is at least as good as that of a reference system and that no degradation of the existing bacteriological water quality is permitted where the existing condition is better than that of the selected reference system(s). The exceedance days are used to set load allocations (LA) and waste load allocations (WLAs) in these TMDLs.

Storm water systems covered under the City of Long Beach, Los Angeles County and the Department's MS4 permits are assigned WLAs in the form of exceedance days. During summer dry conditions, reductions in exceedance days are estimated to be 13-120 days during a 120 day period (11 percent to 100 percent of the time), depending on the location of the monitoring site. During winter wet conditions, reductions in exceedance days are estimated to be 11-45 days during a 75- day period (15 percent to 60 percent of the time) depending on the location of the monitoring site. During winter dry conditions, reductions in exceedance days are estimated to be 0-11 days during an 80 day period (0 percent to 14 percent of the time) depending on the location of the monitoring site.

Final Bacteria WLA Specific to the Department
See Final WLA above.

Final Bacteria Deadlines
As this TMDL was established by USEPA, USEPA only described recommendations to the Regional Board that could be used. No timelines were noted.

Department's Bacteria Contribution (relative contribution to pollutant loading)
The loading of bacteria specifically from the Department's properties has not been determined in the LAR Estuary direct drainage. However a conservative estimate of 128 acres or approximately 2 percent of the LAR Estuary drainage area is noted in the TMDL.

***Los Angeles River Watershed Bacteria*, March 23, 2012**

Final Bacteria WLA

The Los Angeles River Watershed Bacteria TMDL was developed by the Los Angeles Regional Water Quality Control Board and approved by USEPA on. The TMDL identifies storm water from the MS4 Permittees (The Department along with the County of Los Angeles and the Incorporated Cities therein and the City of Long Beach) as the principal source of bacteria in both dry weather and wet weather.

Final Bacteria WLA Specific to the Department

This TMDL uses a "reference system/anti-degradation approach" to implement the water quality objectives per the implementation provisions in Chapter 3 of the Basin Plan. 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. The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at the reference site(s) and (2) there is no degradation of existing bacteriological water quality. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas.

For MS4 dischargers, the final dry-weather WLAs and wet-weather WLA for the single sample targets are listed below**:**

Allowable Number of Exceedance Days	**Daily Sampling**	**Weekly Sampling**
Dry Weather	5	1
Non-High Flow Suspension (HFS) Waterbodies Wet Weather	15	2
HFS Waterbodies Wet Weather	10 (not including HFS days)	2 (not including HFS days)

The final WLAs for the geometric mean target during any time at any river segment and tributary in the Los Angeles River Watershed is zero (0) days of allowable exceedances.

Final Bacteria Deadlines

The Department has from 8.5 to 25 years (September 23, 2020 to March 23, 2037) to achieve final WLA depending on the segment of the waterbody. Table 7-39.3 in Attachment A to Resolution No. R10-007 lists other interim implementation compliance dates.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's MS4 permit covers approximately 6,950 acres, which is equivalent to around 1percent of the urban watershed.

Malibu Creek and Lagoon Bacteria TMDL, June 7, 2012
The TMDL identifies on-site wastewater treatment plans, storm water runoff, dry weather runoff and wildlife (birds) as possible sources of bacterial contamination.

Final WLA
Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location

Compliance Deadline		January 24, 2012		July 15, 2021	
		Dry Weather ^		Wet Weather ^	
Station ID	Location Name	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
LA RWQCB	Triunfo Creek	5	1	15	2
LA RWQCB	Lower Las Virgenes Creek	5	1	15	2
LA RWQCB	Lower Medea Creek	5	1	15	2
LVMWD (R-9)	Upper Malibu Creek, above Las Virgenes Creek	5	1	15	2
LVMWD (R-2)	Middle Malibu Creek, below Tapia discharge 001	5	1	15	2
LVMWD (R-3)	Lower Malibu Creek, 3 mi below Tapia	5	1	15	2
LVMWD (R-4)	Malibu Lagoon, above PCH	5	1	15	2
LVMWD (R-11)	Malibu Lagoon, below PCH	9*	2*	17	3
	Other sampling stations as identified in the Compliance Monitoring Plan as approved by the Executive Officer including at least one sampling station in each subwatershed, and areas where frequent REC-1 use is known to occur.	5	1	15	2

Notes:
The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.
The allowable number of exceedance days is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.
^ A dry day is defined as a non-wet day.
A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.
* The number of allowable exceedance days is for the winter dry-weather period. No exceedance days are allowed for the summer dry-weather period.

Final Bacteria WLA Specific to the Department
No exceedances are allowed for the geometric mean limits. The allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet weather, and by sampling locations as described in the Table above (Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location)

Final Bacteria Deadlines
This TMDL will be implemented in two phases as outlined in the TMDL. By January 24, 2012, 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.

Department's Bacteria Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to bacteria pollutant loading is not known.

Marina del Rey Harbor (MdRH) Mother's Beach and Back Basin Bacteria TMDL, June 7, 2012
The TMDL identifies dry-weather urban runoff and storm water conveyed by storm drains as the primary sources of elevated bacterial indicator densities to MdRH Mothers' Beach and back basins during dry and wet weather. Potential sources of bacterial contaminations at Mothers' Beach and the back basins of MdRH include marina activities such as waste disposal from boats, boat deck and slip washing, swimmer "wash-off", restaurant washouts and natural sources from birds, waterfowl and other wildlife.

Final Bacteria WLA
Implementation of the bacteria objectives and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" as set forth in Chapter 3 of the Basin Plan. As required by the 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.

The geometric mean targets may not be exceeded at any time. For 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 is assigned an allowable number of exceedance days for three time periods (1) summer dry-weather (April 1 to October 31), (2) winter dry-weather (November 1 to March 31), and (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event).

The County of Los Angeles, Los Angeles County Flood Control District, City of Los Angeles, and Culver City are the Los Angeles County MS4 permittees identified as the responsible jurisdictions and responsible agencies for the Marina del Rey Watershed. All proposed WLAs for summer dry weather are zero (0) days of allowable exceedances.[6] The proposed WLAs for winter dry weather and wet weather vary by monitoring location as identified in the following table:

Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL: Final Allowable Exceedance Days by Sampling Location

Compliance Deadline		**March 18, 2007**		**March 18, 2007**		**July 15, 2021**	
		Summer Dry Weather ^		**Winter Dry Weather ^**		**Wet Weather ^**	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
Station ID	**Location Name**	**Daily sampling** (No. days)	**Weekly sampling** (No. Days)	**Daily sampling** (No. days)	**Weekly sampling** (No. days)	**Daily sampling** (No. days)	**Weekly sampling** (No. days)
MdRH-1	**Mothers' (Marina) Beach, at playground area**	0	0	9	2	17	3

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

Compliance Deadline		March 18, 2007		March 18, 2007		July 15, 2021	
		Summer Dry Weather ^		Winter Dry Weather ^		Wet Weather ^	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
MdRH-2	Mothers' (Marina) Beach, at lifeguard tower	0	0	9	2	17	3
MdRH-3	Mothers' (Marina) Beach, between lifeguard tower and boat dock	0	0	9	2	17	3
MdRH-4	Basin D, near first slips outside swim area	0	0	9	2	17	3
MdRH-5	Basin E, in front of tide-gate from Oxford Basin	0	0	9	2	17	3
MdRH-6	Basin E, center of basin	0	0	9	2	17	3
MdRH-7	Basin E, in front of Boone-Olive Pump Outlet	0	0	9	2	17	3
MdRH-8	Back of Main Channel	0	0	9	2	17	3
MdRH-9	Basin F, center of basin	0	0	9	2	8	1

Compliance Deadline	**March 18, 2007**	**March 18, 2007**	**July 15, 2021**
	Summer Dry Weather ^	**Winter Dry Weather ^**	**Wet Weather ^**
	Apr 1 – Oct 31	Nov 1 – Mar 31	Nov 1 – Oct 31

Notes:
The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.
The allowable number of exceedance days during winter dry-weather is calculated based on the 10th percentile storm year in terms of dry days at the LAX meteorological station.
The allowable number of exceedance days during wet-weather is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.
^ A dry day is defined as a non-wet day.
A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.

Final Bacteria WLA Specific to the Department
See Final WLA above

Final Bacteria Deadlines
This TMDL will be implemented over an 18-year period. By March 18, 2007, there shall be no allowable exceedances of the single sample limits at any location during summer dry weather (April 1 to October 31) or winter dry weather (November 1 to March 31). By July 15, 2021, compliance with the allowable number of wet weather exceedance days and the geometric mean targets must be achieved.

Department's Bacteria Contribution (relative contribution to pollutant loading**)**
The Department's jurisdiction covers 1% of the watershed.

Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL, January 13, 2012
The TMDL identifies dry- and wet-weather urban runoff discharges from the storm water conveyance systems as significant contributors of bacteria loading to the Santa Clara River and Estuary. Mass emission data collected by MS4 Permittees show elevated levels of bacteria in the river. Data from natural landscapes in the region indicate that open space loading is not a significant source of bacteria.

Final Bacteria WLA
The Statewide Storm Water Permit for Department Activities are assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets because they are not expected to be significant source of indicator bacteria. Compliance with an effluent limit based on the bacteria water quality objectives will be used to demonstrate compliance with the WLA.

Final Bacteria WLA Specific to the Department
See Final WLA above.

Final Deadlines
The TMDL states that WLAs assigned to the Department's permit must be attained on the effective date of the TMDL.

Department's Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to pollutant loading is unknown.

Santa Monica Beaches Bacteria TMDL (Wet Weather Only), June 19, 2003
Final WLA
Implementation of the bacteria objectives in Chapter 3 of the Basin Plan and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" rather than the alternative "natural sources exclusion approach" or strict application of the single sample objectives. As required by the Clean Water Act and Porter-Cologne Water Quality Control Act, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region's standards.

The geometric mean targets may not be exceeded at any time. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days during wet weather, defined as days with 0.1 inch of rain or greater and the three days following the rain event. The allowable exceedance days for each associated shoreline monitoring site are identified in the following table:

Final Allowable Wet-Weather Exceedance Days by Beach Location

Beach Monitoring Location	Estimated no. of wet weather exceedance days in critical year (90th) percentile)*	Final allowable no. of wet weather exceedance days (daily sampling)*
DHS 010 – Leo Carrillo Beach, at 35000 PCH	17	17
DHS 009 – Nicholas Beach – 100 feet west of lifeguard tower	14	14
DHS 010a – Broad Beach	15	15
DHS 008 – Trancas Beach entrance, 50 yards east of Trancas Bridge	19	17
DHS 007 – Westward Beach, east of Zuma Creek	17	17
DHS 006 – Paradise Cove, adjacent to west side of Pier	23	17
DHS 005 – Latigo Canyon Creek entrance	33	17

Beach Monitoring Location	Estimated no. of wet weather exceedance days in critical year (90th) percentile)*	Final allowable no. of wet weather exceedance days (daily sampling)*
DHS 005a – Corral State Beach	17	17
DHS 001a – Las Flores Beach	29	17
DHS 001 – Big Rock Beach, at 19900 PCH	30	17
DHS 003 – Malibu Point	18	17
DHS 003a – Surfrider Beach (second point) – weekly	45	17
S1 – Surfrider Beach (breach point) – daily	47	17
DHS 002 – Malibu Pier – 50 yards east	45	17
S2 – Topanga State Beach	26	17
DHS 101 – PCH and Sunset Bl. – 400 yards east	25	17
DHS 102 – 16801 PCH, Bel Air Bay Club (chain fence)	26	17
S3 – Pulga Canyon storm drain – 50 yards east	23	17
DHS 103 – Will Rodgers State Beach –Temescal Canyon (25 yards so. of drain)	31	17
S4 – Santa Monica Canyon, Will Rogers State Beach	25	17
DHS 104a – Santa Monica Beach at San Vicente Bl.	34	17
DHS 104 – Santa Monica at Montana Avenue (25 yds. so of drain)	31	17
DHS 105 – Santa Monica at Arizona (in front of the drain)	31	17
S5 – Santa Monica Municipal Pier – 50 yards southeast	35	17
S6 – Santa Monica Beach at Pico/Kenter storm drain	42	17
DHS 106 – Santa Monica Beach at Strand St. (in front of the restrooms)	36	17
DHS 106a – Ashland Av. storm drain – 50 yards north	39	17
S7 – Ashland Av. storm drain – 50 yards south	22	17
DHS 107 – Venice City Beach at Brooks Av. (in front of the drain)	40	17
SB – Venice City Beach at Windward Av. – 50 yards north	13	13
DHS 108 - Venice Fishing Pier – 50 years south	17	17
DHS 109 – Venice City Beach at Topsail St.	38	17
S11 – Dockweiler State Beach at Culver Bl.	23	17
DHS 110 – Dockweiler State Beach – south of D&W jetty	30	17
S12 – Imperial HWY storm drain – 50 yards north	17	17
DHS 111 – Hyperion Treatment Plant One Mile Outfall	18	17
DHS 112 – Dockweiler State Beach at Grant Av. (in front of the drain)	25	17
S10 – Ballona Creek entrance – 50 yards south	34	17
S13 – Manhattan State Beach at 40th Street	4	4
S14 – Manhattan Beach Pier – 50 years south	5	5
DHS 114 – Hermosa City Beach at 26th St.	12	12
S15 – Hermosa Beach Pier – 50 yards south	8	8
DHS 115 – Heronda Street storm drain – (in front of the drain)	19	17
S16 – Redondo Municipal Pier – 50 yards south	14	14
DHS 116 – Redondo State Beach at Topaz St. –	19	17

