



**Comprehensive  
Total Maximum Daily Load  
Monitoring Plan**

**CTSW-PL-17-350.01.01**

**January 2017**

## **NOTICE**

For individuals with sensory disabilities, this document is available in alternate formats upon request. Please call or write to:

Stormwater Liaison  
California Department of Transportation, Division of Environmental Analysis  
PO Box 942874, MS-27  
Sacramento, CA 94274-0001

(916) 653-8896 Voice, or dial 711 to use a relay service.

# TABLE OF CONTENTS

TABLE OF CONTENTS..... i

    List of Figures and Tables.....ii

    List of Appendices.....ii

    List of Abbreviations and Acronyms .....iii

1.0 INTRODUCTION..... 1

    1.1 PURPOSE ..... 1

    1.2 PERMIT REQUIREMENTS..... 1

    1.3 CALTRANS STORMWATER PROGRAM MONITORING GUIDANCE..... 2

    1.4 ORGANIZATION ..... 3

    1.5 TMDLs LISTED IN THE PERMIT ..... 3

2.0 CALTRANS MONITORING ..... 30

    2.1 MONITORING GUIDANCE MANUAL..... 30

    2.2 CHARACTERIZATION MONITORING ..... 31

    2.3 BMP EFFECTIVENESS MONITORING ..... 33

3.0 COMPLIANCE MONITORING THROUGH COOPERATIVE AGREEMENTS..... 36

4.0 PLAN IMPLEMENTATION AND SCHEDULE ..... 37

    4.1 CMP IMPLEMENTATION ..... 37

    4.2 SCHEDULE ..... 39

5.0 REPORTING AND FUTURE TMDLS ..... 47

    5.1 ANNUAL REPORT UPDATES..... 47

    5.2 CMP ANNUAL UPDATES TO TABLE 4.1 IMPLEMENTATION SCHEDULE ..... 48

    5.3 FUTURE TMDLS ..... 48

6.0 REFERENCES..... 49

**List of Figures and Tables**

Figure 1.1 Map of TMDL Watershed Areas..... 4  
Table 1.1 List of Caltrans’ 84 TMDLs ..... 5  
Table 1.2 Priority List by TMDL Reach and Pollutant Category by Reach..... 10  
Table 4.1 TMDL Watersheds Compliance Monitoring Implementation Schedule and Status .... 40  
Table 5.1. Reporting Requirements ..... 48

**List of Appendices**

- Appendix A Permit Attachment II; Non-ASBS Monitoring Constituent List
- Appendix B Quality Assurance Project Plan Template

**List of Abbreviations and Acronyms**

|                       |  |
|-----------------------|--|
| ASBS                  | Areas of Special Biological Significance                                       |
| BMP                   | Best Management Practice   |
| BMP PSGM              | Best Management Practice Pilot Study Guidance Manual                           |
| Caltrans / Department | California Department of Transportation  |
| CEDEN                 | California Environmental Data Exchange Network                                 |
| CIMP                  | Comprehensive Implementation Monitoring Plan                                   |
| CMP                   | Comprehensive Total Maximum Daily Load Monitoring Plan                         |
| MOA                   | Memoranda of Agreement   |
| Permit                | Caltrans National Pollutant Discharge Elimination System Storm<br>Water Permit |
| QA/QC                 | Quality Assurance/Quality Control  |
| QAPP                  | Quality Assurance Project Plan   |
| Regional Water Board  | California Regional Water Quality Control Board                                |
| SMARTS                | Storm Water Multi-Application Reporting and Tracking System                    |
| SWAMP                 | Surface Water Ambient Monitoring Program                                       |
| SWMGM                 | Caltrans Stormwater Monitoring Guidance Manual                                 |
| State Water Board     | California State Water Resources Control Board                                 |
| TMDL                  | Total Maximum Daily Load   |
| WLA                   | Waste Load Allocation  |

# 1.0 INTRODUCTION

## 1.1 PURPOSE

The purpose of this Comprehensive Total Maximum Daily Load Monitoring Plan (CMP) is to present the California Department of Transportation (Caltrans) plan for complying with the Total Maximum Daily Load (TMDL) monitoring requirements set forth in its current National Pollutant Discharge Elimination System Permit (hereafter Permit).

## 1.2 PERMIT REQUIREMENTS

The Permit was adopted on September 19, 2012, and became effective on July 1, 2013. The Permit describes water quality compliance monitoring at Tier-1 sites, composed of all Areas of Biological Significance (ASBS) and TMDL watersheds for which Caltrans is a named stakeholder, and, if necessary, Tier-2 sites, which are projects/locations that are outside of these areas. This CMP addresses monitoring for Tier-1 sites in watersheds with adopted TMDLs.

The Permit Monitoring and Discharge Characterization requirement are described in Provision E.2.c, which states in part; *“The Department shall conduct without limitation all Tier-1 monitoring ... under the adopted and approved TMDLs.”* This provision also references Attachment IV of the Permit, which contains additional details of TMDL monitoring requirements. Attachment IV was later amended on April 7, 2015.

Attachment IV, Section III.A.1.b, requires Caltrans to submit a CMP for its TMDL watersheds by January 1, 2015. The plan is required to contain the following elements:

- Include existing, approved water quality monitoring plans and include monitoring for all TMDLs that do not have existing approved water quality monitoring plans.
- A proposed plan for conducting water quality monitoring at TMDL sites where an approved water quality monitoring plan does not exist.
- A description of how Best Management Practices (BMPs) will be assessed for effectiveness.

- A discussion of linkages between water quality monitoring and future TMDL reach prioritization submittals.
- A time-schedule for the CMP implementation.

Caltrans submitted its CMP for review by State Water Resources Control Board (State Water Board) staff on January 1, 2015. State Water Board staff reviewed the draft document and provided comments in May 2016, subsequent to the clarifications provided by the adoption of the amended Attachment IV. From March 2016 through December 2016, State Water Board and Caltrans' staff coordinated to revise the CMP to fully meet the Permit TMDL monitoring requirements.

### **1.3 CALTRANS STORMWATER PROGRAM MONITORING GUIDANCE**

Over 15 years ago, Caltrans established the Caltrans Stormwater Program, a well-developed and extensive program that has received environmental awards. This program includes water quality monitoring for chemical constituents, microbiological constituents, gross solids; and BMP testing for assessing feasibility and effectiveness within the highway environment; and source control studies. Additionally, guidance documents for this program have been created and are routinely updated. Implementation of this CMP will be supported by the following Caltrans Stormwater Program guidance documents:

- The *Stormwater Monitoring Guidance Manual* (Caltrans, 2015). This document provides direction on (1) planning and implementation of stormwater monitoring projects; (2) standardized procedures for sample collection, sample analysis, and data reporting to ensure that all monitoring is performed consistently throughout the state; and (3) data quality objectives that should be adhered to by all program laboratories and guidance on other aspects of stormwater monitoring such as monitoring equipment maintenance, training, and health and safety.
- The *BMP Pilot Study Guidance Manual* (BMP PSGM) (Caltrans, 2009). This document provides guidance on planning, performing, evaluating, and reporting of BMP pilot studies. Appendix K of the BMP PSGM contains guidance on selecting an appropriate statistical method, understanding the limitations of the analysis method, and interpreting statistically valid conclusions.

## 1.4 ORGANIZATION

The CMP is organized into the following six sections plus appendices:

**Section 1 – Introduction.** This section contains the purpose and outlines the organization of the CMP. A list of the 84 TMDLs where Caltrans has been identified as a responsible party is provided in this section.

**Section 2 – Caltrans Monitoring.** This section contains an overview of the planning and activities needed for monitoring.

**Section 3 – Compliance Monitoring Through Cooperative Agreements.** This section contains a brief overview of Caltrans' strategy for participating in regional collaborative monitoring through cooperative agreements.

**Section 4 – Plan Implementation and Schedule.** This section discusses how the CMP will be implemented, and includes a table providing the status of monitoring in each TMDL watershed.

**Section 5 – Reporting and Future TMDLs.** This section contains the reporting requirements, when updates to the CMP will occur, and a discussion of how future TMDLs will be integrated into the Caltrans monitoring program.

**Section 6 – References.** This section contains the list of references cited in the CMP.

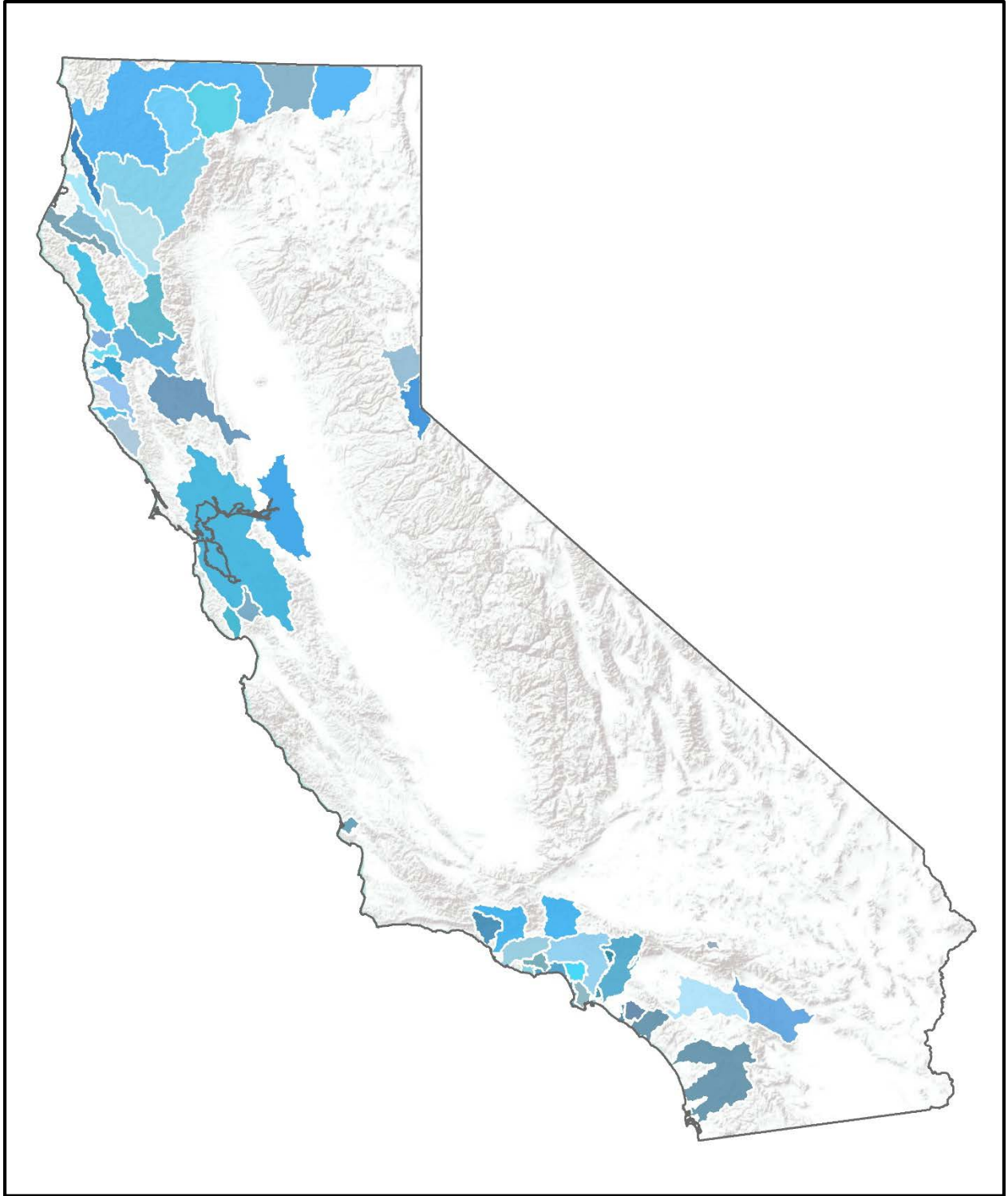
Appendix A contains the monitoring constituent list from the Permit.

Appendix B contains the most recent Quality Assurance Project Plan (QAPP) template that will be used for Caltrans TMDL monitoring projects.

## 1.5 TMDLs LISTED IN THE PERMIT

Figure 1.1 presents a map of California with the 84 TMDL watershed areas where Caltrans has been identified as a responsible party. Table 1.1 presents a list by watershed of the 84 TMDLs. For each TMDL, the table includes the relevant Regional Water Quality Control Board (Regional Water Board), Caltrans district, watershed name, and TMDL pollutant.