Beach Monitoring Location	Estimated no. of wet weather exceedance days in critical year (90th) percentile)*	Final allowable no. of wet weather exceedance days (daily sampling)*
north of jetty		
S17 – Redondo State Beach at Avenue I	6	6
S18 – Malaga Cove, Palos Verdes Estates – daily	3	3
LACSDM – Malaga Cove, Palos Verdes Estates – weekly	14	14
LACSDB – Palos Verdes (Bluff) Cove, Palos Verdes Estates	0	0
LACSD1 – Long Point, Rancho Palos Verdes	5	5
LACSD2 – Abalone Cove Shoreline Park	1	1
LACSD3 – Portuguese Bend Cove, Rancho Palos Verdes	2	2
LACSD5 – Royal Palms State Beach	6	6
LACSD6 – Wilder Annex, San Pedro	2	2
LACSD7 – Cabrillo Beach, Oceanside	3	3

Notes:
* The compliance targets are based on existing shoreline monitoring data and assume daily sampling. If systematic weekly sampling is conducted, the compliance targets will be scaled accordingly. These are the compliance targets until additional shoreline monitoring data are collected prior to revision of the TMDL. Once additional shoreline monitoring data are available, the following will be re-evaluated when the TMDL is revised 1) estimated number of wet-weather exceedance days in the critical year at all beach location's, including the reference system(s) and 2) final allowable wet-weather exceedance days for each beach location.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

The implementation schedule will be determined on the basis of the implementation plan(s), which must be submitted to the Regional Board by responsible jurisdictions and agencies with two years of the effective date of the TMDL. After considering the implementation plans(s), the Regional Board shall amend the TMDL at a public hearing and, in doing so, will adopt an individual implementation schedule for each jurisdictional group that is as short as possible taking into account the implementation approach being undertaken. Responsible jurisdictions and agencies must clearly demonstrate in the above-mentioned plan whether they intend to pursue an integrated water resources approach. If an integrated water resources approach is pursued, responsible jurisdictions and agencies may be allotted up to an 18 year implementation timeframe, based on a clear demonstration of the need for a longer schedule in the implementation plan, in recognition of the additional planning and time needed to achieve the multiple benefits of this approach. Otherwise, at most a 10-year implementation timeframe will be allotted, depending upon a clear demonstration of the time needed in the implementation plan.

The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than 18 years after the TMDL's effective date (July 15, 2021) if an integrated water resources approach is

pursued or no later than 10 years after the TMDL's effective date if an integrated water resources approach is not pursued. In addition, the geometric mean targets must be achieved for each individual beach location no later than 18 or 10 years after the effective date (July 15, 2021 or July 15, 2013), respectively, depending on whether an integrated water resources approach is pursued or not.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to bacteria pollutant loading is not known.

San Monica Bay Beaches Bacteria TMDL (Dry Weather Only), June 19, 2003
The TMDL identifies isolated sewage spills, dry weather urban runoff conveyed by storm drains and creeks as the primary source of elevated bacterial indicators. Limited natural runoff and groundwater may also potentially contribute to elevated bacterial indicatory densities during winter dry weather.

Final WLA
The TMDL has a multi-part numeric target based on the bacteriological water quality objective for marine water to protect the water contact recreation use. These bacteriological objectives are set forth in Chapter 3 of the Basin Plan. The geometric mean targets may not be exceeded at any time. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days for two time periods (summer dry weather and winter dry weather) as shown in the following table:

Table 7-4.2a: Santa Monica Bay Beaches Bacterial TMDL Implementation Schedule (Dry Weather Only): Allowable number of Days that May Exceed Any Single Sample Bacterial Indicator Target for Existing Shoreline Monitoring Stations

Compliance Deadline	3 years after effective date (July 15, 2006)		6 years after effective date (July 15, 2009)	
	Summer Dry Weather^ April 1 – Oct. 31		Winter Dry Weather* Nov. 1 – Mar. 31	
Beach Monitoring Location	Daily Sampling (No. days)	Weekly Sampling (No. Days)	Daily Sampling (No. days)	Weekly Sampling (No. Days)
DHS 010 – Leo Carrillo Beach, (REFERENCE BEACH)	0	0	3	1
DHS 009 – Nicholas Beach	0	0	0	0
DHS 010a – Broad Beach	0	0	3	1
DHS 008 – Trancas Beach entrance	0	0	0	0
DHS 007 – Westward Beach, SE end	0	0	0	0

Compliance Deadline	3 years after effective date (July 15, 2006)		6 years after effective date (July 15, 2009)	
	Summer Dry Weather^ April 1 – Oct. 31		Winter Dry Weather* Nov. 1 – Mar. 31	
Beach Monitoring Location	Daily Sampling (No. days)	Weekly Sampling (No. Days)	Daily Sampling (No. days)	Weekly Sampling (No. Days)
DHS 006 – Paradise Cove	0	0	3	1
DHS 005 – 26610 Latigo Shore Drive	0	0	3	1
DHS 005a – Corral Beach	0	0	3	1
DHS 004 – Puerco Beach	0	0	3	1
DHS 001a – Las Flores Beach	0	0	3	1
DHS 001 – Big Rock Beach	0	0	3	1
DHS 003 – Malibu Point. Malibu Colony Dr.	0	0	3	1
DHS 003a – Surfrider Beach, Malibu, 50 yds.	0	0	3	1
S1 – Surfrider Beach (breach point) – daily	0	0	3	1
DHS 002 – Malibu Pier	0	0	3	1
S2 – Topanga State Beach	0	0	3	1
DHS 101 – 17200 Pacific Coast Highway	0	0	3	1
DHS 102 – 16801 PCH, Bel Air Bay Club (chain fence)	0	0	3	1
S3 – Pulga Canyon storm drain – 50 yards east	0	0	3	1
DHS 103 – Temescal Storm Drain	0	0	3	1
S4 – Santa Monica Canyon, Will Rogers State Beach	0	0	3	1
DHS 104a – Santa Monica Blvd. extended	0	0	3	1
DHS 104 – Montana Av. Storm Drain	0	0	3	1
DHS 105 – Wilshire Blvd. Santa Monica	0	0	3	1
S5 – Santa Monica Municipal Pier – 50 yards southeast	0	0	3	1
S6 – Santa Monica Beach at Pico/Kenter storm drain	0	0	3	1
DHS 106 –Strand St. extended	0	0	3	1
DHS 106a – Ashland Av. storm drain	0	0	3	1
S7 – Ashland Av. storm drain – 50 yards south	0	0	3	1
DHS 107 – Venice City Beach at Brooks Av.	0	0	3	1
SB8 – Venice City Beach at Windward Av. – 50 yards north	0	0	2	1
DHS 108 Venice Pier, Venice	0	0	3	1

Compliance Deadline	3 years after effective date (July 15, 2006)		6 years after effective date (July 15, 2009)	
	Summer Dry Weather^ April 1 – Oct. 31		Winter Dry Weather* Nov. 1 – Mar. 31	
Beach Monitoring Location	Daily Sampling (No. days)	Weekly Sampling (No. Days)	Daily Sampling (No. days)	Weekly Sampling (No. Days)
DHS 109 –Topsail St. extended	0	0	3	1
S11 – Dockweiler State Beach at Culver Bl.	0	0	3	1
DHS 110 – World Way extended	0	0	3	1
S12 – Imperial HWY storm drain – 50 yards north	0	0	2	1
DHS 111 – Opposite Hyperion Treatment Plant,1 mile	0	0	3	1
DHS 112 –Grant Av. extended	0	0	3	1
DHS 113 – 28th Street extended	0	0	0	0
S10 – Ballona Creek entrance – 50 yards south	0	0	3	1
S13 – Manhattan State Beach at 40th Street	0	0	1	1
S14 – Manhattan Beach Pier – 50 years south	0	0	1	1
DHS 114 – Herondo Street extended	0	0	3	1
S15 – Hermosa Beach Pier – 50 yards south	0	0	2	1
DHS 115 – Topaz Street extended	0	0	3	1
S16 – Redondo Municipal Pier – 50 yards south	0	0	3	1
S17 – Redondo State Beach at Avenue I	0	0	3	1
S18 – Malaga Cove, Palos Verdes Estates – daily	0	0	1	1
LACSDMC – Malaga Cove	0	0	1	1
LACSDBC – Bluff Cove	0	0	1	1
LACSD1 – Long Point	0	0	1	1
LACSD2 – Abalone Cove	0	0	0	0
LACSD3 – Portuguese Bend Cove	0	0	1	1
LACSD5 – Royal Palms	0	0	1	1
LACSD6 – Wilder Annex	0	0	1	1
LACSD7 – Cabrillo Beach, Oceanside	0	0	1	1

Compliance Deadline	**3 years after effective date** (July 15, 2006)		**6 years after effective date** (July 15, 2009)	
	Summer Dry Weather^ April 1 – Oct. 31		**Winter Dry Weather*** Nov. 1 – Mar. 31	
Beach Monitoring Location	**Daily Sampling** (No. days)	**Weekly Sampling** (No. Days)	**Daily Sampling** (No. days)	**Weekly Sampling** (No. Days)

Notes:
The allowable number of exceedance days during winter dry weather is calculated based on the 10pth percentile year in terms of non-rain days at the LAX meteorological station. The number of allowable exceedances during winter dry weather is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical shoreline data.
^ Dry weather days are defined as those with <0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with >=0.1 inch of rain.
* A re-opener is scheduled for two years after the effective date of the TMDL in order to re-evaluate the allowable exceedance days during winter dry weather based on additional monitoring data.

Final Bacteria WLA Specific to the Department
See Final WLA above.

Final Bacteria Deadlines
This TMDL will be implemented in two phases over a 6-year period. Within 3 years of the effective date of the TMDL (July 15, 2006), summer dry-weather allowable exceedance days and the rolling 30-day geometric mean targets must be achieved. Within 6 years of the effective date of the TMDL (July 15, 2009), winter dry-weather allowable exceedance days and the rolling 30-day geometric mean targets must be achieved.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to bacteria pollutant loading is unknown.

COLORADO RIVER REGION BACTERIA TMDL

Coachella Valley Storm Water Channel (CVSC) Bacterial Indicators TMDL, April 27, 2012
The TMDL identifies flows from urban MS4s as violating applicable water quality objectives for REC I and REC II. Birds and other animals are possible sources of bacteria in the CVSC.

Final Bacterial Indicator WLA
Wasteload allocations (WLAs) for bacteria indicator dischargers into CVSC are described below:

Allocation Type	Discharger	E. Coli Allocations
Point Source (WLAs)	Department	A log mean (Geomean) of the MPN of ≤126/100ml (based on a minimum of not less than five samples during a 30-day period), or 400 MPN/100ml for a single sample

Final Bacterial Indicator WLA Specific to the Department
See Final WLA above.

Final Bacterial Indicator Deadlines
The implementation plan is divided into two phases and begins 90 days following USEPA approval of the TMDL (July 27, 2012). Phase I actions will take three years to complete and will focus on monitoring and addressing bacterial indicators associated with wastewater discharges from NPDES facilities, and urban and storm water runoff. Regional Water Board staff will coordinate closely with USEPA to address waste discharges from tribal lands. If E. coli WQOs are not achieved by the end of Phase I, Regional Water Board staff will implement additional actions to control E. coli sources in Phase II. Enforcement actions against violators of the TMDL will occur in both phases if necessary. This approach provides for immediate assessment of known sources of bacterial indicators while allowing time for additional monitoring to assess TMDL implementation, effectiveness, and need for modification

Department's Bacterial Indicator Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to bacteria pollutant loading is not known.

SAN DIEGO REGION BACTERIA TMDL

Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) TMDL, June 22, 2011
The TMDL identifies dry and wet weather runoff as source of bacterial loading.

Final Indicator Bacteria WLA
In general, controllable point and nonpoint sources generating less than 5 percent of the total loads (e.g., The Department and/or Agriculture) were assigned WLAs and LAs equal to their existing loads, resulting in no load reduction requirements."

For the dry weather TMDLs, a major underlying assumption is that there is no discharge of surface runoff, thus no discharge of bacteria, expected from land uses associated with the Department, Agriculture, and Open Space land use categories during dry weather. Because no discharge is expected from these land use categories during dry weather, they were assigned dry weather WLAs and LAs of zero. The dry weather TMDLs were assigned entirely to the Municipal MS4s land use

category as dry weather WLAs, meaning only discharges of bacteria loads to the receiving waters are expected or allowed from the Municipal MS4s land use category during wet weather.

For the wet weather TMDLs, discharges of surface runoff are expected from all land use types, thus allocations were assigned to each land use category (i.e., Municipal MS4s, the Department, Agriculture, and Open Space). The Department's wet weather WLAs were set equal to existing loads, since the Department's discharges were found to account for less than 1 percent of the wet weather load. Allocations were assigned based on discharges of "existing" bacteria loads predicted with a wet weather watershed model. In general, the Department WLAs, Agriculture LAs (in all but 4 of the modeled watersheds), and Open Space LAs were set equal to the "existing" bacteria loads predicted by the wet weather watershed model. The remainder of allowable bacteria load that can be discharged to the receiving waters as part of the TMDL was assigned as the Municipal MS4s WLAs (or proportionally divided between the Municipal MS4s and Agriculture land use categories in 4 of the modeled watersheds).

Final Indicator Bacteria WLA Specific to Department
See Final WLA above.

Final Indicator Bacteria Deadlines
TMDL Compliance Schedule: Full implementation of the TMDLs for indicator bacteria shall be completed within 10 to 20 (April 4, 2021 to April 4, 2031) years from the effective date of the Basin Plan amendment. The compliance schedule for implementing the load and wasteload reductions required to achieve the wet weather and dry weather TMDLs is phased in over time.

The dry weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment that establishes the TMDLs. For dischargers that undertake wet weather load reduction programs only for bacteria, the wet weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date.

For dischargers in watersheds that undertake concurrent wet weather load reduction programs for other pollutant constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with the bacteria load reduction requirements in these TMDLs, an alternative compliance schedule may be proposed and incorporated by the San Diego Water Board into the implementing orders. The wet weather TMDL compliance schedules may be extended, but no more than a total of 20 years (April 4, 2031) from the effective date of the Basin Plan amendment. The dry weather TMDL compliance schedule cannot be extended to be more than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment.

Department's Indicator Bacteria Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to bacteria pollutant loading is unknown.

F. Diazinon TMDL Pollutant Category

General Description of Pollutant Category
Diazinon is an organophosphate insecticide has been banned for residential use; it is still used in agriculture.

Sources of Pollutant & How it Enters the Waterway
It is a broad spectrum contact insecticide. Residential use was for general-purpose gardening use and indoor pest control of ants, fleas, cockroaches, silverfish, mosquitos and spiders in residential, non-food buildings.

Watershed Contribution
The Department does not use Diazinon. The Department is identified as a source of Diazinon because they own and operate storm water conveyance systems in association with roadways and facilities. In some areas the Department's storm water systems are connected to municipal storm water systems.

Control Measures
Attachment IV, Section III.F, prohibits the discharge of Diazinon. This prohibition is consistent with the TMDLs for Diazinon which generally limit the discharge of this pesticide to non-toxic levels. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge. Attachment IV, Part F does not require additional monitoring beyond what is specified in the permit.

SAN FRANCISCO REGION DIAZINON TMDL

San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity May 16, 2007
The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The use of diazinon is prohibited in the Department's NPDES permit, and no additional measures are required.

Final Diazinon WLA
The WLA for each storm water entity is 100 ng/L as a one-hour average.

Final Diazinon WLA Specific to the Department
The Department's level of responsibility is not identified.

Final Diazinon Deadlines
The TMDL does not specify any interim or final compliance dates but states that the requirements included in the permits are inadequate to meet the targets the San Francisco Bay Water Board will require additional control measures or additional actions by others.

Department's Diazinon Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the diazinon pollutant loading is not known.

SAN DIEGO REGION DIAZINON TMDL

Chollas Creek Diazinon TMDL, November 3, 2003

Final Diazinon WLA
The below concentration based waste load allocations are applied equally to all diazinon discharge sources in the Chollas Creek watershed:

Waterbody	Diazinon (ng/L)	
	Acute	Chronic
Chollas Creek	72	45

Final Diazinon WLA Specific to the Department
The final WLA for the Department is noted above.

Final Diazinon Deadlines
The TMDL states that the phased compliance schedule will apply only to attainment of numeric limitations for diazinon and all other requirements of this TMDL will be immediately effective upon incorporation into applicable NPDES permits.

Department Diazinon Contribution
In the supporting technical documentation, the San Diego Regional Water Board stated that the Department is responsible for the major freeways and roadways making up approximately 4 percent of the land in the watershed; that the Department reports diazinon is not used; and that the Department has an integrated pest management plan. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge.

G. Selenium TMDL Pollutant Category

General Description of Pollutant Category

Sources of Pollutant & How it Enters the Waterway

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as sources of selenium to surface waters in southern California. Generally, atmospheric deposition was determined to be a not significant source. Selenium bioaccumulates to levels that cause severe impacts on invertebrates, fish, birds that prey on fish, and humans

Watershed Contribution

Selenium in soil may be a contributing source, and naturally occurring selenium in groundwater may be a significant source.

Control Measures

As discussed under the individual TMDLs below, the TMDLs in this pollutant category generally establish that the Department is a relatively minor source of selenium since the sources of selenium are not transportation related. The Department is expected to continue its current pollutant control activities in order to remain in compliance with the TMDLs.

LOS ANGELES REGION SELENIUM TMDL

Ballona Creek Metals and Selenium TMDL, December 22, 2005 and reaffirmed on October 29, 2008.

This TMDL addresses dry- and wet-weather discharges of metals and selenium in Ballona Creek and Sepulveda Canyon Channel. There are significant differences in the sources of metals and selenium loadings during dry and wet weather because hardness values and flow conditions in Ballona Creek and Sepulveda Canyon Channel vary between dry and wet weather. A grouped mass-based waste load allocation is developed for the storm water permittees that includes the Department.

Final Selenium WLA

The Department and MS4 storm water NPDES permittees will be found to be effectively meeting the dry-weather WLAs if the instream pollutant concentrations or load at the first downstream monitoring location is equal to or less than the corresponding concentration- or load base WLA.

Selenium Dry-weather Storm Water WLAs Apportioned between Storm Water Permits (grams total recoverable metals/day)

Permittee	Waste Load Allocation (grams/day)
Ballona Creek	
MS4 Permittees	169
Department	2
Sepulveda Channel	
MS4 Permittees	76
General Industrial	1

Selenium Wet-weather Storm water WLAs Apportioned between Storm Water Permits (total recoverable metals)

Permittee	Waste Load Allocation (grams/day)
MS4 Permittees	4.73E-06 x Daily storm volume (L)
Department	6.59E-08 x Daily Storm Volume (L)
General Construction	1.37E-07 x Daily storm volume (L)
General Industrial	3.44E-08 x Daily storm volume (L)

The Department and MS4 NPDES permittees will be found to be effectively meeting the wet-weather WLAs if the loading at the most downstream monitoring location is equal to or less than the wet-weather WLA.

Final Selenium WLA Specific to the Department
See Tables above for specific Caltrans WLAs.
Final Deadlines
The implementation schedule for the MS4 permittees and the Department consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed, with total compliance to be achieved within 15 years. The Department shall demonstrate that 100 % of the total drainage area served by the MS4 system is effectively meeting the dry-weather and wet-weather WLAs.

Whereas the Department is responsible for meeting their mass-based waste load allocations they may choose to work with the MS4 Permittees.

Department's Selenium Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the selenium loading is not known.

Calleguas Creek, its Tributaries and Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Significant sources were identified as urban runoff, agricultural runoff, groundwater seepage and POTW effluent. The Department is a participant in the watershed-wide water monitoring program.

Final Selenium WLA

Dry-weather is defined as days when flows in the stream are less than the 86th percentile flow rate for each reach; wet weather is defined as flows greater than 86th percentile The daily maximum interim limit is set equal to the 99th percentile of available discharge data, the monthly average interim limit is set equal to the 95th percentile. The Interim WLAs for dry-weather in Revolon Slough are 14 μg/L criteria maximum concentration (CMC), and 13 μg/L criteria continuous concentration (CCC); for wet-weather. There is no interim wet-weather WLA because current loads do not exceed the TMDL. In this TMDL interim limits and WLAs are applied to receiving waters.

Final Selenium WLA Specific to the Department

Final WLAs for selenium in Revolon Slough are:
Dry weather: In lbs/day are 0.004 low flow, 0.003 average flow, 0.004 elevated flow.
Wet weather: In lbs/day is 0.027*Q^2+0.47*Q, where Q equals the daily storm volume Current loads do not exceed the loading capacity during wet weather, therefore no additional action by the Department is needed during wet weather.

Final Deadlines

The TMDL states that storm water dischargers are expected to achieve compliance through implementation of BMPs. A group watershed monitoring plan was required and receiving water monitoring compliance points are specified for all dischargers subject to the TMDL. A 25% reduction was required by March 2012, and a 50% reduction is required by March 2017. Final compliance is required by March 2022. The TMDL states that achievement of required reductions will be evaluated based on progress towards BMP implementation as outlined in the UWQMPs and in consideration of background loading information. The requirements of Attachment IV, III.G are consistent with the requirements of the TMDL.

Department's Selenium Contribution (relative contribution to pollutant loading**)**

The Department's relative contribution to the selenium pollutant loading is not known.

San Gabriel River and Impaired Tributaries Metals and Selenium TMDL, March 26, 2007

The San Gabriel River and impaired tributaries metals and selenium TMDL was *established by USEPA (and therefore there are no milestones compliance schedule, or monitoring requirements* and includes a dry-weather TMDL for selenium in San Jose Creek Reach 1. The TMDL notes that selenium is present in local marine sedimentary rocks and presumes that much of the selenium in San Jose Creek results from natural soils, and that this assumption is corroborated by the fact that many of the impairments in San Jose Creek occur after the channel becomes soft-bottomed; other potential sources were identified as mobilization of groundwater, such as by dewatering; irrigation of soils naturally high in selenium; and discharges from petroleum-related activities.

The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Final WLA for Selenium
The TMDL sets a dry-weather selenium WLA of 5 µg/L for all storm water discharges to San Jose Creek. The TMDL states that a review of the storm water permits indicates that the Department discharges entirely to municipal storm water systems.

Final Selenium WLA Specific to the Department
No specific selenium WLAs is assigned to the Department. The dry-weather WLAs for the storm water permittees are shared by the MS4 permittees and the Department because there is not enough data on the relative extent of MS4 and Caltrans areas.

Final Deadlines for Selenium
The MS4 permittees and the Department's storm water NPDES permittees shall demonstrate that 100 percent of the total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs and attaining water quality standards for metals and selenium.

Caltrans' Selenium Contribution (relative contribution to pollutant loading)
The Department's relative contribution to selenium pollutant loading is not known.

H. Temperature TMDL Pollutant Category

General Description of Pollutant Category
The North Coast Region Basin Plan defines the water quality objective for Temperature as follows:

(1) For estuaries, the Basin Plan incorporates by reference the statewide plan entitled "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California."

(2) The following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased by more than 5°F above natural receiving water temperature. At no time or place shall the temperature of WARM intrastate waters be increased more than 5°F above natural receiving water temperature.

The designated beneficial uses affected by thermal pollution of receiving waters include: cold freshwater habitat (COLD); rare, threatened, and endangered species (RARE); migration of aquatic organisms (MIGR); and spawning, reproduction, and/or early development of fish (SPWN); commercial and sport fishing (COMM); and contact and non-contact water recreation (REC-1 and REC-2).