**Figure 1.1 Map of TMDL Watershed Areas**

*Note: The blue shaded areas in the figure distinguish the 84 different watershed areas.*

**Table 1.1. List of Caltrans' 84 TMDLs**

| TMDL Watershed No. | Watershed Name   | Pollutant(s)   | Regional Board No. | Caltrans District No. |
|--------------------|--|--|--------------------|-----------------------|
| 1                  | Albion River   | Sediment   | 1                  | 1                     |
| 2                  | Ballona Creek  | Metals (Ag, Cd, Cu, Pb, Zn) and Selenium   | 4                  | 7                     |
| 3                  | Ballona Creek  | Trash  | 4                  | 7                     |
| 4                  | Ballona Creek Estuary  | Toxic Pollutants Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs | 4                  | 7                     |
| 5                  | Ballona Creek Wetlands   | Sediment and Invasive Exotic Vegetation  | 4                  | 7                     |
| 6                  | Ballona Creek, Ballona Estuary, and Sepulveda Channel              | Bacteria   | 4                  | 7                     |
| 7                  | Big Bear Lake  | Nutrients for Dry Hydrological Conditions  | 8                  | 8                     |
| 8                  | Big River  | Sediment   | 1                  | 1                     |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch           | Mercury  | 5                  | 1,3                   |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon                  | Metals and Selenium  | 4                  | 7                     |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon                  | Organochlorine Pesticides, PCBs, and Siltation                                   | 4                  | 7                     |
| 12                 | Chollas Creek  | Diazinon   | 9                  | 11                    |
| 13                 | Chollas Creek  | Dissolved Copper, Lead and Zinc  | 9                  | 11                    |
| 14                 | Clear Lake   | Nutrients  | 5                  | 1                     |
| 15                 | Coachella Valley Storm Water Channel                               | Bacterial Indicators   | 7                  | 8,11                  |
| 16                 | Colorado Lagoon  | Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs and Metals (Pb & Zn)    | 4                  | 7                     |
| 17                 | Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters | Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs   | 4                  | 7                     |
| 18                 | Garcia River   | Sediment   | 1                  | 1                     |
| 19                 | Gualala River  | Sediment   | 1                  | 1,4                   |
| 20                 | Klamath River in California  | Temperature, Dissolved Oxygen, Nutrient, and Microcystin                         | 1                  | 1                     |
| 21                 | Lake Elsinore and Canyon Lake                                      | Nutrients  | 8                  | 8                     |

**Table 1.1. List of Caltrans' 84 TMDLs**

| TMDL Watershed No. | Watershed Name  | Pollutant(s)   | Regional Board No. | Caltrans District No. |
|--------------------|---|--|--------------------|-----------------------|
| 22                 | Lake Tahoe  | Sediment and Nutrients   | 6                  | 3,10                  |
| 23                 | Legg Lake   | Trash  | 4                  | 7                     |
| 24                 | Long Beach City Beaches and Los Angeles River Estuary | Indicator Bacteria   | 4                  | 7                     |
| 25                 | Los Angeles Area Echo Park Lake                       | Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash           | 4                  | 7                     |
| 26                 | Los Angeles Area Lake Sherwood                        | Mercury  | 4                  | 7                     |
| 27                 | Los Angeles Area North, Center & Legg Lake            | Nitrogen, Phosphorus   | 4                  | 7                     |
| 28                 | Los Angeles Area Peck Road Park Lake                  | Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash      | 4                  | 7                     |
| 29                 | Los Angeles Area Puddingstone Reservoir               | Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, Dieldrin        | 4                  | 7                     |
| 30                 | Los Angeles River                                     | Trash  | 4                  | 7                     |
| 31                 | Los Angeles River and Tributaries                     | Metals   | 4                  | 7                     |
| 32                 | Los Angeles River Watershed                           | Bacteria   | 4                  | 7                     |
| 33                 | Los Cerritos  | Metals   | 4                  | 7                     |
| 34                 | Lost River  | Nitrogen, Biochemical Oxygen Demand, and pH                          | 1                  | 2                     |
| 35                 | Lower Eel River                                       | Temperature and Sediment   | 1                  | 1                     |
| 36                 | Machado Lake  | Eutrophic, Algae, Ammonia, and Odors (Nutrients)                     | 4                  | 7                     |
| 37                 | Machado Lake  | Pesticides and PCBs  | 4                  | 7                     |
| 38                 | Machado Lake  | Trash  | 4                  | 7                     |
| 39                 | Mad River   | Sediment and Turbidity   | 1                  | 1                     |
| 40                 | Malibu Creek and Lagoon                               | Sedimentation and Nutrients to address Benthic Community Impairments | 4                  | 7                     |
| 41                 | Malibu Creek Watershed                                | Bacteria   | 4                  | 7                     |
| 42                 | Malibu Creek Watershed                                | Trash  | 4                  | 7                     |
| 43                 | Marina del Rey Harbor                                 | Toxic Pollutants (Cu, Pb, Zn, Chlordane and Total PCBs)              | 4                  | 7                     |

**Table 1.1. List of Caltrans' 84 TMDLs**

| TMDL Watershed No. | Watershed Name   | Pollutant(s)   | Regional Board No. | Caltrans District No. |
|--------------------|--|--|--------------------|-----------------------|
| 44                 | Marina del Rey Harbor, Mothers' Beach, and Back Basins   | Bacteria   | 4                  | 7                     |
| 45                 | Middle Fork Eel River  | Temperature and Sediment                                       | 1                  | 1                     |
| 46                 | Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)                     | Sediment   | 3                  | 5                     |
| 47                 | Napa River   | Sediment   | 2                  | 4                     |
| 48                 | Navarro River  | Sediment and Temperature                                       | 1                  | 1                     |
| 49                 | Noyo River   | Sediment   | 1                  | 1                     |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) | Indicator Bacteria   | 9                  | 11,12                 |
| 51                 | Rainbow Creek  | Total Nitrogen and Total Phosphorus                            | 9                  | 8,11                  |
| 52                 | Redwood Creek  | Sediment   | 1                  | 1                     |
| 53                 | Revolon Slough and Beardsley Wash  | Trash  | 4                  | 7                     |
| 54                 | Rhine Channel Area of the Lower Newport Bay  | Chromium and Mercury   | 8                  | 12                    |
| 55                 | Richardson Bay   | Pathogens  | 2                  | 4                     |
| 56                 | Sacramento - San Joaquin River Delta Estuary   | Methyl mercury   | 5                  | 10                    |
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel   | Metals (Cu, Pb, and Zn)  | 8                  | 12                    |
| 58                 | San Diego Creek and Upper Newport Bay  | Cadmium  | 8                  | 12                    |
| 59                 | San Diego Creek Watershed  | Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene) | 8                  | 12                    |
| 60                 | San Francisco Bay  | Mercury  | 2                  | 4                     |
| 61                 | San Francisco Bay  | PCBs   | 2                  | 4                     |
| 62                 | San Francisco Bay Urban Creeks   | Diazinon and Pesticide Toxicity                                | 2                  | 4                     |
| 63                 | San Gabriel River  | Metals (Cu, Pb, Zn) and Selenium                               | 4                  | 7                     |

**Table 1.1. List of Caltrans' 84 TMDLs**

| TMDL Watershed No. | Watershed Name   | Pollutant(s)                                      | Regional Board No. | Caltrans District No. |
|--------------------|--|---|--------------------|-----------------------|
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks)                     | Sediment  | 3                  | 5                     |
| 65                 | San Pedro & Pacifica State Beach   | Bacteria  | 2                  | 4                     |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7  | Coliform  | 4                  | 7                     |
| 67                 | Santa Clara River Reach 3  | Chloride  | 4                  | 7                     |
| 68                 | Santa Monica Bay   | DDTs and PCBs                                     | 4                  | 7                     |
| 69                 | Santa Monica Bay Beaches   | Bacteria  | 4                  | 7                     |
| 70                 | Santa Monica Bay Nearshore & Offshore  | Debris (trash & plastic pellets)                  | 4                  | 7                     |
| 71                 | Scott River  | Sediment and Temperature                          | 1                  | 2                     |
| 72                 | Shasta River   | Dissolved Oxygen and Temperature                  | 1                  | 1,2                   |
| 73                 | Sonoma Creek   | Sediment  | 2                  | 4                     |
| 74                 | South Fork Eel River   | Temperature and Sediment                          | 1                  | 1                     |
| 75                 | South Fork Trinity River and Hayfork Creek   | Sediment  | 1                  | 1,2                   |
| 76                 | Ten Mile River   | Sediment  | 1                  | 1                     |
| 77                 | Trinity River  | Sediment  | 1                  | 1,2                   |
| 78                 | Truckee River  | Sediment  | 6                  | 3                     |
| 79                 | Upper and Lower Newport Bay  | Organochlorine Compounds (DDT, Chlordane, & PCBs) | 8                  | 12                    |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury | Temperature and Sediment                          | 1                  | 1                     |
| 81                 | Upper Santa Clara River  | Chloride  | 4                  | 7                     |
| 82                 | Van Duzen River and Yager Creek  | Sediment  | 1                  | 1                     |
| 83                 | Ventura River and its Tributaries  | Algae, Eutrophic Conditions, and Nutrients        | 4                  | 6,7                   |
| 84                 | Ventura River Estuary  | Trash   | 4                  | 5,7                   |

### 1.5.1 Reach Prioritization

Caltrans has prepared a prioritized list of the reaches within the 84 TMDL watersheds where Caltrans is a responsible party. Each reach was scored and ranked based on the rating factors and criteria listed in Attachment IV, Section I.B., Table IV.1. The TMDL Reach Prioritization List was subsequently reviewed, revised, and approved by the Executive Officer of the State Water Board on September 10, 2015. As a result of the TMDL Reach Prioritization List submittal and approval process, each of Caltrans' 84 watershed areas have 2 separate priority rankings as described below:

1. *Final Ranking by TMDL Reach.* There are 298 discrete watershed reaches. This method ranks all the reaches regardless of the pollutant(s) involved.
2. *Final Ranking Pollutant Category by Reach.* There are 382 discrete reach-TMDL combinations since many reaches are listed for multiple pollutants. This method ranks the reaches by pollutant categories specified in the Attachment IV (e.g., trash, sediment etc.).

Table 1.2 presents the approved TMDL Reach Prioritization List. Since the Permit requires Caltrans to perform monitoring within each of the 84 watersheds, the TMDL Reach Prioritization List was considered during siting activities where appropriate to determine feasible sites within higher ranking reaches.

Caltrans will use the TMDL Reach Prioritization List for future monitoring in conjunction with safety and resource constraints.

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name             | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|------------------------|-----------|--|--|
| 1                  | Albion River (Sediment)  | Albion River           | 1         | 233  | 329  |
| 1                  | Albion River (Sediment)  | Albion River           | 2         | 294  | 378  |
| 2                  | Ballona Creek (Metals (Ag, Cd, Cu, Pb, Zn) and Selenium)   | Ballona Creek          | 1         | 4  | 12   |
| 2                  | Ballona Creek (Metals (Ag, Cd, Cu, Pb, Zn) and Selenium)   | Ballona Creek          | 2         | 13   | 32   |
| 2                  | Ballona Creek (Metals (Ag, Cd, Cu, Pb, Zn) and Selenium)   | Sepulveda Canyon       | 3         | 195  | 285  |
| 3                  | Ballona Creek (Trash)  | Ballona Creek          | 1         | 4  | 13   |
| 3                  | Ballona Creek (Trash)  | Ballona Creek          | 2         | 13   | 30   |
| 4                  | Ballona Creek Estuary (Toxic Pollutants Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs) | Ballona Creek          | 1         | 4  | 11   |
| 4                  | Ballona Creek Estuary (Toxic Pollutants Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs) | Ballona Creek          | 2         | 13   | 29   |
| 5                  | Ballona Creek Wetlands (Sediment and Invasive Exotic Vegetation)   | Ballona Creek          | 1         | 4  | 10   |
| 5                  | Ballona Creek Wetlands (Sediment and Invasive Exotic Vegetation)   | Ballona Creek          | 2         | 13   | 28   |
| 6                  | Ballona Creek, Ballona Estuary, and Sepulveda Channel (Bacteria)   | Ballona Creek          | 1         | 4  | 9  |
| 6                  | Ballona Creek, Ballona Estuary, and Sepulveda Channel (Bacteria)   | Ballona Creek          | 2         | 13   | 31   |
| 6                  | Ballona Creek, Ballona Estuary, and Sepulveda Channel (Bacteria)   | Sepulveda Canyon       | 3         | 195  | 284  |
| 7                  | Big Bear Lake (Nutrients for Dry Hydrological Conditions)  | Big Bear Creek         | 1         | 23   | 51   |
| 8                  | Big River (Sediment)   | Big River North Fork   | 2         | 141  | 217  |
| 8                  | Big River (Sediment)   | Big River              | 1         | 226  | 322  |
| 8                  | Big River (Sediment)   | Big River              | 3         | 267  | 351  |
| 8                  | Big River (Sediment)   | Big River South Fork   | 4         | 268  | 352  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                       | Cache Creek            | 6         | 70   | 131  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                       | Cache Creek North Fork | 4         | 73   | 134  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                        | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|-----------------------------------|-----------|--|--|
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Cache Creek                       | 1         | 74   | 135  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Bear Creek                        | 2         | 78   | 139  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Harley Gulch                      | 3         | 79   | 140  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Scotts Creek                      | 9         | 84   | 148  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Middle Creek                      | 8         | 93   | 160  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Cache Creek                       | 7         | 188  | 277  |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (Mercury)                                 | Cache Creek                       | 5         | 237  | 275  |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Metals and Selenium)                            | Conejo Creek, Arroyo Conejo       | 6         | 87   | 152  |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Metals and Selenium)                            | Calleguas Creek, Arroyo Las Posas | 4         | 88   | 154  |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Metals and Selenium)                            | Arroyo Simi                       | 5         | 92   | 159  |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Metals and Selenium)                            | Revolon Slough, Beardsley Wash    | 3         | 102  | 175  |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Metals and Selenium)                            | Calleguas Creek                   | 2         | 104  | 178  |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Metals and Selenium)                            | Calleguas Creek and Estuary       | 1         | 107  | 182  |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Organochlorine Pesticides, PCBs, and Siltation) | Conejo Creek, Arroyo Conejo       | 6         | 87   | 151  |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Organochlorine Pesticides, PCBs, and Siltation) | Calleguas Creek, Arroyo Las Posas | 4         | 88   | 153  |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Organochlorine Pesticides, PCBs, and Siltation) | Arroyo Simi                       | 5         | 92   | 158  |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Organochlorine Pesticides, PCBs, and Siltation) | Revolon Slough, Beardsley Wash    | 3         | 102  | 174  |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Organochlorine Pesticides, PCBs, and Siltation) | Calleguas Creek                   | 2         | 104  | 177  |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon (Organochlorine Pesticides, PCBs, and Siltation) | Calleguas Creek and Estuary       | 1         | 107  | 181  |



**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name   | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|--|-----------|--|--|
| 12                 | Chollas Creek (Diazinon)  | Chollas Creek  | 2         | 80   | 141  |
| 12                 | Chollas Creek (Diazinon)  | Chollas Creek  | 1         | 82   | 145  |
| 13                 | Chollas Creek (Dissolved Copper, Lead and Zinc)   | Chollas Creek  | 2         | 80   | 142  |
| 13                 | Chollas Creek (Dissolved Copper, Lead and Zinc)   | Chollas Creek  | 1         | 82   | 146  |
| 14                 | Clear Lake (Nutrients)  | Clear Lake   | 2         | 18   | 42   |
| 14                 | Clear Lake (Nutrients)  | Cache Creek  | 1         | 20   | 46   |
| 14                 | Clear Lake (Nutrients)  | Scotts Creek   | 4         | 35   | 79   |
| 14                 | Clear Lake (Nutrients)  | Middle Creek   | 3         | 36   | 80   |
| 15                 | Coachella Valley Storm Water Channel (Bacterial Indicators)   | Whitewater River   | 1         | 198  | 288  |
| 16                 | Colorado Lagoon (Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs and Metals (Pb & Zn))               | Colorado Lagoon  | 1         | 190  | 279  |
| 17                 | Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters (Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs) | Dominquez Channel  | 2         | 86   | 150  |
| 17                 | Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters (Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs) | Los Angeles & Long Beach Harbor                          | 1         | 98   | 169  |
| 17                 | Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters (Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs) | Dominquez Channel  | 3         | 106  | 180  |
| 18                 | Garcia River (Sediment)   | Garcia River   | 1         | 223  | 319  |
| 18                 | Garcia River (Sediment)   | Garcia River   | 2         | 289  | 373  |
| 18                 | Garcia River (Sediment)   | Garcia River   | 3         | 295  | 379  |
| 19                 | Gualala River (Sediment)  | Gualala River South Fork, Marshall Creek, Makenzie Creek | 1         | 229  | 325  |
| 19                 | Gualala River (Sediment)  | Rockpile Creek   | 3         | 288  | 372  |
| 19                 | Gualala River (Sediment)  | Gualala River North Fork, Billings Creek                 | 2         | 290  | 374  |
| 19                 | Gualala River (Sediment)  | Buckeye Creek, Flat Ridge Creek                          | 4         | 292  | 376  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                                   | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|--|-----------|--|--|
| 19                 | Gualala River (Sediment)   | Wheatfield Fork Gualala River                | 5         | 293  | 377  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Klamath River                                | 21        | 110  | 186  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Klamath River                                | 22        | 124  | 200  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Cottonwood Creek, Hutton Creek, Miller Gulch | 23        | 147  | 223  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Klamath River                                | 1         | 151  | 227  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Yreka Creek                                  | 19        | 246  | 330  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Lower Klamath River                          | 25        | 247  | 331  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Willow Creek                                 | 3         | 248  | 332  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Little Grass Valley Creek                    | 12        | 249  | 333  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River                                | 2         | 250  | 334  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Rattlesnake Creek, Bone Gulch                | 7         | 251  | 335  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Salt Creek, Ditch Gulch                      | 9         | 252  | 336  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Shasta River                                 | 18        | 253  | 337  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Shasta River, Dale Creek                     | 20        | 254  | 338  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Scott River                                  | 17        | 256  | 340  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                      | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|---------------------------------|-----------|--|--|
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River                   | 10        | 257  | 341  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River, Clair Engle Lake | 13        | 258  | 342  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Lower Klamath River             | 26        | 259  | 343  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Scott River South Fork          | 15        | 260  | 344  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River South Fork        | 4         | 261  | 345  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Hayfork Creek, Summit Creek     | 8         | 263  | 347  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Scott River East Fork           | 14        | 265  | 349  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River South Fork        | 5         | 266  | 350  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River                   | 11        | 271  | 355  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Klamath River                   | 24        | 272  | 356  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Scott River                     | 16        | 275  | 359  |
| 20                 | Klamath River in California (Temperature, Dissolved Oxygen, Nutrient, and Microcystin) | Trinity River South Fork        | 6         | 278  | 362  |
| 21                 | Lake Elsinore and Canyon Lake (Nutrients)  | San Jacinto River South Fork    | 3         | 170  | 247  |
| 21                 | Lake Elsinore and Canyon Lake (Nutrients)  | San Jacinto River               | 1         | 171  | 248  |
| 21                 | Lake Elsinore and Canyon Lake (Nutrients)  | San Jacinto River               | 2         | 172  | 249  |
| 22                 | Lake Tahoe (Sediment and Nutrients)  | Lake Tahoe                      | 1         | 158  | 234  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name                                     | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|--|-----------|--|--|
| 22                 | Lake Tahoe (Sediment and Nutrients)   | Upper Truckee River                            | 2         | 164  | 240  |
| 23                 | Legg Lake (Trash)   | Legg Lake                                      | 1         | 14   | 33   |
| 24                 | Long Beach City Beaches and Los Angeles River Estuary (Indicator Bacteria)  | Los Angeles River                              | 2         | 199  | 289  |
| 24                 | Long Beach City Beaches and Los Angeles River Estuary (Indicator Bacteria)  | Los Angeles River Estuary                      | 1         | 235  | 290  |
| 25                 | Part B-Los Angeles Area Echo Park Lake (Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash)                 | Echo Park Lake                                 | 1         | 5  | 14   |
| 26                 | Los Angeles Area Lake Sherwood (Mercury)  | Potrero Valley                                 | 1         | 182  | 265  |
| 26                 | Los Angeles Area Lake Sherwood (Mercury)  | Potrero Valley Creek, Lake Sherwood            | 2         | 240  | 260  |
| 26                 | Los Angeles Area Lake Sherwood (Mercury)  | Hidden Valley                                  | 3         | 241  | 261  |
| 26                 | Los Angeles Area Lake Sherwood (Mercury)  | Potrero Valley Creek                           | 4         | 242  | 262  |
| 27                 | Part B-Los Angeles Area North, Center & Legg Lake (Nitrogen, Phosphorus)  | Legg Lake                                      | 1         | 14   | 34   |
| 28                 | Part B, C, D-Los Angeles Area Peck Road Park Lake (Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash) | Santa Anita Wash                               | 2         | 6  | 15   |
| 28                 | Los Angeles Area Peck Road Park Lake (Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash)              | Rio Hondo, Peck Road Park Lake                 | 1         | 15   | 35   |
| 29                 | Los Angeles Area Puddingstone Reservoir (Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, Dieldrin)             | Live Oak Wash, Puddingstone Reservoir          | 1         | 49   | 108  |
| 30                 | Los Angeles River (Trash)   | Los Angeles River Reach 2 (Carson to Figueroa) | 2         | 10   | 23   |
| 30                 | Los Angeles River (Trash)   | Los Angeles River Reach 1                      | 1         | 19   | 43   |
| 30                 | Los Angeles River (Trash)   | Los Angeles River Reach 3 & 4                  | 4         | 21   | 47   |
| 30                 | Los Angeles River (Trash)   | Los Angeles River Reach 4, 5 & 6               | 5         | 24   | 52   |
| 30                 | Los Angeles River (Trash)   | Los Angeles River Reach 2 (Carson to Figueroa) | 3         | 25   | 55   |
| 30                 | Los Angeles River (Trash)   | Rio Hondo Reach 2                              | 7         | 27   | 60   |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants                            | Reach Name                                     | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|--|-----------|--|--|
| 30                 | Los Angeles River (Trash)                  | Tujunga Wash                                   | 11        | 28   | 62   |
| 30                 | Los Angeles River (Trash)                  | Compton Creek                                  | 6         | 29   | 65   |
| 30                 | Los Angeles River (Trash)                  | Burbank Western Channel                        | 10        | 30   | 68   |
| 30                 | Los Angeles River (Trash)                  | Arroyo Seco Reach 1 & 2                        | 8         | 37   | 81   |
| 30                 | Los Angeles River (Trash)                  | Verdugo Wash Reach 1 & 2                       | 9         | 38   | 84   |
| 30                 | Los Angeles River (Trash)                  | Bell Creek                                     | 13        | 39   | 87   |
| 30                 | Los Angeles River (Trash)                  | Arroyo Calabasas                               | 14        | 40   | 90   |
| 30                 | Los Angeles River (Trash)                  | Aliso Canyon Wash                              | 12        | 42   | 94   |
| 31                 | Los Angeles River and Tributaries (Metals) | Los Angeles River Reach 2 (Carson to Figueroa) | 2         | 10   | 25   |
| 31                 | Los Angeles River and Tributaries (Metals) | Los Angeles River Reach 3                      | 1         | 19   | 45   |
| 31                 | Los Angeles River and Tributaries (Metals) | Los Angeles River Reach 3 & 6                  | 4         | 21   | 49   |
| 31                 | Los Angeles River and Tributaries (Metals) | Los Angeles River Reach 4, 5 & 8               | 5         | 24   | 54   |
| 31                 | Los Angeles River and Tributaries (Metals) | Los Angeles River Reach 2 (Carson to Figueroa) | 3         | 25   | 57   |
| 31                 | Los Angeles River and Tributaries (Metals) | Rio Hondo Reach 3                              | 7         | 27   | 61   |
| 31                 | Los Angeles River and Tributaries (Metals) | Tujunga Wash                                   | 11        | 28   | 64   |
| 31                 | Los Angeles River and Tributaries (Metals) | Compton Creek                                  | 6         | 29   | 67   |
| 31                 | Los Angeles River and Tributaries (Metals) | Burbank Western Channel                        | 10        | 30   | 70   |
| 31                 | Los Angeles River and Tributaries (Metals) | Arroyo Seco Reach 1 & 4                        | 8         | 37   | 83   |
| 31                 | Los Angeles River and Tributaries (Metals) | Verdugo Wash Reach 1 & 4                       | 9         | 38   | 86   |
| 31                 | Los Angeles River and Tributaries (Metals) | Bell Creek                                     | 13        | 39   | 89   |
| 31                 | Los Angeles River and Tributaries (Metals) | Arroyo Calabasas                               | 14        | 40   | 92   |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name                                     | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|--|-----------|--|--|
| 31                 | Los Angeles River and Tributaries (Metals)                      | Aliso Canyon Wash                              | 12        | 42   | 96   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Los Angeles River Reach 2 (Carson to Figueroa) | 2         | 10   | 24   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Los Angeles River Reach 2                      | 1         | 19   | 44   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Los Angeles River Reach 3 & 5                  | 4         | 21   | 48   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Los Angeles River Reach 4, 5 & 7               | 5         | 24   | 53   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Los Angeles River Reach 2 (Carson to Figueroa) | 3         | 25   | 56   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Rio Hondo Reach 1                              | 7         | 27   | 59   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Tujunga Wash                                   | 11        | 28   | 63   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Compton Creek                                  | 6         | 29   | 66   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Burbank Western Channel                        | 10        | 30   | 69   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Arroyo Seco Reach 1 & 3                        | 8         | 37   | 82   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Verdugo Wash Reach 1 & 3                       | 9         | 38   | 85   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Bell Creek                                     | 13        | 39   | 88   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Arroyo Calabasas                               | 14        | 40   | 91   |
| 32                 | Los Angeles River Watershed (Bacteria)                          | Aliso Canyon Wash                              | 12        | 42   | 95   |
| 33                 | Los Cerritos (Metals)   | Lost Cerritos Channel                          | 1         | 41   | 93   |
| 34                 | Lost River (Nitrogen, Biochemical Oxygen Demand, and pH)        | Lower Klamath River                            | 1         | 230  | 326  |
| 34                 | Lost River (Nitrogen, Biochemical Oxygen Demand, and pH)        | Lower Klamath River                            | 2         | 231  | 327  |
| 35                 | Lower Eel River (Temperature and Sediment)                      | Eel River                                      | 1         | 144  | 220  |
| 35                 | Lower Eel River (Temperature and Sediment)                      | Larabee Creek                                  | 2         | 281  | 365  |
| 36                 | Machado Lake (Eutrophic, Algae, Ammonia, and Odors (Nutrients)) | Machado Lake                                   | 1         | 17   | 41   |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|---------------------------|-----------|--|--|
| 37                 | Machado Lake (Pesticides and PCBs)   | Machado Lake              | 1         | 17   | 40   |
| 38                 | Machado Lake (Trash)   | Machado Lake              | 1         | 17   | 39   |
| 39                 | Mad River (Sediment and Turbidity)   | Mad River                 | 5         | 130  | 206  |
| 39                 | Mad River (Sediment and Turbidity)   | Mad River North Fork      | 2         | 138  | 214  |
| 39                 | Mad River (Sediment and Turbidity)   | Mad River                 | 1         | 146  | 222  |
| 39                 | Mad River (Sediment and Turbidity)   | Mad River                 | 6         | 282  | 366  |
| 39                 | Mad River (Sediment and Turbidity)   | Mad River                 | 3         | 283  | 367  |
| 39                 | Mad River (Sediment and Turbidity)   | Pilot Creek               | 4         | 284  | 368  |
| 40                 | Malibu Creek and Lagoon (Sedimentation and Nutrients to address Benthic Community Impairments) | Lindero Canyon            | 3         | 1  | 3  |
| 40                 | Malibu Creek and Lagoon (Sedimentation and Nutrients to address Benthic Community Impairments) | Las Virgenes Creek        | 5         | 3  | 8  |
| 40                 | Malibu Creek and Lagoon (Sedimentation and Nutrients to address Benthic Community Impairments) | Medea Creek               | 4         | 8  | 19   |
| 40                 | Malibu Creek and Lagoon (Sedimentation and Nutrients to address Benthic Community Impairments) | Malibu Creek, Malibu Lake | 1         | 9  | 22   |
| 40                 | Malibu Creek and Lagoon (Sedimentation and Nutrients to address Benthic Community Impairments) | Triunfo Canyon            | 2         | 16   | 38   |
| 41                 | Malibu Creek Watershed (Bacteria)  | Lindero Canyon            | 3         | 1  | 2  |
| 41                 | Malibu Creek Watershed (Bacteria)  | Las Virgenes Creek        | 5         | 3  | 7  |
| 41                 | Malibu Creek Watershed (Bacteria)  | Medea Creek               | 4         | 8  | 18   |
| 41                 | Malibu Creek Watershed (Bacteria)  | Malibu Creek, Malibu Lake | 1         | 9  | 21   |
| 41                 | Malibu Creek Watershed (Bacteria)  | Triunfo Canyon            | 2         | 16   | 37   |
| 42                 | Malibu Creek Watershed (Trash)   | Lindero Canyon            | 3         | 1  | 1  |
| 42                 | Malibu Creek Watershed (Trash)   | Las Virgenes Creek        | 5         | 3  | 6  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name                            | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|---------------------------------------|-----------|--|--|
| 42                 | Malibu Creek Watershed (Trash)  | Medea Creek                           | 4         | 8  | 17   |
| 42                 | Malibu Creek Watershed (Trash)  | Malibu Creek, Malibu Lake             | 1         | 9  | 20   |
| 42                 | Malibu Creek Watershed (Trash)  | Triunfo Canyon                        | 2         | 16   | 36   |
| 43                 | Marina del Rey Harbor (Toxic Pollutants (Cu, Pb, Zn, Chlordane and Total PCBs))         | Marina del Rey Harbor                 | 1         | 95   | 164  |
| 44                 | Marina del Rey Harbor, Mothers' Beach, and Back Basins (Bacteria)                       | Marina del Rey Harbor                 | 1         | 95   | 165  |
| 45                 | Middle Fork Eel River (Temperature and Sediment)  | Eel River Middle Fork                 | 1         | 131  | 207  |
| 45                 | Middle Fork Eel River (Temperature and Sediment)  | Mill Creek, Cold Creek                | 3         | 145  | 221  |
| 45                 | Middle Fork Eel River (Temperature and Sediment)  | Elk Creek                             | 2         | 280  | 364  |
| 45                 | Middle Fork Eel River (Temperature and Sediment)  | Black Butte River                     | 4         | 287  | 371  |
| 45                 | Middle Fork Eel River (Temperature and Sediment)  | Eel River Middle Fork                 | 5         | 291  | 375  |
| 46                 | Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) (Sediment) | Chorro Creek                          | 2         | 163  | 239  |
| 46                 | Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) (Sediment) | Morro Bay                             | 1         | 165  | 241  |
| 46                 | Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) (Sediment) | Osos Creek                            | 3         | 243  | 272  |
| 47                 | Napa River (Sediment)   | Napa River                            | 2         | 22   | 50   |
| 47                 | Napa River (Sediment)   | Napa River                            | 1         | 26   | 58   |
| 47                 | Napa River (Sediment)   | Conn Creek, Sage Creek                | 3         | 48   | 107  |
| 48                 | Navarro River (Sediment and Temperature)  | Rancheria Creek                       | 6         | 118  | 194  |
| 48                 | Navarro River (Sediment and Temperature)  | Anderson Creek, Soda Creek            | 4         | 121  | 197  |
| 48                 | Navarro River (Sediment and Temperature)  | Navarro River                         | 1         | 127  | 203  |
| 48                 | Navarro River (Sediment and Temperature)  | South Branch North Fork Navarro River | 2         | 137  | 213  |