Sources of Pollutant & How it Enters the Waterway

Anthropogenic processes that influence water temperature include changes to stream shade, stream flow via changes in groundwater accretion, streamflow via surface water use, changes to local microclimates, and channel geometry. Road construction and maintenance can, for example, involve the removal of some riparian vegetation, thus increasing ambient water temperature along the affected segment of a surface water body unless this impact is minimized via re-planting and/or by reducing the amount of vegetation removed.

Natural sources of sediment which can increase receiving water temperatures include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas soonest and

therefore address the problem at the appropriate level for the Temperature and Sediment TMDLs.

Control Measures

Dischargers responsible for vegetation removal are encouraged (and sometimes required) to preserve and restore such vegetation where possible. This may include planting riparian trees, minimizing the removal of vegetation that provides shade to a water body, and minimizing activities that might suppress the growth of new or existing vegetation. Reductions in sediment loads are expected to increase the number and depth of pools in streams and rivers, and to reduce wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

The Department is required to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in reducing thermal pollution in receiving waters. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and avoidance of alterations of natural runoff flow patterns.

The sediment control requirements in Attachment IV are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges.

The Sediment TMDL Implementation Policy also directs staff to develop: (1) the Work Plan, which describes how and when permitting and enforcement tools are to be used; (2) the Guidance Document on Sediment Waste Discharge Control; (3) the Sediment TMDL Implementation Monitoring Strategy; and (4) the Desired Conditions Report. Of these items, the Guidance Document for the Control of Excess Sediment Discharges and the Sediment TMDL Implementation Monitoring Strategy are still under development by the North Coast Region.

At present, the requirements in Attachment IV are generally sufficient to address the sediment/temperature TMDLs in the North Coast Region that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

Attachment IV requires continuation of existing monitoring plans or monitoring consistent with the TMDLs' requirements as approved by the Regional Water Board Executive Officer. A primary focus of the monitoring required by Attachment IV is management practice effectiveness monitoring and "Adaptive Management" for BMP

implementation requirements ensures compliance with the sediment/temperature TMDLs.

The North Coast Regional Water Board is also in the process of amending its basin plan for the control of thermal pollution. These revisions will add a policy for implementing the water quality objective for temperature. The amendment will also add additional action plans to implement total maximum daily loads for temperature in the Navarro, and Eel, and Mattole watersheds.

The proposed revisions to the Basin Plan include changes to Chapter 4 – Implementation Plans. The Regional Water Board directed staff to prepare an amendment incorporating a temperature implementation policy into the Basin Plan by adoption of resolution R1-2012-0013.The proposed Basin Plan amendment will describe the approach to implementing the interstate water quality objective for temperature in one cohesive policy. It will identify the regulatory mechanisms staff will employ to ensure achievement of the water quality objective for temperature, it will describe the significance of stream shade a factor determining stream temperatures, and it will direct staff to address temperature concerns through existing authorities and processes.

The proposed Basin Plan amendment will also establish implementation plans for the Navarro, Mattole, Upper Main Eel, Middle Main Eel, Lower Eel, Middle Fork Eel, North Fork Eel, and South Fork Eel River temperature TMDLs.

NORTH COAST REGION TEMPERATURE TMDLS

Eel River (Lower HA) Temperature and Sediment TMDL, USEPA Established on December 18, 2007

Final Temperature WLA
For the diffuse permitted sources, such as municipal and industrial storm water discharges, Caltrans facilities, construction sites, and Municipalities, as well as for discharges that are subject to NPDES permits but are not currently permitted, the waste load allocation (WLA) is expressed as follows: zero net increase in receiving water temperature.

Final Temperature WLA Specific to the Department
As stated above, USEPA's wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Temperature Deadlines
USEPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading**)**

USEPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (Middle-Fork) Eden Valley, and Round Valley HSAs Temperature and Sediment TMDL, USEPA Established on December 2003

Final Temperature WLA
Although USEPA states that because appropriate heat loads, water temperatures and tree heights cannot be generalized on a basin-wide scale, this reduction is best achieved by allowing trees to grow so as to provide the equivalent amount of shade that would be provided under natural conditions. In addition, measures to reduce sediment discharge and promote establishment or protection of additional refugia pool areas will facilitate attainment of water quality standards. In this sense, the temperature and sediment TMDLs overlap to some degree.

Final Temperature WLA Specific to the Department
Please see above discussion of the temperature WLA.

Final Temperature Deadlines
USEPA did not specify deadlines for implementation.

Department's Temperature Contribution (relative contribution to pollutant loading)
USEPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (South Fork) HA Temperature and Sediment TMDL, USEPA Established on December 16, 1999

USEPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does USEPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, USEPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in USEPA's calculations for the margin of safety in this TMDL.

Final Temperature WLAs
As stated above, there is no wasteload allocation for point sources.

Final Temperature WLA Specific to the Department
As stated above, there is no specific wasteload allocation for Caltrans.

Final Temperature Deadlines
USEPA did not specify deadlines for implementation.

Department's Temperature Contribution to Thermal Loading (relative contribution to pollutant loading**)**
USEPA attributes most sediment and thermal pollutant loading in the TMDL to nonpoint sources, and considers Caltrans' and other point source contributions to be comparatively minor.

Eel River (Upper Main HA) Temperature and Sediment TMDL, USEPA Established on December 29, 2004

Final Temperature WLA
USEPA states that there are no point source discharges included in the temperature TMDL for purposes of attaining temperature reductions via "shade allocation", so the waste load allocation is set to zero. USEPA states that permitted sources of increased water temperatures and sediment loading, if they occur in the future, will be attributable only to construction-related storm water discharges.

Final Temperature WLA Specific to the Department
As stated above, USEPA stated that there are no point source discharges for thermal pollution, so the wasteload allocation for all point source discharges (including the Department) is set to zero.

Final Temperature Deadlines
USEPA did not specify deadlines for implementation.

Department's Temperature Contribution (relative contribution to pollutant loading)
USEPA considers all point sources of temperature pollution to be insignificant for purposes of this TMDL.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Temperature WLA
The Iron Gate Fish Hatchery was identified as the only point-source heat load in the Klamath River watershed: The interstate water quality objective for temperature prohibits the discharge of thermal waste to the Klamath River, and therefore the

waste load allocation for Iron Gate Hatchery is set to zero, as monthly average temperatures. The TMDL addresses elevated temperatures from natural and non-point anthropogenic sources. The non-point sources include: (1) excess solar radiation, expressed as its inverse, shade; (2) heat loads associated with increased sediment loads; (3) heat loading from impoundments; and (4) heat loads from Oregon. The assigned load allocations for temperature are expressed as follows (as adapted from Table 4-15 in the basin plan):

Source	Allocation
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.
Impoundment Discharges	Zero temperature increase above natural temperatures 1,2
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations. 2
Impoundment Discharges	Zero temperature increase above natural temperatures

1. Natural temperatures are those water temperatures that exist in the absence of anthropogenic influences, and are equal to natural background.
2. Substantial human-caused sediment-related channel alteration: “A human-caused alteration of stream channel dimensions that increases channel width, decreases depth, or removes riparian vegetation to a degree that alters stream temperature dynamics and is caused by increased sediment loading.”

Final Temperature WLA Specific to the Department
Caltrans was not assigned a waste load allocation for temperature.

Final Deadlines
No deadlines were specified.

Department’s Pollutant Contribution (relative contribution to pollutant loading)
Caltrans is listed as a source of thermal pollution: however, the relative magnitude of Caltrans’ contribution to thermal pollution was not specified or estimated.

Navarro River Sediment and Temperature TMDL, USEPA Established on December 27, 2000

Final Temperature WLA
USEPA states that there are no known point sources of heat to the Navarro or its tributaries. The source analysis therefore focused on non-point sources. The wasteload allocation any for point sources which might be present is thus presumed to set to zero.

The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools and to reduced wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.
Improvements in stream temperature that may result from reduced sedimentation were not considered in the analysis.

Final Temperature WLA Specific to the Department
The Department is not specifically mentioned as a source of pollutant loading for Temperature, therefore the wasteload allocation for the Department is presumed to be set to zero.

Final Temperature Deadlines
USEPA did not specify deadlines for implementation of this TMDL.

Department's Temperature Contribution (relative contribution to pollutant loading**)**
As mentioned above, neither the Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so USEPA has determined that these potential sources are insignificant in this TMDL.

Scott River Sediment and Temperature TMDL, August 11, 2006

Final Temperature WLA
USEPA states that there are no point sources for temperature related discharges within the area encompassed by this TMDL, so the waste load allocation is set to zero.

Final Temperature WLA Specific to the Department
USEPA directed Regional Water Board staff shall evaluate the effects of the Department's state-wide NPDES permit, storm water permit, and waste discharge requirements (collectively known as the Caltrans Storm Water Program) by

September 8, 2008. The evaluation shall determine the adequacy and effectiveness of the Caltrans Storm Water Program in preventing, reducing, and controlling sediment waste discharges and elevated water temperatures in the North Coast Region, including the Scott River watershed.

Final Temperature Deadlines
USEPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero.

Department's Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the temperature pollutant loading is not known.

Shasta River Dissolved Oxygen and Temperature TMDL, USEPA Established on December 26, 2007

Final Temperature WLA
There are no point source heat loads in the Shasta River watershed, and therefore no waste load allocations apply.

Final Temperature WLA Specific to the Department
The Department's was not assigned a waste load allocation for temperature: as stated above, there are no point sources of heat loads in the Shasta River watershed.

Final Deadlines
No deadlines were specified.

Department's Pollutant Contribution
The Department's relative contribution to the temperature pollutant loading in Shasta River Watershed is not known.

I. Chloride Pollutant Category

General Description of Pollutant Category
The Department is named as a responsible party in the Santa Clara River watershed chloride TMDL.

Sources of Pollutant & How it Enters the Waterway
Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners.

Watershed Contribution
The Department does not import water and does not use self-generating water softeners.

Control Measures
The Department is expected to be in compliance with the chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

LOS ANGELES REGION CHLORIDE TMDLS

Santa Clara River Reach 3 Chloride TMDL, USEPA Established on June 18, 2003
There are two major sources that discharge into Reach 3, the Santa Paula and Fillmore WRPs, that comprise approximately 80% of the total estimated load under flow conditions.

The Department is one of five the minor point sources that discharges to Reach 3. Although the Department is a minor source, the minor discharges to the Santa Clara River are typically related to dewatering and construction projects that are covered by other NPDES permits.

Final Chloride WLA
Estimated Chloride Loads to Reach 3 Under Low Flow Conditions

Point Sources	**Waste Load Allocation** (mg/L)
Fillmore WRP	80
Santa Paula WRP	80
MS4 Stormwater	80
Construction General Permit	80
Department	80
Other Minor Permits	80
NonPoint Sources	**Load Allocation** (mg/L)
Other Tributaries to Reach 3*	80
Sespe Creek	40
Santa Clara Reach 4	100
Total	**80**
* Although other tributaries to Reach 3 were not included in the linkage analysis above, their contributions to Reach 3 chloride loads and flows are believed to be insignificant.	

Final Chloride WLA Specific to the Department
Specific WLA for the Department is 80 mg/L.

Final Chloride Deadlines
USEPA established this TMDL and it became effective on June 18, 2003. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the chloride pollutant loading in the Santa Clara River Reach 3 is not known.

Upper Santa Clara River Chloride TMDL, April 6, 2010
The principal source of chloride in the Upper Santa Clara River is discharges from the Saugus WRP and Valencia WRP, which are estimated to contribute 70%. These sources of chloride accumulate and degrade groundwater in the lower area east of Piru Creek in the basin.

Final Chloride WLA
Other minor NPDES discharges receive conditional WLAs shown below

Reach	**Concentration-based Conditional WLA for Chloride** (mg/L)
6	150 (12-month Average)
	230 (Daily Maximum)
5	150 (12-month Average)
	230 (Daily Maximum)
4B	117 (3-month Average)
	230 (Daily Maximum)

Final Chloride WLA Specific to the Department
The Department is assigned the above concentration based WLAs.

Final Chloride Deadlines
The interim and final WLAs for TDS and sulfate contained in this Basin Plan Amendment are essentially established for the principal sources. The Department does not import water and does not use self-generating water softeners. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order

Department's Chloride Contribution (relative contribution to pollutant loading**)**
Caltrans relative contribution to the chloride pollutant loading in the Upper Santa Clara River is not known.