**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name                     | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|--------------------------------|-----------|--|--|
| 48                 | Navarro River (Sediment and Temperature)  | Rancheria Creek                | 5         | 143  | 219  |
| 48                 | Navarro River (Sediment and Temperature)  | Indian Creek                   | 3         | 227  | 323  |
| 49                 | Noyo River (Sediment)   | Noyo River South Fork          | 2         | 152  | 228  |
| 49                 | Noyo River (Sediment)   | Noyo River                     | 1         | 225  | 321  |
| 49                 | Noyo River (Sediment)   | Noyo River                     | 4         | 232  | 328  |
| 49                 | Noyo River (Sediment)   | Noyo River                     | 3         | 270  | 354  |
| 49                 | Noyo River (Sediment)   | Noyo River North Fork          | 5         | 274  | 358  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Carmel Valley, Deer Canyon     | 7         | 183  | 266  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Soledad Canyon                 | 9         | 184  | 267  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | San Marcos                     | 13        | 185  | 268  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | San Diego River, Murphy Canyon | 10        | 186  | 269  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | San Juan Creek, Morrell Canyon | 3         | 196  | 286  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Oso Creek                      | 2         | 197  | 287  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Laguna Canyon                  | 1         | 200  | 291  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | San Luis Rey River             | 4         | 201  | 292  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Los Peñasquitos Canyon         | 8         | 202  | 293  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Aliso Creek                    | 12        | 203  | 294  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name   | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|--|-----------|--|--|
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | San Dieguito River, Santa Ysabel Creek, Clevenger Canyon | 6         | 204  | 295  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Chollas Creek  | 11        | 205  | 296  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | San Luis Rey River, Carrista Creek                       | 5         | 207  | 299  |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Indicator Bacteria) | Scripps  | 14        | 239  | 300  |
| 51                 | Part B-Rainbow Creek (Total Nitrogen and Total Phosphorus)  | Rainbow Creek  | 1         | 169  | 246  |
| 52                 | Redwood Creek (Sediment)  | Redwood Creek  | 2         | 132  | 208  |
| 52                 | Redwood Creek (Sediment)  | Redwood Creek  | 1         | 220  | 316  |
| 52                 | Redwood Creek (Sediment)  | Prairie Creek  | 3         | 222  | 318  |
| 53                 | Revolon Slough and Beardsley Wash (Trash)   | Revolon Slough, Beardsley Wash                           | 1         | 7  | 16   |
| 54                 | Rhine Channel Area of the Lower Newport Bay (Chromium and Mercury)  | Rhine Channel  | 1         | 244  | 273  |
| 55                 | Richardson Bay (Pathogens)  | San Francisco Bay  | 1         | 214  | 307  |
| 56                 | Sacramento - San Joaquin River Delta Estuary (Methyl mercury)   | Sacramento River   | 2         | 75   | 136  |
| 56                 | Sacramento - San Joaquin River Delta Estuary (Methyl mercury)   | San Joaquin River  | 3         | 76   | 137  |
| 56                 | Sacramento - San Joaquin River Delta Estuary (Methyl mercury)   | San Joaquin River  | 1         | 191  | 280  |
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel (Metals (Cu, Pb, and Zn))                                    | Newport Bay, San Diego Creek                             | 1         | 64   | 125  |
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel (Metals (Cu, Pb, and Zn))                                    | San Diego Creek, Serrano Creek                           | 3         | 65   | 126  |
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel (Metals (Cu, Pb, and Zn))                                    | Peters Canyon Wash                                       | 4         | 68   | 129  |
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel (Metals (Cu, Pb, and Zn))                                    | San Diego Creek  | 2         | 69   | 130  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                       | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|----------------------------------|-----------|--|--|
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel (Metals (Cu, Pb, and Zn))         | Santa Ana Delhi Channel          | 5         | 72   | 133  |
| 58                 | San Diego Creek and Upper Newport Bay (Cadmium)  | Newport Bay, San Diego Creek     | 1         | 64   | 185  |
| 58                 | San Diego Creek and Upper Newport Bay (Cadmium)  | San Diego Creek 1, Serrano Creek | 2         | 66   | 127  |
| 58                 | San Diego Creek and Upper Newport Bay (Cadmium)  | Peters Canyon Channel            | 3         | 67   | 128  |
| 58                 | San Diego Creek and Upper Newport Bay (Cadmium)  | Santa Ana Delhi Channel          | 4         | 71   | 132  |
| 59                 | San Diego Creek Watershed (Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene)) | San Diego Creek, Serrano Creek   | 1         | 166  | 242  |
| 59                 | San Diego Creek Watershed (Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene)) | Peters Canyon Wash               | 2         | 168  | 244  |
| 60                 | San Francisco Bay (Mercury)  | Conn Creek, Sage Creek           | 8         | 77   | 138  |
| 60                 | San Francisco Bay (Mercury)  | San Pablo Bay                    | 11        | 81   | 144  |
| 60                 | San Francisco Bay (Mercury)  | San Francisco Bay                | 12        | 85   | 149  |
| 60                 | San Francisco Bay (Mercury)  | Alameda Creek                    | 2         | 94   | 163  |
| 60                 | San Francisco Bay (Mercury)  | Coyote Creek                     | 1         | 96   | 167  |
| 60                 | San Francisco Bay (Mercury)  | San Lorenzo Creek                | 4         | 97   | 168  |
| 60                 | San Francisco Bay (Mercury)  | Petaluma River                   | 10        | 99   | 170  |
| 60                 | San Francisco Bay (Mercury)  | Arroyo Mocho                     | 13        | 100  | 172  |
| 60                 | San Francisco Bay (Mercury)  | Sonoma Creek, Calabazas Creek    | 9         | 103  | 176  |
| 60                 | San Francisco Bay (Mercury)  | Napa River                       | 7         | 105  | 179  |
| 60                 | San Francisco Bay (Mercury)  | Napa River                       | 6         | 109  | 184  |
| 60                 | San Francisco Bay (Mercury)  | Suisun Bay                       | 5         | 189  | 278  |
| 60                 | San Francisco Bay (Mercury)  | San Francisco Bay                | 3         | 192  | 281  |
| 61                 | San Francisco Bay (PCBs)   | San Pablo Bay                    | 11        | 81   | 143  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name   | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|--|-----------|--|--|
| 61                 | San Francisco Bay (PCBs)   | San Francisco Bay                                  | 12        | 85   | 252  |
| 61                 | San Francisco Bay (PCBs)   | Alameda Creek                                      | 2         | 94   | 162  |
| 61                 | San Francisco Bay (PCBs)   | Petaluma River                                     | 10        | 99   | 256  |
| 61                 | San Francisco Bay (PCBs)   | Arroyo Mocho                                       | 13        | 100  | 171  |
| 61                 | San Francisco Bay (PCBs)   | Conn Creek, Sage Creek                             | 8         | 174  | 251  |
| 61                 | San Francisco Bay (PCBs)   | San Ramon Creek, Walnut Creek                      | 1         | 175  | 253  |
| 61                 | San Francisco Bay (PCBs)   | Arroyo Mocho                                       | 14        | 176  | 254  |
| 61                 | San Francisco Bay (PCBs)   | San Francisco Bay                                  | 4         | 177  | 255  |
| 61                 | San Francisco Bay (PCBs)   | Sonoma Creek, Calabazas Creek                      | 9         | 178  | 257  |
| 61                 | San Francisco Bay (PCBs)   | Napa River   | 7         | 179  | 258  |
| 61                 | San Francisco Bay (PCBs)   | Napa River   | 6         | 180  | 259  |
| 61                 | San Francisco Bay (PCBs)   | Suisun Bay   | 5         | 193  | 282  |
| 61                 | San Francisco Bay (PCBs)   | San Ramon Creek, Arroyo de Laguna, Alameda Creek   | 3         | 194  | 283  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Alameda Creek                                      | 2         | 94   | 161  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Coyote Creek                                       | 1         | 96   | 166  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Sleepy Hollow Creek, Corte Madera Creek            | 7         | 208  | 301  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | San Lorenzo Creek, San Cantino Creek, Walnut Creek | 3         | 209  | 302  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Novato Creek                                       | 6         | 210  | 303  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Novato Creek                                       | 8         | 211  | 304  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Ledgewood Creek                                    | 4         | 212  | 305  |
| 62                 | San Francisco Bay Urban Creeks (Diazinon and Pesticide Toxicity) | Petaluma River                                     | 5         | 213  | 306  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name               | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|--------------------------|-----------|--|--|
| 63                 | San Gabriel River (Metals (Cu, Pb, Zn) and Selenium)                                | San Gabriel River        | 1         | 83   | 147  |
| 63                 | San Gabriel River (Metals (Cu, Pb, Zn) and Selenium)                                | San Gabriel River        | 2         | 89   | 155  |
| 63                 | San Gabriel River (Metals (Cu, Pb, Zn) and Selenium)                                | San Gabriel River        | 3         | 90   | 156  |
| 63                 | San Gabriel River (Metals (Cu, Pb, Zn) and Selenium)                                | San Gabriel River        | 4         | 91   | 157  |
| 63                 | San Gabriel River (Metals (Cu, Pb, Zn) and Selenium)                                | San Jose Creek           | 5         | 101  | 173  |
| 63                 | San Gabriel River (Metals (Cu, Pb, Zn) and Selenium)                                | Coyote Creek             | 6         | 108  | 183  |
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks) (Sediment) | Carbonera Creek          | 2         | 154  | 230  |
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks) (Sediment) | Boulder Creek            | 5         | 155  | 231  |
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks) (Sediment) | San Lorenzo River        | 3         | 159  | 235  |
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks) (Sediment) | San Lorenzo River        | 4         | 161  | 237  |
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks) (Sediment) | Carbonera Creek          | 1         | 162  | 238  |
| 65                 | San Pedro & Pacifica State Beach (Bacteria)   | San Pedro Creek          | 1         | 206  | 297  |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7 (Coliform)                              | Santa Clara River        | 4         | 187  | 270  |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7 (Coliform)                              | Sespe Creek, Adobe Creek | 3         | 215  | 308  |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7 (Coliform)                              | Santa Clara River        | 1         | 216  | 310  |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7 (Coliform)                              | Sespe Creek              | 2         | 217  | 313  |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7 (Coliform)                              | Castaic Creek            | 6         | 234  | 298  |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7 (Coliform)                              | Bouquet Canyon           | 5         | 236  | 271  |
| 67                 | Santa Clara River Reach 3 (Chloride)  | Sespe Creek, Adobe Creek | 3         | 215  | 309  |
| 67                 | Santa Clara River Reach 3 (Chloride)  | Santa Clara River        | 1         | 216  | 311  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants                      | Reach Name              | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--------------------------------------|-------------------------|-----------|--|--|
| 67                 | Santa Clara River Reach 3 (Chloride) | Sespe Creek             | 2         | 217  | 312  |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Los Alisos Canyon Creek | 10        | 31   | 71   |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 2         | 32   | 73   |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Topanga Canyon          | 11        | 33   | 75   |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 1         | 34   | 77   |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 5         | 43   | 97   |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 8         | 44   | 99   |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 4         | 45   | 101  |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Ballona Creek           | 6         | 46   | 103  |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 7         | 47   | 105  |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 9         | 50   | 110  |
| 68                 | Santa Monica Bay (DDTs and PCBs)     | Pacific Ocean Beaches   | 3         | 181  | 263  |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Los Alisos Canyon Creek | 10        | 31   | 72   |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 2         | 32   | 74   |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Topanga Canyon          | 11        | 33   | 76   |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 1         | 34   | 78   |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 5         | 43   | 98   |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 8         | 44   | 100  |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 4         | 45   | 102  |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Ballona Creek           | 6         | 46   | 104  |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 7         | 47   | 106  |
| 69                 | Santa Monica Bay Beaches (Bacteria)  | Pacific Ocean Beaches   | 9         | 50   | 111  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                             | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|--|-----------|--|--|
| 69                 | Santa Monica Bay Beaches (Bacteria)                                      | Pacific Ocean Beaches                  | 3         | 181  | 264  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Pacific Ocean Beaches                  | 9         | 50   | 109  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Pacific Ocean Beaches                  | 13        | 51   | 112  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Pacific Ocean Beaches                  | 11        | 52   | 113  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Pacific Ocean Beaches                  | 12        | 53   | 114  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Topanga Canyon                         | 7         | 54   | 115  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Pacific Ocean Beaches                  | 14        | 55   | 116  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Westlake Lake                          | 2         | 56   | 117  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Pacific Ocean Beaches                  | 15        | 57   | 118  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Westlake Lake                          | 1         | 58   | 119  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Potrero Valley Creek                   | 3         | 59   | 120  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Marina del Rey Harbor                  | 16        | 60   | 121  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Palo Comando Canyon                    | 5         | 61   | 122  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Santa Monica Canyon, Mandeville Canyon | 8         | 62   | 123  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Solstice Canyon Creek                  | 6         | 63   | 124  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Malibu Creek, Triunfo Canyon           | 4         | 238  | 276  |
| 70                 | Santa Monica Bay Nearshore & Offshore (Debris (trash & plastic pellets)) | Stokes Canyon                          | 10        | 245  | 274  |
| 71                 | Scott River (Sediment and Temperature)                                   | Scott River East Fork                  | 4         | 113  | 189  |
| 71                 | Scott River (Sediment and Temperature)                                   | Scott River                            | 2         | 134  | 210  |
| 71                 | Scott River (Sediment and Temperature)                                   | Scott River                            | 1         | 262  | 346  |
| 71                 | Scott River (Sediment and Temperature)                                   | Scott River South Fork                 | 3         | 264  | 348  |
| 72                 | Shasta River (Dissolved Oxygen and Temperature)                          | Yreka Creek                            | 2         | 119  | 195  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants                                       | Reach Name                    | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|-------------------------------|-----------|--|--|
| 72                 | Shasta River (Dissolved Oxygen and Temperature)       | Shasta River                  | 1         | 139  | 215  |
| 72                 | Shasta River (Dissolved Oxygen and Temperature)       | Shasta River                  | 3         | 140  | 216  |
| 73                 | Sonoma Creek (Sediment)                               | Sonoma Creek                  | 1         | 11   | 26   |
| 73                 | Sonoma Creek (Sediment)                               | Sonoma Creek                  | 2         | 12   | 27   |
| 74                 | South Fork Eel River (Temperature and Sediment)       | Eel River South Fork          | 2         | 111  | 187  |
| 74                 | South Fork Eel River (Temperature and Sediment)       | Eel River South Fork          | 3         | 112  | 188  |
| 74                 | South Fork Eel River (Temperature and Sediment)       | Rattlesnake Creek             | 4         | 117  | 193  |
| 74                 | South Fork Eel River (Temperature and Sediment)       | Eel River South Fork          | 1         | 125  | 201  |
| 74                 | South Fork Eel River (Temperature and Sediment)       | Tenmile Creek                 | 5         | 129  | 205  |
| 75                 | South Fork Trinity River and Hayfork Creek (Sediment) | Bone Gulch, Rattlesnake Creek | 4         | 122  | 198  |
| 75                 | South Fork Trinity River and Hayfork Creek (Sediment) | Trinity River South Fork      | 2         | 135  | 211  |
| 75                 | South Fork Trinity River and Hayfork Creek (Sediment) | Hay Fork Creek, Summit Creek  | 5         | 142  | 218  |
| 75                 | South Fork Trinity River and Hayfork Creek (Sediment) | Salt Creek                    | 6         | 149  | 225  |
| 75                 | South Fork Trinity River and Hayfork Creek (Sediment) | Trinity River South Fork      | 1         | 269  | 353  |
| 75                 | South Fork Trinity River and Hayfork Creek (Sediment) | Trinity River South Fork      | 3         | 296  | 380  |
| 76                 | Ten Mile River (Sediment)                             | Tenmile River                 | 1         | 224  | 320  |
| 76                 | Ten Mile River (Sediment)                             | Tenmile River South Fork      | 2         | 273  | 357  |
| 76                 | Ten Mile River (Sediment)                             | Tenmile River Middle Fork     | 3         | 276  | 360  |
| 76                 | Ten Mile River (Sediment)                             | Tenmile River North Fork      | 4         | 279  | 363  |
| 77                 | Trinity River (Sediment)                              | Little Grass Valley Creek     | 5         | 114  | 190  |
| 77                 | Trinity River (Sediment)                              | Trinity River                 | 3         | 115  | 191  |
| 77                 | Trinity River (Sediment)                              | Willow Creek                  | 2         | 120  | 196  |