Region Specific Requirements

Delete the following text in section titled Region Specific Requirements, San Francisco Bay Region, and replace with the underlined text (starting on page 34):

~~c. Short-Term Trash Load Reduction Plan. The Short-Term Trash Load Reduction Plan is intended to describe actions to incrementally reduce trash loads toward the 2016 requirement of a 40% reduction and eventual abatement of trash loads to receiving waters.~~

~~d. Baseline Trash Load and Trash Load Reduction Tracking Method. In order to achieve the incremental trash load reductions in an accountable manner, the Department will propose Baseline Trash Loads and a Trash Load Reduction Tracking Method. The Tracking will account for additional trash load reducing actions and BMPs implemented by the Department. The Department is also able to propose, with documentation, areas for exclusion from the Tracking Method accounting, by demonstrating that these areas already meet Discharge Prohibition A.3 and have no trash loads.~~

~~The Regional Water Board, at its February 11, 2009 hearing, adopted a resolution proposing that 26 waterbodies be added to the 303(d) list for trash. The adopted Resolution and supporting documents are contained in Attachment 10.1 – 303(d) Trash Resolution and Staff Report, Feb 2009.~~

~~e. Minimum Full Trash Capture. Installation of full trash capture systems is MEP as demonstrated by the significant implementation of these systems in the Los Angeles region. The minimum full trash capture requirements in Attachment V of this Order represent a moderate initial step toward employing this tool for trash load reduction.~~

~~f. Long Term Trash Load Reduction. The Department will submit a plan to achieve a long term trash load reduction of 70% by 2019 and 100% reduction by 2024.~~

~~g~~c. Trash Reduction measures shall demonstrate compliance through timely implementation of controls in all high trash generating areas for the prohibition of discharge of trash and include the following:

- Implementation of full capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchment that service the significant trash generating areas.
- Coordinate with neighboring MS4 permittees to construct, operate and maintain those controls listed above.

- Assess for the effectiveness of enhanced maintenance controls implemented in high generating trash areas, as well as coordination with local municipalities.
- Abate trash from construction and reconstruction projects.
- Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.
- Report in each Annual Report, as part of the TMDL STATUS REVIEW REPORT a per District summary of trash reduction controls and their effectiveness.

The remaining existing Fact Sheet text of the existing section titled Region Specific Requirements on Page 35 through Page 43 of the existing Fact Sheet remains unchanged.

ATTACHMENT NO. 3 TO ORDER 2014-XXXX-DWQ

Attachment IV OF ORDER 2012-0011-DWQ

Replace existing Attachment IV in Order 2012-0011-DWQ in its entirety with this proposed Attachment IV in its entirety.

Attachment IV
Total Maximum Daily Load Requirements

Attachment IV prescribes the implementation requirements for the Total Maximum Daily Loads (TMDLs) in which the Department of Transportation (Department) has been identified as a responsible party. The TMDLs in this attachment have been (1) adopted by the Regional Water Quality Control Boards (Regional Water Boards) and approved by the State Water Resources Control Board (State Water Board) and the United States Environmental Protection Agency (USEPA), or (2) established by USEPA.

Section I of this attachment provides directions and general guidance on development of a prioritized list of reaches for implementation actions. Section II identifies the applicable TMDLs and implementation requirements. Section II also contains TMDL-specific permit requirements for the Lake Tahoe Sediment/Nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. Section III prescribes the general implementation requirements applicable to all TMDLs, and the specific requirements applicable to each pollutant category.

The TMDLs addressed in this attachment were developed by numerous parties over many years, and vary widely in their implementation requirements. As explained in further detail in the Fact Sheet for this Order, Attachment IV establishes consistent implementation requirements among the TMDLs by separating them into one of eight categories by pollutant type, based upon the common treatment and control actions associated with each pollutant type. Each impaired waterbody will be prioritized for implementation by reach, with a fixed number of “compliance units” that must be achieved each year so that all TMDLs are addressed in 20 years. Effectiveness monitoring of the treatment and control actions is required to inform an adaptive management process.

The following eight TMDL pollutant categories have been established for TMDL implementation[7]:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity
2. Metals/Toxics/Pesticides
3. Trash
4. Bacteria
5. Diazinon
6. Selenium
7. Temperature
8. Chloride

The Department shall comply with the requirements of Attachment IV. These requirements are directly enforceable through Order 2012-0011-DWQ (Order).

Section I. TMDL Prioritization and Implementation

A. Reach Prioritization for Pollutant Categories

The Department shall prioritize all TMDLs for implementation of source control measures and best management practices (BMPs). Prioritization shall be conducted separately for each pollutant category and shall be based on an evaluation of each reach of applicable receiving waters within the watershed with a TMDL. The Department shall conduct the prioritization using the following five steps:

1. Complete an inventory of reaches. If reaches are defined in a TMDL, the Department may use that delineation for developing the inventory. If no reaches are specified in the TMDL, the Department shall delineate the receiving water into reaches.

2. Segregate the inventory according to the pollutant categories listed below in Section III, B through I (Categorical Inventories of Reaches). Individual reaches may be present in multiple pollutant categories.

3. Rank the reaches in each TMDL category in accordance with a procedure similar to that presented in Table IV.1. below.

4. Submit the prioritized Categorical Inventories of Reaches to the State Water Board **by October 1, 2014**, for Regional Water Board and State Water Board

[7] Some TMDLs containing multiple pollutants have been separated according to the categories that best address the individual pollutants.

consideration. The State Water Board will provide public notice of the submission and the submission will be subject to a 30-day public comment period.

5. The Department shall collaborate with the State Water Board and Regional Water Boards on a final prioritization for each of the Categorical Inventories of Reaches. Factors that may be considered in the final prioritization will include, but not be limited to:

   a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS,
   b. Multiple TMDLs that can be addressed by a single BMP or a suite of BMPs within a reach,
   c. TMDL deadlines specified in a Basin Plan,
   d. Regional Water Board and State Water Board priorities,
   e. Accessibility for construction and/or maintenance (i.e. safety considerations), and
   f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

B. Implementation

Following completion of the process described in Section I.A, the State Water Board Executive Director will approve, with any changes, the final prioritized Categorical Inventories of Reaches. The Department shall then select and begin implementation actions, as specified in Sections II and III, within the highest priority reaches to achieve at least the minimum number of compliance units as described below.

1. The Department shall include the following information regarding implementation of control measures in the selected reaches for the upcoming reporting period in the ***TMDL STATUS REVIEW REPORT***, as required in Section E.4.c.of the Order:
   a. Name of the waterbody,
   b. Associated TMDL(s),
   c. Proposed control measures,
   d. Proposed number of compliance units per control measure, and
   e. Projected schedule for installation of control measures with anticipated beginning and ending dates***.***

2. The Department shall also include in the ***TMDL STATUS REVIEW REPORT***[8] a discussion of previous years' activities including:
   a. The status of implementation activities,
   b. The location of the control measures,
   c. The size and type of BMPs that were installed,
   d. The effectiveness of the BMPs installed,
   e. A summary update of any cooperative implementing agreements (see Attachment IV, section II.B.) including those that are solely for each TMDL,
   f. A summary update of activities and/or actions that have been completed for any cooperative agreement for each TMDL,
   g. A summary of institutional control measures implemented to comply with Attachment IV,
   h. A summary of TMDLs adopted during the past year where the Department is assigned a WLA or the Department is identified as a responsible party in the implementation plan,
   i. Discussion of whether the Department considers work in the reach complete, and
   j. Any other information requested by the State Water Board Executive Director or designee.

   Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director of the State Water Board or designee.

3. Each year the Department shall select and begin implementation activities within the highest priority reaches to achieve a minimum of 1650 compliance units. A compliance unit is defined as one acre of the Department's Right-of-Way (ROW) from which the runoff is retained, treated, and/or otherwise controlled prior to discharge to the relevant reach. Compliance units may be credited to the Department for the following actions:

   - stand-alone BMP retrofits,
   - cooperative implementation,
   - monitoring program-related retrofits,
   - post-construction treatment beyond permit requirements, and

[8] Per section III.A.3.a of this attachment, by January 1, 2015, the Department shall submit the required information regarding planned implementation of control measures for the first upcoming reporting period (after permit amendment per Order 2014-XXXX-DWQ) of January 1, 2015 – October 1, 2015.

- other pollution reduction practices necessary to comply with the TMDL.

Compliance units, unless specifically stated below, are credited only when the Department begins implementation of an action listed above.[9]

4. The Executive Director of the State Water Board or designee, in consultation with the Regional Water Board, will determine compliance units for trash control activities in the San Francisco Bay Region as specified in Attachment V (see Section III.D).

5. Cooperative Implementation Agreements (see Section II.B. below) may qualify as compliance units for each year that the Department is contributing to the cooperative effort. The Department may propose that it receive credit for one compliance unit for each $88,000 spent on a non-monitoring Cooperative Implementation Agreement. Cooperative agreements that only involve monitoring are not eligible for compliance units.

6. No credit will be given to post-construction BMPs that only meet the minimum requirements of this Order (Section E.2.d.2)a)). Other projects within a TMDL watershed where treatment is provided above and beyond the post-construction requirements in this Order, may receive compliance units according to the following formula:

   $[(V_t-V_o)/p_{85}]*12$ = acres treated (compliance units calculated to the nearest 0.1)

   Where, V_t = Planned volume of runoff to be treated (acre-ft.),

   V_o = Volume of runoff from 85th percentile, 24-hour storm event (acre-ft.),

   p_{85} = depth of the 85th percentile, 24-hour storm event (inches).

[9] For purposes of Section I.A of this attachment, implementation means that a project has entered the Project Initiation Document (PID) phase, the process used by the Department to explain the scope, funding commitment, and approval of a transportation project (http://www.dot.ca.gov/hq/oppd/pdpm/other/PDPM-Chapters.pdf)

Table IV.1 – Reach Prioritization Scoring Matrix
The rating factors in this table are intended as guidance. Each pollutant category will be ranked separately.

Rating Factor	Criteria		
	High	**Medium**	**Low**
Impairment Status: Percent reduction needed	Over 75%	25% - 75%	Below 25%
Department's Drainage Area Contributing to the Reach	Over 5% of drainage area	Between 1% and 5% of drainage area	Less than 1% of drainage area
Connectivity to Receiving Waters	Over 75% connections are direct	Between 25% and 75% connections are direct	Less than 25% connections are direct
Community Environmental Health Impact	Top 3 categories	Middle 4 categories	Lower 3 categories

Impairment Status
The degree of impairment of the waterbody, measured by the percent pollution reduction needed to achieve the WLA. Reaches with higher degrees of impairment will be given higher priority. Consider all sources of impairment when making this determination.

Department's Contributing Drainage Area
The contributing drainage area from the Department's ROW is relative to the watershed draining to the reach.

Connectivity to Receiving Waters
This rating factor measures the relative connectivity of the sites within a reach to the receiving water. Sites discharging through conveyances within 0.25 miles of the pertinent reach are considered to be directly connected. All other discharges are considered to be indirectly connected. Directly connected sites have greater potential to contribute pollutants and receive a higher rating.

Community Environmental Health Impact
This rating factor requires use of the California Office of Health Hazard Assessment (OEHHA) evaluation tool "Enviroscreen" which can be found at http://oehha.ca.gov/ej/ces11.html. This tool should be used to assess environmental justice issues. Outcomes are segregated into 10 categories ranging from low to high environmental justice scores. Higher scores indicate that there is a higher potential for environmental justice issues to be present at a site.

Section II. Applicable TMDLs and Implementation Requirements

A. For each reach for which the Department has committed to begin implementation actions in accordance with Section I of this attachment, the Department shall either:

1. Implement the requirements in Table IV.2 applicable to that reach ensuring that all BMPs installed meet the minimum requirements specified in Sections E.2.d. and E.2.e. of this Order; or

2. Demonstrate that it has entered into or intends to enter into a Cooperative Implementation Agreement with other parties having responsibility for the TMDL, as specified below under Cooperative Implementation.

B. Cooperative Implementation

1. Where not excluded by a TMDL, the Department is encouraged to establish agreements for cooperative implementation efforts, such as joint implementation actions and/or special implementation studies, with other parties that have responsibility for the TMDL. Cooperative agreements that only involve monitoring are not eligible for compliance units.

2. Where the Department has existing cooperative implementation agreements with other responsible parties, it shall fulfill the commitments and requirements of those agreements.

3. Where the Department has not yet committed to cooperative implementation efforts, but intends to do so, the Department must provide written notification, including the anticipated date of commitment, to the State Water Board in its ***TMDL STATUS REVIEW REPORT***.