**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants   | Reach Name                   | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|---|------------------------------|-----------|--|--|
| 77                 | Trinity River (Sediment)  | Trinity River                | 4         | 150  | 226  |
| 77                 | Trinity River (Sediment)  | Trinity River                | 1         | 153  | 229  |
| 77                 | Trinity River (Sediment)  | Trinity River, Trinity Lake  | 6         | 221  | 317  |
| 78                 | Truckee River (Sediment)  | Middle Martis Creek          | 3         | 156  | 232  |
| 78                 | Truckee River (Sediment)  | Little Truckee River         | 2         | 157  | 233  |
| 78                 | Truckee River (Sediment)  | Truckee River                | 1         | 160  | 236  |
| 79                 | Upper and Lower Newport Bay (Organochlorine Compounds (DDT, Chlordane, & PCBs))   | Newport Bay, San Diego Creek | 1         | 64   | 245  |
| 79                 | Upper and Lower Newport Bay (Organochlorine Compounds (DDT, Chlordane, & PCBs))   | Santa Ana Delhi Channel      | 3         | 167  | 243  |
| 79                 | Upper and Lower Newport Bay (Organochlorine Compounds (DDT, Chlordane, & PCBs))   | San Diego Creek              | 2         | 173  | 250  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Outlet Creek                 | 2         | 116  | 192  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Long Valley Creek            | 3         | 123  | 199  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Eel River                    | 1         | 133  | 209  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Eel River                    | 4         | 255  | 339  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Tomki Creek                  | 5         | 277  | 361  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Rice Fork                    | 6         | 285  | 369  |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury (Temperature and Sediment) | Eel River, Lake Pillsbury    | 7         | 286  | 370  |
| 81                 | Upper Santa Clara River (Chloride)  | Castaic Creek, Salt Creek    | 2         | 218  | 314  |

**Table 1.2. Priority List by TMDL Reach and Pollutant Category by Reach**

| TMDL Watershed No. | TMDL Pollutants  | Reach Name                    | Reach No. | Final Ranking (by TMDL Reach) <sup>A</sup> | Final Ranking (Pollutant Category by Reach) <sup>B</sup> |
|--------------------|--|-------------------------------|-----------|--|--|
| 81                 | Upper Santa Clara River (Chloride)   | Santa Clara                   | 1         | 219  | 315  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Van Duzen River               | 2         | 126  | 202  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Van Duzen River               | 1         | 128  | 204  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Little Van Duzen River        | 3         | 136  | 212  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Van Duzen River               | 4         | 148  | 224  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Yager Creek, Indian Creek     | 6         | 228  | 324  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Van Duzen River               | 5         | 297  | 381  |
| 82                 | Van Duzen River and Yager Creek (Sediment)                                     | Lawrence Creek, Painter Gulch | 7         | 298  | 382  |
| 83                 | Ventura River Estuary (Trash)  | Ventura River                 | 1         | 2  | 4  |
| 84                 | Ventura River and its Tributaries (Algae, Eutrophic Conditions, and Nutrients) | Ventura River                 | 1         | 2  | 5  |

**Notes:**

- A. Final Ranking by TMDL Reach. There are 298 discrete watershed reaches. This method ranks all the reaches regardless of the pollutant(s) involved.
- B. Final Ranking Pollutant Category by Reach. There are 382 discrete reach-TMDL combinations since many reaches are listed for multiple pollutants. This method ranks the reaches by pollutant categories specified in the permit Attachment IV (e.g., trash, sediment etc.).

## 2.0 CALTRANS MONITORING

TMDL monitoring performed by Caltrans is divided into two categories (1) characterization monitoring, and (2) BMP effectiveness monitoring. Characterization monitoring and BMP effectiveness monitoring within TMDL watersheds are addressed in this section. Caltrans also complies with monitoring requirements by entering into cooperative agreements with other TMDL responsible entities; these cooperative agreements are discussed in Section 3.

Caltrans has been identified as a responsible party, or stakeholder, in 84 TMDLs. In TMDL watersheds with monitoring requirements specified in the adopted and approved Regional Water Board Basin Plans or in US Environmental Protection Agency-established TMDLs, Caltrans will conduct characterization monitoring, BMP effectiveness monitoring, and/or participate in regional monitoring efforts through cooperative agreements. Caltrans will use the characterization monitoring data to evaluate the need for BMPs. Characterization monitoring will cease when a determination is made, by the Regional Water Board Executive Officer, that a site or discharge is in compliance with the TMDL.

### 2.1 MONITORING GUIDANCE MANUAL

Caltrans developed the *Caltrans Stormwater Monitoring Guidance Manual (SWMGM)* (Caltrans, 2015) to provide step-by-step guidance to its staff and contractors on the planning, implementation, and reporting for the different types of monitoring projects. These different types of monitoring projects include water quality monitoring of stormwater runoff for chemical, toxicity, and microbiological analysis; sediment monitoring; and gross solids monitoring. The SWMGM includes a standardized set of procedures for sample collection, sample analysis, and data management to ensure that (1) all water quality monitoring is performed in a consistent way throughout the state, and (2) all monitoring data collected are of satisfactory quality.

## 2.2 CHARACTERIZATION MONITORING

The general approach by Caltrans to conduct characterization monitoring is presented below:

**Who:** Caltrans typically awards contracts to consultants to conduct water quality monitoring. These contracts include the required laboratory services to conduct the analysis.