4. Cooperative agreements relative to the TMDL implementation activity are subject to approval by the applicable Regional Water Board Executive Officer. Cooperative agreements shall describe the terms of the mutually agreed activities to be performed, and at a minimum shall include:

    a. The date the cooperative agreement was approved by the Regional Water Board,
    b. A map showing the location of work to be performed in the reach,
    c. Any monitoring program parameters and responsibilities,
    d. Any implementation responsibilities,
    e. Any funding commitments that correspond with the implementation responsibilities, and
    f. A termination clause upon failure to comply with the terms and conditions of the agreement, as applicable.

5. The Department shall submit sufficient information to document the progress in achieving the requirements of the TMDL for each cooperative implementation agreement in its annual ***TMDL STATUS REVIEW REPORT***.

6. If the Department is not participating or has not given notice of its intent to participate in cooperative implementation efforts, or the Department is not fulfilling its cooperative implementation responsibilities under an agreement, it shall immediately comply with applicable TMDL Control Requirements listed in Table IV-2 below and report the corresponding status in the ***TMDL STATUS REVIEW REPORT***.

C. Consideration for Factors Affecting Implementation

Implementation may require environmental approvals and permitting from local, State, and/or federal resource agencies (e.g., California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, local Flood Control agencies, local County, etc.). Other factors such as safety concerns and technical infeasibility may affect project implementation. Delays or cancellations due to environmental or permitting factors beyond the Department's control must be reported in its annual ***TMDL STATUS REVIEW REPORT***.

The State Water Board will revoke compliance units for projects not completed within the implementation schedule approved under Section I.B.1 of this attachment, unless the delay in the implementation schedule is additionally approved by the Executive Director. Compliance units revoked shall be added to the total number of the required compliance units in following years. For example, if a project which claimed 20 compliance units is cancelled, 1670 compliance units (1650 + 20) are required to be implemented in the following year.

Table IV.2. TMDL Summary Table and Control Requirements

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R1 - North Coast Regional Water Board			
Albion River	**Sediment**	***USEPA Established TMDL*** Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Big River	**Sediment**	***USEPA Established TMDL*** Effective Date: December 2001 BPA: N/A Resolution:	Implement Section III.A. and Section III.B.
Lower Eel River	**Temperature and Sediment**	***USEPA Established TMDL*** Effective Date: December 18, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Middle Fork Eel River	**Temperature and Sediment**	***USEPA Established TMDL*** Effective Date: December 2003 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
South Fork Eel River	**Sediment and Temperature**	***USEPA Established TMDL*** Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	**Temperature and Sediment**	***USEPA Established TMDL*** Effective Date: December 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Garcia River	**Sediment**	Effective Date: March 16, 1998 BPA: 4-37.00 Action Plan for the Garcia River Watershed Resolution:	Implement Section III.A. and Section III.B.
Gualala River	**Sediment**	***USEPA Established TMDL*** Effective Date: November 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Klamath River in California	**Temperature, Dissolved Oxygen, Nutrients, and Microcystin**	Effective Date: December 28, 2010 BPA: Action Plan for Klamath River TMDLs Resolution: R1-2010-0026	Implement, Section III.A., Section III.B., Section III.H.. In addition, the Department shall refer to the Section E.2.d.4) of this Order for locating, assessing, and remediating barriers to fish passage.
Lost River	**Nitrogen, Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments**	Effective Date: December 30, 2008 BPA: Action Plan for Lost River TMDL Resolution: R1-2010-0026	Implement Section III.A. and Section III.B.
Mad River	**Sediment and Turbidity**	***USEPA Established TMDL*** Effective Date: December 21, 2007 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Navarro River	**Sediment and Temperature**	***USEPA Established TMDL*** Effective Date: December 27, 2000 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Noyo River	**Sediment**	***USEPA Established TMDL*** Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Redwood Creek	**Sediment**	***USEPA Established TMDL*** Effective Date: December 30, 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Scott River	**Sediment and Temperature**	Effective Date: August 11, 2006 BPA: Action Plan for Scott River. Resolutions: R1-2005-0113 &R-2010-0026	Implement Section III.A., Section III.B., and Section III.H.
Shasta River	**Dissolved Oxygen and Temperature**	Effective Date: January 26, 2007 BPA: Action Plan for the Shasta River Watershed Resolution: R1-2006-0052	Implement Section III.A., Section III.B., and Section III.H.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ten Mile River	**Sediment**	***USEPA Established TMDL*** Effective Date: December 2000 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Trinity River	**Sediment**	***USEPA Established TMDL*** Effective Date: December 20, 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
South Fork Trinity River and Hayfork Creek	**Sediment**	***USEPA Established TMDL*** Effective Date: December 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Van Duzen River and Yager Creek	**Sediment**	***USEPA Established TMDL*** Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
R2 - San Francisco Bay Regional Water Board			
Napa River	**Sediment**	Effective Date: January 20, 2011 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution: R2-2009-0064	Implement Section III.A., Section III.B., and the following: • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above. • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Richardson Bay	**Pathogens**	Effective Date: December 18, 2009 BPA: Pathogens in Richardson Bay Resolution: R2-2008-0061	Implement Section III.A. and Section III.E.
San Francisco Bay	**PCBs**	Effective Date: March 29, 2010 BPA: Exhibit A & TMDL & Implementation Plan for PCBs Resolution: R1-2008-0012	Implement Section III.A. and Section III.C.
San Francisco Bay	**Mercury**	Effective Date: February 12, 2008 BPA : Chapter 7, SF Bay Mercury TMDL Resolution: R2-2006-0052	Implement Section III.A, Section III.B., and the following: The Department shall work out an equitable mercury WLA scheme in consultation with the San Francisco Bay Area Urban Runoff Management Agencies.
San Pedro and Pacifica State Beach	**Bacteria**	Effective Date: August 1, 2013 BPA – Chapter 3, Section 3.3.1 Bacteria Resolution: R2-2012-0089	Implement Section III.A. and Section III.E.
Sonoma Creek	**Sediment**	Effective Date: September 8, 2010 BPA: Exhibit A & Implementation Plan Resolution: R2-2008-0103	Implement Section III.A., Section III.B, and the following: • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above. • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
San Francisco Bay Urban Creeks	**Diazinon & Pesticide-Related Toxicity**	Effective Date: May 16, 2007 BPA: Chapter 3, Toxicity Resolution: R2-2005-0063	Implement Section III.A., Section III.C., and Section III.F.
R3 - Central Coast Regional Water Board			
San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks)	**Sediment**	Effective Date: February 19, 2004 BPA: Attachment to R3-2002-0063 Resolution: R3-2002-0063	Implement Section III.A. and Section III.B.
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	**Sediment**	Effective Date: January 20, 2004 BPA: Attachment A to R3-2002-0051 Resolution: R3-2003-0051	Implement Section III.A. and Section III.B.
R4 - Los Angeles Regional Water Board			
Ballona Creek	**Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium**	Effective Date: December 22, 2005 and reaffirmed on October 29, 2008 BPA: Attachment A, Chapter 7-12 Resolution: R2007-015	Implement Section III.A., Section III.C., and Section III.G.
Ballona Creek	**Trash**	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3. Resolution: 2004-0023	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Ballona Creek Trash TMDL.
Ballona Creek Estuary	**Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs)**	Effective Date: December 22, 2005 BPA: Attachment A, Chapter 7-14 Resolution: R4-2005-008	Implement Section III.A. and Section III.C.
Ballona Creek, Ballona Estuary, and Sepulveda Channel	**Bacteria**	Effective Date: March 26, 2007 and November 18, 2013 BPA: Attachment A, Chapter 7-21 Resolution: R4-2006-011	Implement Section III.A. and Section III.E.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ballona Creek Wetlands	**Sediment and Invasive Exotic Vegetation**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Calleguas Creeks, its Tributaries and Mugu Lagoon	**Metals and Selenium**	Effective Date: March 26, 2007 BPA: Attachment A, Chapter 7-19 Resolution: R4-2006-012	Implement Section III.A., Section III.C., and Section III.G.
Calleguas Creeks its Tributaries and Mugu Lagoon	**Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation**	Effective Date: March 14, 2006 BPA: Attachment A, Chapter 7-17 Resolution: R4-2005-010	Implement Section III.A., Section III.B, and Section III.C.
Colorado Lagoon	**Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals (Pb & Zn)**	Effective Date: June 14, 2011 BPA: Attachment K, Chapter 7-38 Resolution: R09-005	Implement Section III.A. and Section III.C.
Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters	**Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs**	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-40 Resolution: R11-008	Implement Section III.A. and Section III.C.
Legg Lake	**Trash**	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-27 Resolution: R4-2007-10	Implement Section III.A. and Section III.D.
Long Beach City Beaches and Los Angeles River Estuary	**Indicator Bacteria**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., and Section III.E.
Los Angeles Area (Echo Park Lake)	**Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, & Trash**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C., and Section III.D.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Angeles Area (Lake Sherwood)	**Mercury**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (North, Center, & Legg Lakes)	**Nitrogen & Phosphorus**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (Peck Road Park Lake)	**Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C, and Section III.D.
Los Angeles Area (Puddingstone Reservoir)	**Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin**	***USEPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
Los Angeles River and Tributaries	**Metals**	Effective Date: December 22, 2005, October 29, 2008, & Reopened and Modified on November 3, 2011 BPA: Attachment A, Chapter 7-13 to 7-13 and Attachment B Resolution: R2007-014 & R10-003	Implement Section III.A. and Section III.C.
Los Angeles River	**Trash**	Effective Date: December 24, 2008 BPA: Attachment A, Chapter 7-2 Resolution: R4-2007-012	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Los Angeles River Watershed Trash TMDL.
Los Angeles River Watershed	**Bacteria**	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-39 Resolution: R10- 007	Implement Section III.A and Section III.E.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Cerritos	**Metals**	***USEPA Established*** Effective Date: March 17, 2010 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Machado Lake	**Eutrophic, Algae, Ammonia, and Odors (Nutrients)**	Effective Date: March 11, 2009 BPA: Attachment A, to R09-006 Resolution: R08-006	Implement Section III.A. and Section III.B.
Machado Lake	**Pesticides and PCBs**	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7-38 Resolution: R10- 008	Implement Section III.A. and Section III.C.
Machado Lake	**Trash**	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-26 Resolution: R4-2007-06	Implement Section III.A. and Section III.D.
Malibu Creek and Lagoon	**Bacteria**	Effective Date: January 10, 2006 & November 8, 2013 BPA: Attachment A, Chapter 7-10 Resolution: 2004-019R & R12-009	Implement Section III.A. and Section III.E.
Malibu Creek and Lagoon	**Sedimentation and Nutrients to address Benthic Community Impairments**	***USEPA Established TMDL*** Effective Date: July 2, 2013 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Malibu Creek Watershed	**Trash**	Effective Date: June 26, 2009 BPA: Attachment A, Chapter 7-31 Resolution: R4-2008-007	Implement Section III.A. and Section III.D.
Marina del Rey Harbor	**Toxic Pollutants (Cu, Pb, Zn, Chlordane, and Total PCBs)**	Effective Date: March 16, 2006 BPA: Attachment A, Chapter 7-18 Resolution: R4-2005-012	Implement Section III.A. and Section III.C.
Marina del Rey Harbor Mother's Beach and Back Basins	**Bacteria**	Effective Date: March 18, 2004 BPA: Attachment A, Chapter 7-5 Resolution: 2003-012	Implement Section III.A. and Section III.E.
Revolon Slough and Beardsley Wash	**Trash**	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3 Resolution: 2004-0023	Implement Section III.A. and Section III.D.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
San Gabriel River	**Metals (Cu, Pb, Zn) and Selenium**	***USEPA Established TMDL*** Effective Date: March 26, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.C., and Section III.G.
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	**Coliform**	Effective Date: January 13, 2012 BPA: Attachment A, Chapter 7-36 Resolution: R10-006	Implement Section III.A. and Section III.E.
Santa Clara River Reach 3	**Chloride**	Effective Date: December 11, 2008 BPA: Attachment B to Resolution No. R4-2008-012 & R4-2008-012	Implement Section III.A. and Section III.I.
Santa Monica Bay Beaches during Dry & Wet Weather	**Bacteria**	Effective Date: June 19, 2003 BPA: Attachment A, Chapter 7-5 Resolution:2003-012	Implement Section III.A. and Section III.E.
Santa Monica Bay	**DDTs and PCBs**	***USEPA Established TMDL*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Santa Monica Bay Nearshore & Offshore	**Debris (trash & plastic pellets)**	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7 Resolution:	Implement Section III.A. and Section III.D.
Upper Santa Clara River	**Chloride**	Effective Date: April 6, 2010 BPA: Attachment B. Chapter 7-6 Resolution: R4-2008-012	Implement Section III.A. and Section III.I.
Ventura River Estuary	**Trash**	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-25 Resolution: R4-2007-008	Implement Section III.A. and Section III.D.
Ventura River and its Tributaries	**Algae, Eutrophic Conditions, and Nutrients**	Effective Date: June 28, 2013 BPA: Attachment A, Chapter 7-35 Resolution: R12-011	Implement Section III.A. and Section III.B.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R5 - Central Valley Regional Water Board			
Clear Lake	**Nutrients**	Effective Date: September 21, 2007 BPA: Attachment 1 to R5-2006-0060 Resolution No.: R5-2006-0060	Implement Section III.A. and Section III.B.
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	**Mercury**	Effective Date: February 7, 2007 BPA: Attachment 1 to R5-2005-0146 Resolution: R5-2005-0146	Implement Section III.A. and Section III.B.
Sacramento-San Joaquín River Delta Estuary	**Methyl mercury**	Effective Date: October 20, 2011 BPA: Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento – San Joaquin River Delta Estuary Resolution: R5-2010-0043.	Implement Section III.A. and Section III.B.
R6 - Lahontan Regional Water Board			
Lake Tahoe Sediment and Nutrients TMDL Effective Date: August 16, 2011 BPA: WQ Amendment May 2008 Resolution: 2009-0028 **Lake Tahoe Sediment Requirements** A. Pollutant Load Reduction Requirements The Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016. Pollutant load reductions shall be measured in accordance with the processes outlined in the most recent version of Lake Clarity Crediting Program Handbook. To demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements, the Department must earn and maintain 361 Lake Clarity Credits for the water year October 1, 2015 to September 30, 2016, and for subsequent water years.			