**What:** The analytical constituent list for the characterization monitoring will be based on two sources:

1. The standard list of constituents specified in the Permit Appendix II (non-ASBS list) (State Water Board, 2012) unless directed otherwise in Attachment IV, Section III.B through III.I. This list is provided in Appendix A of this document.
2. The list of constituents required by the specific TMDL.

**Where:** TMDL sites will be selected based on the approved TMDL Reach Prioritization List.

Chapter 6 of the SWMGM covers the approach for monitoring site selection.

**When:** The number of storm events to be monitored each wet season will be based on an individual TMDL's requirements. Caltrans will target three storm events per storm season if the number of storm events is not specified in the approved TMDL.

**How:** Characterization monitoring will be conducted in accordance with the Permit, any specific TMDL requirements, and the SWMGM. A QAPP will be prepared for each TMDL monitoring project in accordance with the State Water Board's Surface Water Ambient Monitoring Program (SWAMP). The most recent Caltrans QAPP template is provided in Appendix B of this document. A brief overview of Caltrans monitoring protocols is provided below.

**Samples.** Caltrans will collect grab samples for characterization monitoring unless otherwise specified in the approved TMDL. In specific circumstances both grab and composite samples may be collected. Grab and composite samples are discussed in Chapters 4 and 11 of the SWMGM.

**Equipment.** Equipment used for monitoring will depend on whether grab or composite samples are collected. Equipment is discussed in Chapters 4 and 8 of the SWMGM.

**Sample Collection.** Sample collection depend on whether grab or composite samples are required. Methods for grab sample collection are discussed in Chapters 4 and 11 of the SWMGM.

**Sample Handling.** Once the samples are collected, samples are preserved and transported to one or more laboratories for analysis. The samples must arrive at the laboratory for analysis within the regulatory holding time. Sample handling requirements, including preservation and holding time, are discussed in Chapter 11 of the SWMGM.

**Sample Analysis.** As required in the Permit, all samples will be analyzed by a certified or accredited laboratory. The selection of a laboratory and the analytical methods are discussed in Chapter 5 of the SWMGM. Quality assurance/quality control (QA/QC) procedures for both field and laboratory activities are discussed in Chapter 12 of the SWMGM.

**Reporting.** See Section 5 of this document for a discussion on reporting.

Characterization monitoring performed in one TMDL watershed may be considered as representative of another TMDL watershed with similar impairments. Implementation schedules for representative and represented watershed characterization monitoring are provided in Section 4 (Table 4.1).

## 2.3 BMP EFFECTIVENESS MONITORING

The purpose of BMP effectiveness monitoring is defined in the Permit as follows:

*Attachment IV, Section III.A.2. 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 [Waste Load Allocations] 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.*

### 2.3.1 General Approach for BMP Effectiveness Monitoring

The SWMGM provides step-by-step guidance to its staff and contractors on the planning, implementation, and reporting for the different types of monitoring projects. The BMP PSGM provides detailed guidance to staff and contractors on evaluating and reporting BMP monitoring data.

### 2.3.2 BMP Effectiveness Monitoring Strategy

The effectiveness of BMPs is best measured by conducting water quality monitoring at the BMP influent and effluent to calculate load and concentration reductions for specified constituents. Caltrans will rely on representative monitoring for BMP effectiveness assessment, i.e., the effectiveness results of monitoring a BMP in one watershed will also apply to the same BMP in a different watershed.

The general approach by Caltrans to conduct BMP effectiveness monitoring, presented below, is similar to the approach for characterization monitoring.

**Who:** Caltrans typically awards contracts to consultants to conduct BMP effectiveness monitoring. These contracts include the required laboratory services to conduct the analysis.

**What:** The analytical constituent list for the BMP effectiveness monitoring will be based on two sources:

1. The standard list of constituents specified in the Permit Appendix II (non-ASBS list) (State Water Board, 2012) unless directed otherwise in Attachment IV, Section III.B through III.I. This list is provided in Appendix A of this document.
2. The list of constituents required by the specific TMDL.

**Where:** BMPs will be implemented based on the TMDL Reach Prioritization List approved by the State Water Board and as proposed in the Caltrans TMDL Implementation Plan. BMP effectiveness monitoring will be conducted at representative locations for the various pollutant categories. Chapter 3 of the BMP PSGM covers the approach for site selection for BMP effectiveness monitoring.

**When:** The number of storm events captured each wet season will be based on an individual TMDL's requirements. Caltrans will target three storm events per storm season if the number of storm events is not specified in the approved TMDL.

**How:** BMP effectiveness monitoring will be conducted in accordance with the Permit, any specific TMDL requirements, the SWMGM, and the BMP PSGM. A QAPP will be prepared for each BMP effectiveness monitoring project in accordance with the State Water Board's SWAMP. The most recent Caltrans QAPP template is provided in Appendix B of this document. A brief overview of the major topics on how Caltrans conducts monitoring is provided below.

***Samples.*** Caltrans will usually collect composite samples for BMP effectiveness monitoring. In addition to the composite samples, some constituents may require grab samples to be collected (e.g., oil and grease). Grab and composite samples are discussed in Chapters 4 and 11 of the SWMGM.

***Equipment.*** Automatic sampling equipment will be used to collect composite samples. Equipment is discussed in Chapters 4 and 8 of the SWMGM.

**Sample Collection.** Methods for sample collection are discussed in Chapters 4 and 11 of the SWMGM.

**Sample Handling.** Once the samples are collected, they are preserved and transported to one or more laboratories for analysis. The samples must arrive at the laboratory for analysis within the regulatory holding time. Sample handling requirements, including preservation and holding times, are discussed in Chapter 11 of the SWMGM.

**Sample Analysis.** As required in the Permit, all samples will be analyzed by a certified or accredited laboratory. The selection of a laboratory and the analytical methods are discussed in Chapter 5 of the SWMGM. The QA/QC procedures for both field and laboratory activities are discussed in Chapter 12 of the SWMGM.

**Reporting.** See Section 5 of this document for a discussion on reporting.

BMP effectiveness monitoring performed in one TMDL watershed may be considered as representative of another TMDL watershed with similar impairments and BMPs. Implementation schedules for representative and represented watershed BMP effectiveness monitoring are provided in Section 4 (Table 4.1).

### **2.3.3 Adaptive Management Strategy**

BMP effectiveness will be assessed by comparing BMP water quality monitoring data to the applicable Waste Load Allocation (WLA). If the implemented BMP is not effective at reducing the TMDL constituent(s), Caltrans will consider alternative BMPs or methods to improve effectiveness.



## **3.0 COMPLIANCE MONITORING THROUGH COOPERATIVE AGREEMENTS**

As previously mentioned in Section 1, Attachment IV allows Caltrans to participate in monitoring TMDL watersheds with other responsible permittees or stakeholders through implementation of group monitoring plans that are approved by the Regional Water Boards.

To this end, Caltrans continuously tracks the status of Comprehensive Integrated Monitoring Plans (CIMPs) that are pending approval, and considers whether to pursue cooperative agreements with other agencies in lieu of self-monitoring.

In general, Caltrans will seek to enter into a cooperative agreement for TMDL monitoring when there is a distinct water quality improvement benefit and advantage due to economies of scale. Other factors considered when deciding whether to enter into a cooperative agreement:

- Terms of the monitoring cooperative agreement
- Siting of cooperative monitoring locations
- Type of monitoring to be performed
- Pollutants to be monitored
- Caltrans' contribution to watershed runoff and share of the funding

Caltrans may enter into cooperative agreements for characterization monitoring, implementation monitoring or both, depending on the specific details in the approved CIMP. The status of Caltrans participation in CIMPs through cooperative agreements is detailed in Section 4 (Table 4.1). Actual Memoranda of Agreement (MOA) dates indicate when Caltrans entered into a cooperative agreement. Multiple dates indicate where more than one agreement has been established to address multiple stages of a CIMP. Target MOA dates are provided for new agreements that Caltrans anticipates being established within 8 to 12 months of the latest revision to this CMP.

## **4.0 PLAN IMPLEMENTATION AND SCHEDULE**

This section discusses how the CMP will be implemented for conducting (1) characterization monitoring, (2) BMP effectiveness monitoring, and (3) cooperative agreements.

### **4.1 CMP IMPLEMENTATION**

The CMP will be implemented in one of the following ways:

- Caltrans characterization monitoring
- Caltrans BMP effectiveness monitoring; or
- Monitoring compliance through cooperative agreements with other stakeholders.

#### **4.1.1 Characterization Monitoring Implementation**

Caltrans will perform characterization monitoring of untreated runoff within its TMDL watersheds to determine whether it has a significant contribution to the TMDL pollutants of concern. In general, characterization monitoring is performed when there are no existing or likely cooperative agreements in place, and where Caltrans has no structural treatment BMPs installed within a TMDL watershed. If characterization monitoring demonstrates compliance with a TMDL, Caltrans will seek a determination from the Executive Officer of the applicable Regional Water Board that no further monitoring is required. Conversely, if characterization monitoring does not demonstrate compliance, construction of appropriate treatment BMPs or other controls will be recommended, and BMP effectiveness monitoring will be planned upon their installation. In watersheds listed for sediment, Caltrans will perform erosion/sediment control projects and routine maintenance activities along highways as needed for compliance.

Table 4.1 at the end of this section presents the monitoring status of the 84 TMDLs. In Table 4.1, under the column heading *Ongoing Monitoring (Type)*, watersheds with the entry *CHAR* have characterization monitoring while the watersheds with the entry *BMP EFF* have BMP effectiveness monitoring.

Characterization monitoring in one TMDL watershed may be deemed representative of one or more other TMDL watersheds with similar pollutants of concern. In Table 4.1, under the column heading *Planned Site (Type)*, watersheds with the entries in parenthesis, e.g., (*CHAR*), indicate that characterization monitoring is being conducted in another representative watershed. The representative watershed is identified in the adjacent column, under the column heading *Represented TMDL WS (BMP EFF, Site in TMDL WS listed)*, by number. The number corresponds to the numbers under the column labeled *TMDL WS #*.

With the exception of completed monitoring dates, proposed start and end dates in Table 4.1 are for planning purposes and subject to change based on site conditions, budget, number of successfully monitored stormwater runoff events, and new TMDL monitoring cooperative agreement opportunities. Caltrans proposes to capture 3 storm events per year for 3 years to establish statistically reliable compliance data.

#### **4.1.2 BMP Effectiveness Monitoring Implementation**

Caltrans began Tier-1 TMDL BMP effectiveness monitoring at treatment BMPs sites within TMDL watersheds in October 2016.

BMP effectiveness monitoring of installed treatment BMPs is performed to confirm whether a particular BMP is effective for reducing or eliminating the pollutant(s) of concern within a given TMDL watershed. In general, BMP effectiveness monitoring begins once a BMP has been constructed and ends once a determination of effectiveness has been made. The BMP monitoring will be conducted among selected representative sites where BMPs are implemented; therefore, not every treatment BMP that is implemented will be monitored for water quality. Effectiveness assessment of a BMP in one TMDL watershed may be deemed representative of one or more other TMDL watersheds with similar installed BMPs and pollutants of concern, see Table 4.1.

With the exception of completed monitoring dates, proposed start and end dates in Table 4.1 are for planning purposes and subject to change based on site conditions, budget, number of successfully monitored stormwater runoff events, and new TMDL monitoring cooperative agreement opportunities. Caltrans proposes to capture 3 storm events per year for 3 years at BMPs to establish statistically reliable compliance data. Caltrans will continuously assess BMP effectiveness results to inform future TMDL monitoring and implementation efforts.

#### **4.1.3 TMDL Monitoring Compliance Implementation through Cooperative Agreements**

Table 4.1 lists the TMDL watersheds where cooperative agreements have been initiated and where cooperative agreements are planned. Cooperative agreements are discussed in Section 3.

#### **4.2 SCHEDULE**

Table 4.1 below provides the implementation schedule and status of TMDL compliance monitoring activities. The table will be updated and submitted to the State Water Board for review each year with the annual report.