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements

B. Pollutant Load Reduction Plans

The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reduction requirements described in Section A above. The Department shall submit a plan no later than September 15, 2013 that shall include, at a minimum, the following elements:

1. *Catchment registration schedule*
   The PLRP shall include a list of catchments that the Department plans to register pursuant to the approved Lake Clarity Crediting Program to meet load reduction requirements. The list shall include catchments where capital improvement projects have been constructed since May 1, 2004 that the Department expects to claim credit for, and catchments where projects will be constructed and other load reduction activities (capital improvements, institutional controls, and other measures/practices implement) taken during the term of this Order.

2. *Proposed pollutant control measures*
   The PLRP shall generally describe storm water program activities to reduce fine sediment particle, total phosphorus, and total nitrogen loading that the Department will implement in identified catchments.

3. *Pollutant load reduction estimates*
   The Department shall conduct pollutant load reduction analyses on a representative catchment subset to demonstrate that proposed implementation actions are expected to achieve the pollutant load reduction requirements specified in Section A. above. For representative catchments, the analysis shall include detailed estimates of both baseline pollutant loading and expected pollutant loading resulting from implementation actions and provide justification why the conducted load reduction analysis is adequate for extrapolation to other catchments.

   The pollutant loading estimates shall differentiate between estimates of pollutant load reductions achieved since May 1, 2004 and pollutant load reductions from actions not yet taken.

4. *Load reduction schedule*
   The PLRP shall describe a schedule for achieving the pollutant load reduction requirements described in the Lake Tahoe Sediment TMDL Section A above. The schedule shall include an estimate of expected pollutant load reductions for each year of this Permit term based on preliminary numeric modeling results. The schedule shall also describe which catchments the Department anticipates it will register for each year of this Permit term.

5. *Annual adaptive management*
   The PLRP shall include a description of the processes and procedures to annually assess storm water management activities and associated load reduction progress. The plan shall describe how the Department will use information from the monitoring and implementation or other efforts to improve operational effectiveness and for achieving the pollutant load reduction requirements specified in Section A.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
6. *Pollutant Load Reduction Plan Update* By March 15, 2017, the Department shall update its Pollutant Load Reduction Plan to describe how it will achieve the pollutant load reduction requirements for the second five-year TMDL implementation period, defined as the ten-year load reduction milestone in the Lake Tahoe TMDL. Specifically, the updated Pollutant Load Reduction Plan shall demonstrate how the Department will reduce baseline fine sediment particle, total nitrogen, and total phosphorus loads by 21 percent, 14 percent, and 14 percent, respectively, by water year 2021. C. Pollutant Load Reduction Progress To demonstrate pollutant load reduction progress, the Department shall submit a Progress Report by March 15, 2014 documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. D. Pollutant Load Reduction Monitoring and Water Quality Monitoring Requirements Caltrans shall prepare and submit a Storm water Monitoring Plan for review and approval by the Regional Water Board by July 15, 2013 and implement the approved plan.			
Truckee River	**Sediment**	Effective Date: September 16, 2009 BPA: WQ Amendment May 2008 Resolution: 2009-0028	Implement Sections III.A. and Section III.B.
R7 - Colorado River Regional Water Board			
Coachella Valley Storm Water Channel	**Bacterial Indicators**	Effective Date: April 27, 2012 BPA: Attachment 1: Final CVSC Bacteria TMDL Resolution: R7-2010-0028	Implement Section III.A. and Section III.E.
R8 - Santa Ana Regional Water Board			
Big Bear Lake	**Nutrients for Dry Hydrological Conditions**	Effective Date: September 25, 2007 BPA: Attachment to R8-2006-0023 Resolutions: R8-2006-0023, and R8-2008-0070	Implement Section III.A. and Section III.B.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Lake Elsinore and Canyon Lake Nutrients TMDL Effective Date: September 30, 2005 BPA: Attachment to R8-2004-0037 & R8-2006- 0031 Resolution: R8-2007-0083 Implement Section III.A., Section III.B., and the following: **Lake Elsinore/Canyon Lake Nutrient TMDL Joint Responsibility Options** a. The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. The Department shall continue with those actions and remain an active paying Task Force member. b. If the State Water Board is notified that the Department is not fulfilling its Lake Elsinore/Canyon Lake Task Force obligations or if Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies the Department shall make a formal decision by . These decisions must be approved/adopted by the State Board. The Department will then be required to conduct the following activities: 1) Within 30 days of such notification, implement a Lake Elsinore and Canyon Lake in-lake monitoring consistent with the TMDL Task Force monitoring program. 2) Within 30 days of such notification, submit a proposed Caltrans facilities monitoring program to evaluate nutrient discharges from Caltrans facilities in the Lake Elsinore/Canyon Lake watershed. 3) Within 30 days of notification, develop and implement a Lake Elsinore in-lake sediment nutrient reduction program to mitigate Caltrans facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented. 4) Within 60 days of notification, develop and implement a Canyon Lake in-lake sediment nutrient reduction program to mitigate Caltrans facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented. 5) Within 60 days of notification, submit an annual monitoring report by August 15th of each year. 6) Submit an annual in-lake nutrient reduction program status report by August 15th of each year.			
Rhine Channel Area of Lower Newport Bay	**Chromium and Mercury**	***USEPA Established TMDL*** Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
San Diego Creek and Newport Bay, including Rhine Channel	**Metals (Copper, Lead, & Zinc)**	***USEPA Established TMDL*** Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.

Impaired Waterbody	Pollutant(s)	Approved or USEPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
San Diego Creek and Upper Newport Bay	**Cadmium**	***USEPA Established TMDL*** Effective Date: June 14, 2002 BPA: N/A	Implement Section III.A. and Section III.C
San Diego Creek Watershed	**Organochlorine Compounds (DDT, Chlordane, PCBs, & Toxaphene)**	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.
Upper & Lower Newport Bay	**Organochlorine Compounds (DDT, Chlordane & PCBs)**	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.
R9 - San Diego Regional Water Board			
Chollas Creek	**Diazinon**	Effective Date: November 3, 2003 BPA: Attachment A to Resolution: R9-2002-0123	Implement Section III.A. and Section III.F.
Chollas Creek	**Dissolved Copper, Lead and Zinc**	Effective Date: December 18, 2008 BPA: Attachment A Resolution: R9-2007-0043	Implement Section III.A and Section III.C.
Los Peñasquitos Lagoon	**Sediment**	Effective Date: *Pending* BPA: Attachment A Resolution No.R9-2012-0033	Implement Section III.A. and Section III.B.
Rainbow Creek	**Total Nitrogen and Total Phosphorus**	Effective Date: March 22, 2006 BPA: Attachment A Resolution: R9-2005-0036	Implement Section III.A. and Section III.B.
Project 1-Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)	**Indicator Bacteria**	Effective Date: June 22, 2011 BPA: Attachment A Resolution: R9-2010-001	Implement Section III.A. and Section III.E.

Section III. General and Categorical Requirements

A. General Requirements for All TMDLs:

1. **Comprehensive TMDL Monitoring Plan**

   a. The Department shall continue to implement existing TMDL water quality monitoring plans, including cooperative water quality monitoring plans that have already received approval from the Regional Water Board Executive Officer.

   b. The Department shall develop and implement a comprehensive TMDL monitoring plan to be submitted to the State Water Board by January 1, 2015. The comprehensive TMDL monitoring plan shall include existing approved water quality monitoring plans as described in Section III.A.1.a. above, and shall also include monitoring for all TMDLs that do not have existing approved water quality monitoring plans. The proposed comprehensive TMDL monitoring plan shall be designed to inform selection of BMPs, to inform future reach prioritization submittals, and to assess the effectiveness of BMP implementation. The Department may propose monitoring by pollutant category and may rely on representative monitoring for BMP effectiveness assessment. The comprehensive TMDL monitoring plan shall include a time-schedule for the implementation of the monitoring plan. The comprehensive TMDL monitoring plan is subject to approval by the Executive Director of the State Water Board.

2. **Adaptive Management**
   The Department shall use monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs. The assessment shall include necessary modifications to control measures to achieve WLAs and other applicable performance standards. Where an assessment indicates that control measures are inadequate to achieve WLAs and other performance standards in a reach, the Department must implement improved control measures/BMPs.

3. **Reporting**
   a. By January 1, 2015, the Department shall submit the required information in section I.B. of this attachment regarding planned implementation of control measures for the upcoming reporting period (January 1, 2015 – October 1, 2015).

   b. The Department shall summarize the previous year's TMDL monitoring results, deliverables and other actions as specified in its annual ***TMDL STATUS REVIEW REPORT,*** per Provision E.4.c.of this Order.

c. The Department shall prepare and submit a ***TMDL PROGRESS REPORT*** by January 1, 2018, to the State Water Board as part of its report of waste discharge under Provision E.13.c. The ***TMDL PROGRESS REPORT*** shall be presented to the State Water Board as an informational item and include the following information:
   i. A summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of the BMP effectiveness assessment,
   ii. A determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines,
   iii. Where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants, and
   iv. A summary of the estimated quantified amount of pollutants prevented from entering into the receiving waters as a result of BMPs, cooperative agreements, or other source control measures taken.

   The ***TMDL PROGRESS REPORT*** will be subject to public review and comment and will be used in the development of the reissued permit.

B. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDL Control Requirements

Sediment, nutrient and mercury TMDLs identify sediment from roads as a significant or primary source of these pollutants. Measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. Therefore, the Department shall implement control measures to prevent or minimize erosion and sediment discharge. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

C. Metals/Toxics/Pesticides TMDL Control Requirements

1. **Fine Particulates**
   Toxic pollutants and/or heavy metals have a high affinity for adherence to fine sediment, such as particles from tires, brake parts, and the road surfaces. Therefore, the appropriate control measures for metals and toxics are to control erosion and prevent or minimize the discharge of fine sediment. The Department shall implement control measures to prevent the discharge of fine sediment. This can be achieved by intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying runoff flow patterns.

2. **Dissolved Fraction Metals**
   The fraction of metals that are not bound to particulates exists in a dissolved state as free metal ions, as inorganic complexes, or bound to dissolved organic chemicals. Although fine particulate removal also reduces dissolved fraction metals, additional control measures may be necessary for the control of dissolved metals. Typically, treatment for dissolved fraction metals requires physical structures that prevent contaminated runoff from reaching receiving waters, such as infiltration systems that allow runoff water to percolate into soil.

   The Department shall propose and implement appropriate control measures to reduce the discharge of dissolved fraction metals to comply with this Order.