**Table 4.1. Monitoring Status within TMDL Watersheds**

| TMDL Watershed No. | Watershed Name   | Pollutant(s)   | Monitoring Requirements | Cooperative Agreement | Target MOA Date | Actual MOA Date(s)  | Ongoing Monitoring Type | Planned Monitoring Type | Representative Monitoring in TMDL Watershed No. | Treatment BMP Category | Monitoring Start Date | Monitoring Completion Date | See Notes |
|--------------------|--|--|-------------------------|-----------------------|-----------------|---|-------------------------|-------------------------|---|------------------------|-----------------------|----------------------------|-----------|
| 1                  | Albion River   | Sediment   | No                      | No                    |                 |   |                         | (CHAR)                  | 39  | NA                     |                       |                            |           |
| 2                  | Ballona Creek  | Metals (Ag, Cd, Cu, Pb, Zn) and Selenium   | Yes                     | Yes                   | 4/1/2017        | 2/6/2014<br>7/26/2011<br>5/18/2011                            |                         |                         |   |                        |                       |                            |           |
| 3                  | Ballona Creek  | Trash  | No                      | No                    |                 |   |                         | (BMP EFF)               | 30  | Gross Solids Removal   |                       |                            |           |
| 4                  | Ballona Creek Estuary  | Toxic Pollutants Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs | Yes                     | Yes                   | 4/1/2017        | 2/6/2014<br>7/26/2011<br>5/18/2011                            |                         |                         |   |                        |                       |                            |           |
| 5                  | Ballona Creek Wetlands   | Sediment and Invasive Exotic Vegetation  | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 6                  | Ballona Creek, Ballona Estuary, and Sepulveda Channel              | Bacteria   | Yes                     | Yes                   | 4/1/2017        | 2/6/2014<br>7/26/2011   |                         |                         |   |                        |                       |                            |           |
| 7                  | Big Bear Lake  | Nutrients for Dry Hydrological Conditions  | Yes                     | Yes                   |                 | 1/1/2007  | CHAR                    |                         |   |                        | 1/1/2010              | 12/1/2011                  | x         |
| 8                  | Big River  | Sediment   | No                      | No                    |                 |   |                         | (CHAR)                  | 39  | NA                     |                       |                            |           |
| 9                  | Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch           | Mercury  | Yes                     | No                    |                 |   |                         | BMP EFF                 |   | Infiltration           | 10/1/2016             | 5/31/2019                  |           |
| 10                 | Calleguas Creeks, its Tributaries and Mugu Lagoon                  | Metals and Selenium  | Yes                     | Yes                   |                 | 8/26/2009<br>7/28/2008<br>3/1/2008                            |                         |                         |   |                        |                       |                            |           |
| 11                 | Calleguas Creeks, its Tributaries and Mugu Lagoon                  | Organochlorine Pesticides, PCBs, and Siltation                                   | Yes                     | Yes                   |                 | 8/26/2009<br>7/28/2008<br>3/1/2008                            |                         |                         |   |                        |                       |                            |           |
| 12                 | Chollas Creek  | Diazinon   | Yes                     | No                    |                 |   | BMP EFF                 |                         |   | Infiltration           | 3/30/2012             | TBD                        |           |
| 13                 | Chollas Creek  | Dissolved Copper, Lead and Zinc  | Yes                     | No                    |                 |   | BMP EFF                 |                         |   | Infiltration           | 3/30/2012             | TBD                        |           |
| 14                 | Clear Lake   | Nutrients  | Yes                     | No                    |                 |   | CHAR                    |                         |   | NA                     | 5/1/2011              | 3/5/2013                   | x         |
| 15                 | Coachella Valley Storm Water Channel                               | Bacterial Indicators   | Yes                     | In Process            | 1/1/2018        |   | CHAR                    |                         |   |                        | 1/1/2012              | 5/31/2015                  | x         |
| 16                 | Colorado Lagoon  | Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs and Metals (Pb & Zn)    | Yes                     | In Process            | 12/1/2016       |   |                         |                         |   |                        |                       |                            |           |
| 17                 | Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters | Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs   | Yes                     | In Process            |                 | 9/1/2016<br>Dominguez Channel<br><br>3/1/2017<br>LA/LB Harbor |                         |                         |   |                        |                       |                            |           |
| 18                 | Garcia River   | Sediment   | Yes                     | No                    |                 |   |                         | (CHAR)                  | 39  | NA                     |                       |                            |           |
| 19                 | Gualala River  | Sediment   | No                      | No                    |                 |   |                         | (CHAR)                  | 39  | NA                     |                       |                            |           |

**Table 4.1. Monitoring Status within TMDL Watersheds**

| TMDL Watershed No. | Watershed Name  | Pollutant(s)   | Monitoring Requirements | Cooperative Agreement | Target MOA Date | Actual MOA Date(s)                              | Ongoing Monitoring Type | Planned Monitoring Type | Representative Monitoring in TMDL Watershed No. | Treatment BMP Category | Monitoring Start Date | Monitoring Completion Date | See Notes |
|--------------------|---|--|-------------------------|-----------------------|-----------------|---|-------------------------|-------------------------|---|------------------------|-----------------------|----------------------------|-----------|
| 20                 | Klamath River in California                           | Temperature, Dissolved Oxygen, Nutrient, and Microcystin             | Yes                     | No                    |                 |   |                         | BMP EFF                 |   | Detention Device       | 10/1/2016             | 5/31/2019                  |           |
| 21                 | Lake Elsinore and Canyon Lake                         | Nutrients  | Yes                     | Yes                   |                 | 2/22/2013<br>6/18/2012<br>10/13/2006            |                         |                         |   |                        |                       |                            |           |
| 22                 | Lake Tahoe  | Sediment and Nutrients   | Yes                     | Yes                   |                 | 9/4/2013<br>3/1/2012                            |                         |                         |   |                        |                       |                            |           |
| 23                 | Legg Lake   | Trash  | No                      | No                    |                 |   |                         | (BMP EFF)               | 30  | Gross Solids Removal   |                       |                            |           |
| 24                 | Long Beach City Beaches and Los Angeles River Estuary | Indicator Bacteria   | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 25                 | Los Angeles Area Echo Park Lake                       | Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash           | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 26                 | Los Angeles Area Lake Sherwood                        | Mercury  | No                      | No                    |                 |   |                         | (BMP EFF)               | 13  | Infiltration           |                       |                            |           |
| 27                 | Los Angeles Area North, Center & Legg Lake            | Nitrogen, Phosphorus   | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 28                 | Los Angeles Area Peck Road Park Lake                  | Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash      | Yes                     | In Process            | 3/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 29                 | Los Angeles Area Puddingstone Reservoir               | Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, Dieldrin        | Yes                     | In Process            | 3/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 30                 | Los Angeles River                                     | Trash  | No                      | No                    |                 |   |                         | BMP EFF                 |   | Gross Solids Removal   | 10/1/2016             | 5/31/2019                  |           |
| 31                 | Los Angeles River and Tributaries                     | Metals   | Yes                     | Yes                   | 4/1/2017        | 9/4/2015<br>9/11/2013<br>3/7/2011<br>10/13/2008 | BMP EFF                 |                         |   | Biofiltration          | 11/1/2014             | TBD                        |           |
| 32                 | Los Angeles River Watershed                           | Bacteria   | Yes                     | In Process            | 3/1/2017        |   | BMP EFF                 |                         |   | Biofiltration          | 11/1/2014             | TBD                        |           |
| 33                 | Los Cerritos  | Metals   | Yes                     | No                    |                 |   |                         | (BMP EFF)               | 13  | Infiltration           |                       |                            |           |
| 34                 | Lost River  | Nitrogen, Biochemical Oxygen Demand, and pH                          | Yes                     | No                    |                 |   |                         | CHAR                    |   | NA                     | 10/1/2016             | 5/31/2019                  |           |
| 35                 | Lower Eel River                                       | Temperature and Sediment   | No                      | No                    |                 |   |                         | CHAR                    |   | NA                     | 10/1/2016             | 5/31/2019                  |           |
| 36                 | Machado Lake  | Eutrophic, Algae, Ammonia, and Odors (Nutrients)                     | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 37                 | Machado Lake  | Pesticides and PCBs  | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                        |                       |                            |           |
| 38                 | Machado Lake  | Trash  | Yes                     | No                    |                 |   |                         | (BMP EFF)               | 30  | Gross Solids Removal   |                       |                            |           |
| 39                 | Mad River   | Sediment and Turbidity   | Yes                     | No                    |                 |   |                         | CHAR                    |   | NA                     | 10/1/2016             | 5/31/2019                  |           |
| 40                 | Malibu Creek and Lagoon                               | Sedimentation and Nutrients to address Benthic Community Impairments | Yes                     | In Process            | 3/1/2017        |   | BMP EFF                 |                         |   | Biofiltration          | 11/1/2014             | TBD                        |           |

**Table 4.1. Monitoring Status within TMDL Watersheds**

| TMDL Watershed No. | Watershed Name   | Pollutant(s)  | Monitoring Requirements | Cooperative Agreement | Target MOA Date | Actual MOA Date(s)                               | Ongoing Monitoring Type | Planned Monitoring Type | Representative Monitoring in TMDL Watershed No. | Treatment BMP Category          | Monitoring Start Date                          | Monitoring Completion Date                    | See Notes |
|--------------------|--|---|-------------------------|-----------------------|-----------------|--|-------------------------|-------------------------|---|---------------------------------|--|---|-----------|
| 41                 | Malibu Creek Watershed   | Bacteria  | Yes                     | Yes                   |                 | 3/10/2015<br>3/7/2013<br>10/16/2012<br>7/31/2008 | CHAR                    |                         |   |                                 | 11/1/2014                                      | TBD   |           |
| 42                 | Malibu Creek Watershed   | Trash   | Yes                     | In Process            | 2/1/2017        |  |                         |                         |   |                                 |  |   |           |
| 43                 | Marina del Rey Harbor  | Toxic Pollutants (Cu, Pb, Zn, Chlordane and Total PCBs) | Yes                     | Yes                   | 4/1/2017        | 8/20/2014<br>12/14/2011<br>2/4/2011<br>7/8/2010  |                         |                         |   |                                 |  |   |           |
| 44                 | Marina del Rey Harbor, Mothers' Beach, and Back Basins   | Bacteria  | Yes                     | Yes                   | 4/1/2017        | 2/6/2014<br>6/5/2008                             |                         |                         |   |                                 |  |   |           |
| 45                 | Middle Fork Eel River  | Temperature and Sediment                                | No                      | No                    |                 |  |                         | (CHAR)                  | 35  | NA                              |  |   |           |
| 46                 | Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)                     | Sediment  | Yes                     | No                    |                 |  |                         | (CHAR)                  | 39  | NA                              |  |   |           |
| 47                 | Napa River   | Sediment  | Yes                     | No                    |                 |  |                         | BMP EFF                 |   | Biofiltration                   |  |   |           |
| 48                 | Navarro River  | Sediment and Temperature                                | Yes                     | No                    |                 |  |                         | (CHAR)                  | 35  | NA                              |  |   |           |
| 49                 | Noyo River   | Sediment  | Yes                     | No                    |                 |  |                         | (CHAR)                  | 39  | NA                              |  |   |           |
| 50                 | Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) | Indicator Bacteria                                      | Yes                     | No                    |                 |  |                         |                         |   |                                 |  |   | x         |
| 51                 | Rainbow Creek  | Total Nitrogen and Total Phosphorus                     | Yes                     | No                    |                 |  | CHAR                    |                         |   | NA                              | 3/30/2012                                      | 5/5/2016                                      | x         |
| 52                 | Redwood Creek  | Sediment  | Yes                     | No                    |                 |  |                         | (CHAR)                  | 39  | NA                              |  |   |           |
| 53                 | Revolon Slough and Beardsley Wash  | Trash   | Yes                     | In Process            | 3/9/2017        |  |                         |                         |   |                                 |  |   |           |
| 54                 | Rhine Channel Area of the Lower Newport Bay  | Chromium and Mercury                                    | Yes                     | No                    |                 |  |                         | (BMP EFF)               | 57  | Biofiltration/<br>Media Filters |  |   |           |
| 55                 | Richardson Bay   | Pathogens   | Yes                     | No                    |                 |  |                         | CHAR                    |   | NA                              | 10/1/2016                                      | 5/31/2019                                     |           |
| 56                 | Sacramento - San Joaquin River Delta Estuary   | Methyl mercury  | Yes                     | No                    |                 |  | CHAR                    | BMP EFF                 |   | Biofiltration                   | CHAR<br>11/10/2014<br><br>BMP EFF<br>10/1/2016 | CHAR<br>5/31/2019<br><br>BMP EFF<br>5/31/2019 |           |
| 57                 | San Diego Creek and Newport Bay, including Rhine Channel   | Metals (Cu, Pb, and Zn)                                 | Yes                     | No                    |                 |  | BMP EFF                 |                         |   | Biofiltration/<br>Media Filters | 11/1/2014                                      | TBD   |           |
| 58                 | San Diego Creek and Upper Newport Bay  | Cadmium   | Yes                     | No                    |                 |  | BMP EFF                 |                         |   | Biofiltration/<br>Media Filters | 11/1/2014                                      | TBD   |           |