3. **Water Effect Ratios (WER) Studies for Metals**
   The toxicity of metals can be modified by other constituents in the water column, such as dissolved organic carbon. The presence of these constituents can reduce the toxicity to aquatic life resulting in concentrations or loads that do not threaten beneficial uses. WER studies, which compare predicted toxicity to measured toxicity of samples of site water, are required for specific metals in some TMDLs, and are optional for others. The Department is encouraged to participate in the optional WER studies to develop improved and cost-effective regulation to address metals in discharges.

   The Department shall submit to the appropriate Regional Water Board any required ongoing or proposed WER studies, except for copper, either individually or jointly with other entities, by January 1, 2018.

4. **Pesticides**
   The Department shall comply with Provision E.2.h.3)b) of this Order which specifies practices for the safe handling and use of pesticides, including compliance with federal, State and local regulations, and label directions. This provision also requires site assessments, applicator training, and implementation of integrated pest and vegetation management practices in its vegetation control program.

D. Trash TMDL Control Requirements

Trash in waterbodies reduces habitat for aquatic life, directly impacts wildlife from ingestion or entanglement, impacts human health from pathogens, and impacts the aesthetics of waterbodies.

1. The discharge of trash to receiving waters is prohibited. The Department shall comply with this prohibition in all significant trash generating areas in the watersheds subject to trash TMDL controls, identified as the following:

a. Highway on-ramps and off-ramps in high density residential, commercial, and industrial land use areas.
b. Rest area and park-and-ride facilities.
c. State highways in commercial and industrial land use areas.
d. Mainline highway segments identified through pilot studies and/or surveys.

2. The Department shall comply with the discharge prohibition of trash through one of the following control measures:
   a. Install, operate, and maintain a full capture system, treatment controls, and/or institutional controls for storm drains that service the significant trash generating areas; or
   b. Coordinate with neighboring municipalities that have jurisdiction over significant trash generating areas and/or priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations) to implement Section III.D.2.a above.

3. The Department shall submit as part of its ***TMDL STATUS REVIEW REPORT*** a determination of the highway characteristics that may qualify as significant trash generating areas by October 1, 2015, and

4. The Department shall submit as part of its ***TMDL STATUS REVIEW REPORT*** the status of each of the applicable control measures specified in Section III.D.2 above.

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for trash impairments.

The Department may receive compliance units toward fulfilling the requirements of Section I.B. of this attachment where the Department implements trash load reduction requirements as specified in Attachment V of this Order for the San Francisco Bay Region. The compliance units to be credited will be determined by the Executive Director of the State Water Board or designee, in consultation with the San Francisco Bay Regional Water Board.

E. Bacteria TMDL Control Requirements

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for bacteria impairments.

1. Dry-Weather Flows

   Dry weather non-storm water discharges may significantly increase bacteria loading to receiving waters. Therefore, the Department shall implement control measures to ensure that the effective prohibition of non-storm water discharges

(Provision B.2. of this Order) is implemented according to the prioritized work schedule specified in Section I of this attachment. The prohibition of non-storm water discharges can be achieved through infiltration, diversion, or other methods.

2. Wet-Weather Flows
   Wet weather storm water discharges also contribute significant bacteria loads to receiving waters. The principal impact is to the water contact recreation beneficial use (REC-1). The Department shall implement control measures/BMPs to prevent or eliminate the discharge of bacteria from its ROW. Source control and preemptive activities such as street sweeping, clean-up of illegal dumping, public education on littering; and BMPs such as retention/detention, infiltration, diversion of storm water prevent or eliminate the discharge of bacteria to receiving waters.

F. Diazinon TMDL Control Requirements

Diazinon is an organophosphate pesticide used in agriculture. It is no longer registered by the California Department of Pesticide Regulation for non-agricultural uses. The Department does not use diazinon on its ROW. The discharge of diazinon is prohibited.

G. Selenium TMDL Control Requirements

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as significant sources of selenium. The Department shall implement control measures to control the discharge of selenium, unless the Department can demonstrate one of the following:

1. There is no exceedance of an applicable receiving water limitation for selenium in the receiving water(s) at, or immediately downstream of, the Department's outfall(s), or
2. There is no direct or indirect discharge from the Department's outfall(s) to the receiving water during the time period subject to the WLA.

The Department does not have to comply with the monitoring requirements of Attachment II in demonstrating non-exceedance or no discharge of selenium.

H. Temperature TMDL Control Requirements

Maintenance activities may increase receiving water temperatures as a result of vegetation removal and/or erosion and sedimentation. Sedimentation and erosion control measures for temperature impairments are being required in accordance with Section III.B. Therefore, the Department shall:

1. Preserve existing riparian biotic conditions immediately adjacent to receiving waters susceptible to temperature increases,
2. Provide effective shade near receiving waters susceptible to temperature increases, and
3. Maintain site potential effective shade near receiving waters susceptible to temperature increases.

Alteration of riparian biotic conditions that may increase sedimentation or reduce effective shade shall receive prior written authorization by the applicable Regional Water Board Executive Officer or designee.

Site Potential Effective Shade is defined as the percentage of direct beam solar radiation attenuated and scattered before reaching the stream surface from topographic and vegetation conditions consistent with full vegetative growth conditions at the site.

I. Chloride TMDL Control Requirements

Elevated levels of chloride in receiving waters affect their beneficial use for agricultural irrigation. Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners. The Department does not discharge significant amounts of chloride and any minimal discharges are expected to be addressed under the requirements of this Order. No additional TMDL implementation actions for control of chloride are required in this attachment.

Attachment V OF ORDER 2012-0011-DWQ

PART 1
NORTH COAST REGION

1.b. Prioritize: Prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility. The inventory and prioritized steps shall be completed within two (2) years of the adoption of this Order and updated annually. This step is not required if the Department is implementing the requirements of Attachment IV for this TMDL as the given reach has already been prioritized within the context of statewide implementation.

PART 2
SAN FRANCISCO BAY REGION

~~1. Trash Load Reduction~~

~~a.~~ ~~The Department shall demonstrate compliance with Discharge Prohibition 7,Table 4-1 of the San Francisco Bay Regional Water Board Basin Plan[1]through the timely implementation of control measures to achieve the following target levelsto reduce trash loads from the Department's MS4 by 40% by 2017, 70% by 2020, and 100% by 2025.~~

~~b. Trash Load Reduction Plans~~

~~i. Short-Term Trash Loading Reduction -The Department shall submit a Short-Term Trash Load Reduction Plan, including an implementation schedule,to the Regional Water Board by July 1, 2013. The Plan shall describe control measures and best management practices that are currently being implemented and the current level of implementation and additional control measures and best management practices that will be implemented, and/or an increased level of implementation designed to attain a 40 percent trash load reduction from its MS4 by July 1, 2017. The Plan shall account for the Minimum Full Trash Capture requirement of subsection 2.b.iii of this Part.~~

~~ii. Long Term Trash Load Reduction-The Department shall submit a Long-Term Trash Load Reduction Plan, including an implementation schedule, to the Regional Water Board by October 1, 2017. The Plan shall describe control measures and best management practices that are being implemented and the level of implementation and additional control measures and best management practices that will be implemented and/or increased level of implementation designed to attain a 70 percent trash load reduction from its MS4 by July 1, 2020, and 100 percent trash load reduction by July 1, 2025.~~

~~The Department may choose to establish a municipal-coordination plan to design, build, operate, or maintain controls in conjunction with other watershed stakeholders. The Short-Term Trash Load Reduction Plan goal may be with Department specific activities and devices, or from load reduction resulting from municipal-coordination implementation or any combination thereof.~~

~~[1] San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board's Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.~~

~~iii. Baseline Trash Load and Trash Load Reduction Tracking Method–The Department shall determine the baseline trash load from its MS4 to establish the basis for trash load reductions from its MS4 and submit the determined baseline trash load level to the Regional Water Board by July1, 2013, along with documentation of methodology used to determine the load level. The submittal shall also include a description of the trash load reduction tracking method that will be used to account for trash load reduction actions and to demonstrate progress toward and attainment of trash load reduction levels. The submittal shall account for the drainage areas in the Department's jurisdiction that are associated with the baseline trash load from its MS4, and the baseline trash load level per unit drainage area characteristics used to derive the total baseline trash load level.~~

~~In the determination of applicable areas that generate trash loads for inclusion in the Baseline Trash Load, the Department may propose areas for exclusion, with supporting documentation that the areas demonstrate no material trash presence.~~

~~iv. **Minimum Full Trash Capture** – The Department shall install and maintain controls to capture and treat runoff from an area that cumulatively totals at least ten percent of the Department's right-of-way by July 1, 2017.~~

~~All installed devices that meet the following full trash capture definition may be counted toward this requirement regardless of date of installation. A full capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area~~.

~~The Department may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The minimum trash capture requirement may be met with Department specific activities and devices, or from load reduction~~

~~resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination is a full capture device.~~

~~**c. Trash Reduction Reporting**~~

~~In each Annual Report, the Department shall provide a summary of its trash load reduction actions (control measures and best management practices) including the types of actions and levels of implementation, and the total trash loads by volume removed. Beginning with the 2014 Annual Report, the Department shall also report its percent annual trash load reduction relative to its Baseline Trash Load.~~

1. High Trash Generation Areas

The Department shall demonstrate compliance with Discharge Prohibition 7, Table 4-1 of the San Francisco Bay Regional Water Board Basin Plan through the timely implementation of control measures in all high trash generating areas in the San Francisco Bay Region, identified as the following:

a. Freeway on- and off-ramps in high density residential, commercial and industrial land uses.
b. Rest areas and park-and-rides.
c. State highways in commercial and industrial land use area
d. Other freeway segments as identified by maintenance staff and/or trash surveys.

2. Control Measures

The Department shall comply with the prohibition of discharge for trash through implementation of the following control measures:

a. Install, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchments that service the significant trash generating areas.
b. Coordinate with neighboring MS4 permittees to construct, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls in high trash generating areas and/or priority land use areas (high density residential, industrial, commercial, and public transportation stations).

All installed devices that meet the following full trash capture definition may be counted toward this requirement regardless of date of installation. A full trash capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the subdrainage area.

3. Coordination with Local Entities

The Department may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The Minimum Full Trash Capture requirement may be met with the

Department specific activities and devices, or from load reduction resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination activities meet the full trash capture standard.

4. Assessment

The Department shall assess the effectiveness of enhanced maintenance controls implemented in high trash generation areas. This assessment will include controls implemented in coordination with local municipalities.

5. Additional

a. Abate trash from construction and reconstruction projects.
b. Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.

6. Reporting

In each Annual Report, as part of the ***TMDL STATUS REVIEW REPORT,*** the Department shall provide a per District summary of the following:

a. Trash load reduction actions,
b. Full trash capture installation and maintenance,
c. Implementation of enhanced maintenance controls,
d. A map and list of high trash generation areas and the installed controls addressing each area,
e. Total trash load by volume, and
f. Municipal coordination implementation.

7. Storm Water Pump Stations

The Department shall comply with the following implementation measures to reduce polluted water discharging from its pump stations:

a. Complete an inventory of pump stations within the Department's jurisdiction in the San Francisco Bay Region, including locations and key characteristics[10] and submit the inventory to the Regional Water Board by October 1, 2015.
b. Inspect and collect dissolved oxygen (DO) data from 20 percent of the pump stations once a year (100 percent in five years). DO monitoring shall be conducted after a minimum of a two week antecedent dry period. DO monitoring is exempted where there is no discharge from a pump station or any discharge infiltrates into a dry creek immediately downstream.
c. If DO levels are at or below 3 milligrams per liter (3 mg/L), apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other

[10] Characteristics include name of pump station, latitude and longitude in NAD83, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

appropriate methods to maintain DO concentrations of the discharge above 3 mg/L.

d. Report inspection and monitoring results in the Annual Report.

Attachment VIII OF ORDER 2012-0011-DWQ

Full Capture System definition has been added to page 5 (in place according to alphabetical order):

Full Capture System.

A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area.
Rational equation is used to compute the peak flow rate: Q = C x I x A
where Q = design flow rate (cubic feet per second, cfs);
C = runoff coefficient (dimensionless);
I = design rainfall intensity (inches per hour, as determined per a rainfall isohyetal map), and
A= subdrainage area (acres).

Attachment IX OF ORDER 2012-0011-DWQ

Reporting requirement are modified to the following required permit deliverable in accordance with this amendment:

TMDL Status Review Report	E.4.c.	59	October 1, ~~2014~~2015	Annually as part of the Annual Report