**Table 4.1. Monitoring Status within TMDL Watersheds**

| TMDL Watershed No. | Watershed Name   | Pollutant(s)   | Monitoring Requirements | Cooperative Agreement | Target MOA Date | Actual MOA Date(s)                              | Ongoing Monitoring Type | Planned Monitoring Type | Representative Monitoring in TMDL Watershed No. | Treatment BMP Category          | Monitoring Start Date | Monitoring Completion Date | See Notes |
|--------------------|--|--|-------------------------|-----------------------|-----------------|---|-------------------------|-------------------------|---|---------------------------------|-----------------------|----------------------------|-----------|
| 59                 | San Diego Creek Watershed  | Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene) | Yes                     | No                    |                 |   | BMP EFF                 |                         |   | Biofiltration/<br>Media Filters | 11/1/2014             | TBD                        |           |
| 60                 | San Francisco Bay  | Mercury  | Yes                     | No                    | See Note        | See Note  |                         |                         |   |                                 |                       |                            | x         |
| 61                 | San Francisco Bay  | PCBs   | Yes                     | No                    | See Note        | See Note  |                         |                         |   |                                 |                       |                            | x         |
| 62                 | San Francisco Bay Urban Creeks   | Diazinon and Pesticide Toxicity                                | Yes                     | No                    |                 |   |                         |                         |   |                                 |                       |                            | x         |
| 63                 | San Gabriel River  | Metals (Cu, Pb, Zn) and Selenium                               | Yes                     | In Process            | 2/1/2017        |   |                         |                         |   |                                 |                       |                            |           |
| 64                 | San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks)                     | Sediment   | Yes                     | No                    |                 |   |                         | BMP EFF                 |   | Biofiltration                   | 10/1/2016             | 5/31/2019                  |           |
| 65                 | San Pedro & Pacifica State Beach   | Bacteria   | Yes                     | No                    |                 |   |                         | (CHAR)                  | 55  |                                 |                       |                            | x         |
| 66                 | Santa Clara River Estuary & Reaches 3,5,6,7  | Coliform   | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                                 |                       |                            |           |
| 67                 | Santa Clara River Reach 3  | Chloride   | Yes                     | In Process            | 4/1/2017        |   |                         |                         |   |                                 |                       |                            |           |
| 68                 | Santa Monica Bay   | DDTs and PCBs  | Yes                     | In Process            | 3/1/2017        |   |                         |                         |   |                                 |                       |                            |           |
| 69                 | Santa Monica Bay Beaches   | Bacteria   | Yes                     | Yes                   |                 | 2/13/2015<br>4/20/2009<br>8/5/2008<br>11/8/2007 |                         |                         |   |                                 |                       |                            |           |
| 70                 | Santa Monica Bay Nearshore & Offshore  | Debris (trash & plastic pellets)                               | No                      | In Process            | 4/1/2017        |   |                         |                         |   |                                 |                       |                            |           |
| 71                 | Scott River  | Sediment and Temperature                                       | Yes                     | No                    |                 |   |                         | (CHAR)                  | 74  | NA                              |                       |                            |           |
| 72                 | Shasta River   | Dissolved Oxygen and Temperature                               | Yes                     | No                    |                 |   |                         | (CHAR)                  | 34  | NA                              |                       |                            |           |
| 73                 | Sonoma Creek   | Sediment   | Yes                     | No                    |                 |   |                         | (BMP EFF)               | 47  | Biofiltration                   |                       |                            | x         |
| 74                 | South Fork Eel River   | Temperature and Sediment                                       | No                      | No                    |                 |   |                         | CHAR                    |   | NA                              | 10/1/2016             | 5/31/2019                  |           |
| 75                 | South Fork Trinity River and Hayfork Creek   | Sediment   | Yes                     | No                    |                 |   |                         | (CHAR)                  | 39  | NA                              |                       |                            |           |
| 76                 | Ten Mile River   | Sediment   | No                      | No                    |                 |   |                         | (CHAR)                  | 39  | NA                              |                       |                            |           |
| 77                 | Trinity River  | Sediment   | Yes                     | No                    |                 |   |                         | (CHAR)                  | 74  | NA                              |                       |                            |           |
| 78                 | Truckee River  | Sediment   | Yes                     | No                    |                 |   |                         | BMP EFF                 |   | Detention Device                | 10/1/2016             | 5/31/2019                  |           |
| 79                 | Upper and Lower Newport Bay  | Organochlorine Compounds (DDT, Chlordane, & PCBs)              | Yes                     | No                    |                 |   |                         | (BMP EFF)               | 59  | Biofiltration/<br>Media Filters |                       |                            |           |
| 80                 | Upper Main Eel River and Tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury | Temperature and Sediment                                       | Yes                     | No                    |                 |   |                         | (CHAR)                  | 74  | NA                              |                       |                            |           |



**Table 4.1. Monitoring Status within TMDL Watersheds**

| TMDL Watershed No. | Watershed Name                    | Pollutant(s)                               | Monitoring Requirements | Cooperative Agreement | Target MOA Date | Actual MOA Date(s)                | Ongoing Monitoring Type | Planned Monitoring Type | Representative Monitoring in TMDL Watershed No. | Treatment BMP Category | Monitoring Start Date | Monitoring Completion Date | See Notes |
|--------------------|-----------------------------------|--|-------------------------|-----------------------|-----------------|-----------------------------------|-------------------------|-------------------------|---|------------------------|-----------------------|----------------------------|-----------|
| 81                 | Upper Santa Clara River           | Chloride                                   | Yes                     | In Process            | 4/1/2017        |                                   |                         |                         |   |                        |                       |                            |           |
| 82                 | Van Duzen River and Yager Creek   | Sediment                                   | Yes                     | No                    |                 |                                   |                         | (CHAR)                  | 39  | NA                     |                       |                            |           |
| 83                 | Ventura River and its Tributaries | Algae, Eutrophic Conditions, and Nutrients | Yes                     | Yes                   |                 | 1/19/2015<br>1/5/2015<br>5/1/2014 |                         |                         |   |                        |                       |                            |           |
| 84                 | Ventura River Estuary             | Trash                                      | Yes                     | Yes                   |                 | 12/15/2011                        |                         |                         |   |                        |                       |                            |           |

**Table 4.1. Monitoring Status within TMDL Watersheds**

## Acronyms &amp; Abbreviations:

NA Not Applicable to column heading.

CHAR Characterization Monitoring of untreated Caltrans' runoff to determine whether Caltrans is a significant contributor to the TMDL pollutants of concern.

BMP EFF BMP Effectiveness Monitoring of installed treatment BMPs to confirm it is effective for reducing or eliminating the pollutant concentration in Caltrans' stormwater runoff.

## Description of Column Headers:

|   |  |
|---|--|
| TMDL Watershed No.                              | The number associated with the alphabetical listing of the 84 TMDL watersheds.   |
| Watershed                                       | The descriptive name of the TMDL watershed, per Attachment IV of the Permit.   |
| Pollutant(s)                                    | The pollutant(s) listed for the watershed per Attachment IV of the Permit.   |
| Monitoring Requirements                         | Marked "Yes" if monitoring requirements are in the approved TMDL; marked "No" if monitoring requirements are not in the approved TMDL and Caltrans is doing either individual monitoring, cooperative agreement monitoring, representative monitoring or currently no monitoring but will update this table to include monitoring information after Regional Water Board has amended the Basin Plan to include monitoring requirements for the TMDL. |
| Cooperative Agreement                           | Marked "Yes" if Caltrans is participating in monitoring with other TMDL stakeholders through a cooperative agreement. Marked 'No' means Caltrans is not participating in monitoring with other TMDL stakeholders through a cooperative agreement. Marked "In Process" if Caltrans has begun the process of entering into a cooperative agreement and expects an agreement within the next 8 months.  |
| Target MOA Date                                 | The estimated date when a cooperative agreement will be signed and executed. MOA Target Dates are provided by Caltrans districts. A target date is also entered where an amendment to an existing cooperative agreement is underway.   |
| Actual MOA Date(s)                              | The date(s) Caltrans entered into a cooperative agreement or an amendment to an existing cooperative agreement.  |
| Ongoing Monitoring Type                         | Caltrans is currently conducting or has completed monitoring in the TMDL Watershed. The type of monitoring being performed (characterization, BMP effectiveness) is indicated in this column; the monitoring start and completion dates are provided in other columns.   |
| Planned Monitoring Type                         | Planned monitoring to be conducted in the TMDL watershed. The type of monitoring to be performed (characterization, BMP effectiveness) is indicated in this column. Where the Planned Monitoring Type is in parentheses, monitoring is being conducted in another representative watershed (see adjacent column titled, Representative Monitoring in TMDL Watershed No.).  |
| Representative Monitoring in TMDL Watershed No. | Caltrans has selected monitoring in another TMDL watershed with similar pollutants and/or BMPs to be representative of this TMDL watershed. The number provided in this column is the TMDL watershed number, i.e., the first column, where the representative monitoring will take place.  |
| Treatment BMP Category                          | For BMP Effectiveness Monitoring, or XXX; this column lists the Caltrans' approved treatment category for the selected BMP (e.g. Infiltration, Detention Device, etc.). "Erosion Control" may be listed for watersheds with sediment TMDLs which indicates Caltrans will perform Erosion/Sediment Control projects along highways as needed for compliance.  |
| Monitoring Start Date                           | Proposed start dates are for planning purposes and subject to change based on site conditions, budget, number of successfully monitored stormwater runoff events, and new cooperative agreement opportunities. In general, monitoring consists of capturing 3 storm events per year for 3 years in order to establish statistically reliable compliance data.  |

**Table 4.1. Monitoring Status within TMDL Watersheds**

|                            |   |
|----------------------------|---|
| Monitoring Completion Date | Proposed end dates are for planning purposes and subject to change based on site conditions, budget, number of successfully monitored stormwater runoff events, and new cooperative agreement opportunities. In general, monitoring consists of capturing 3 storm events per year for 3 years in order to establish statistically reliable compliance data. |
| See Notes                  | Marked "x" if additional notes are provided for the specific TMDL Watershed No, see below.  |

## Notes for the following specific TMDL Watershed No.:

|    |  |
|----|--|
| 7  | A group monitoring plan was approved by the Regional Water Board in 2007, and was completed in 2011. Big Bear Lake stakeholders are to prepare implementation plan to reduce nutrients.  |
| 14 | Caltrans and Regional Water Board agreed during a meeting that efforts should now focus on reducing sediment discharges to Clear Lake and its tributaries. A review of the lake areas shows that there are a few active erosion sites around the lake within Caltrans' Right-of-Way. A recently completed job on HWY 53 has significantly reduced erosion and improved the drainage systems. Caltrans will complete any existing erosion reduction and drainage system improvement project(s). Caltrans will conduct periodic inspection of its Right-of-Way near Clear Lake and continue erosion reduction and drainage improvement when new areas that prone to erosion occur. |
| 15 | Caltrans performed 3 years of wet weather characterization monitoring in Phase I, in which no runoff from Caltrans sites occurred. Caltrans has no dry weather flows. Regional Water Board has accepted Caltrans monitoring under its Phase 1 requirements. Caltrans will consider entering a cooperative agreement for implementation monitoring with other stakeholders pending more information from the Regional Water Board on the requirements for Phase 2.  |
| 50 | Bacteria source study conducted during 2016 at San Juan Creek within TMDL Watershed No. 50; preliminary results indicate that Caltrans is not a source of indicator bacteria. Will provide information in TMDL Status Review Report FY 2016-17.  |
| 51 | Caltrans completed 4 years of monitoring (2012-2016) and the District is discussing future course of action with the Regional Water Board.   |
| 60 | Per agreement with Regional Water Board, Caltrans participation in the SF Bay RMP will cover this monitoring.  |
| 61 | Per agreement with Regional Water Board, Caltrans participation in the SF Bay RMP will cover this monitoring.  |
| 62 | As of December 2016, the San Francisco Regional Water Board says monitoring is not required at this time, but may be required in the future.   |
| 65 | Regional Water Board agreed that they did not see a need for Caltrans to monitor at these locations. Representative monitoring is proposed.  |
| 73 | Regional Water Board agreed that they did not see a need for Caltrans to monitor at these locations. Representative monitoring is proposed.  |

## 5.0 REPORTING AND FUTURE TMDLS

This section describes how Caltrans will provide progress updates to TMDL compliance monitoring activities for existing TMDLs and the approach for future monitoring as new TMDLs may be adopted and incorporated into the Caltrans Permit.

### 5.1 ANNUAL REPORT UPDATES

Caltrans is required to submit results of the previous year monitoring at Tier-1 sites in its annual Monitoring Results Report, and also summarize the previous year's TMDL monitoring results in the TMDL Status Review Report. Cumulative results will be compiled annually to inform future reach prioritization submittals.

For BMP effectiveness monitoring, Caltrans will report results and analysis in compliance with the Permit in the following documents:

- Stormwater Monitoring and BMP Development Status Report
- TMDL Status Review Report
- TMDL Progress Report

Table 5.1 presents the reporting requirements for both characterization monitoring and BMP effectiveness monitoring. Caltrans will also upload the collected water quality data to the State Water Board's Storm Water Multi-Application Reporting and Tracking System (SMARTS) using a format that conforms to the California Environmental Data Exchange Network (CEDEN). Caltrans has been uploading all data to the CEDEN system until SMARTS becomes available.

**Table 5.1. Reporting Requirements**

| Reporting Requirement                                   | Due Date        | Frequency   |
|---|-----------------|---|
| Monitoring Results Report                               | October 1       | Annually, starting in 2013                                    |
| Stormwater Monitoring and BMP Development Status Report | October 1       | Annually, starting in 2013<br>(Part of the Annual Report)     |
| TMDL Status Review Report                               | October 1       | Annually, starting in 2015<br>(Part of the Annual Report)     |
| TMDL Progress Report                                    | January 1, 2018 | One-time submittal<br>(Part of the Report of Waste Discharge) |

## 5.2 CMP ANNUAL UPDATES TO TABLE 4.1 IMPLEMENTATION SCHEDULE

The monitoring status provided in Table 4.1 of this CMP will be updated and submitted annually to State Water Board staff for their review. In general, updates will include:

- Status of ongoing Caltrans characterization or BMP effectiveness monitoring
- New cooperative agreements established with other responsible MS4s
- Watershed notes as needed to accompany Table 4.1.
- Justification/explanation of changes

## 5.3 FUTURE TMDLS

In general, BMPs that achieve compliance with a TMDL will be dropped from further monitoring and new monitoring sites will be added with considering the approved prioritization list. As new TMDLs are adopted, their respective reaches will be prioritized and submitted for State Water Board approval.

After the new TMDLs are incorporated into the Caltrans permit and the revised TMDL Reach Prioritization List is approved it will be used when adding new monitoring projects or entering into cooperative agreements.

## 6.0 REFERENCES

Caltrans, 2015. California Department of Transportation. Stormwater Guidance Monitoring Manual. CTSW-OT-15-999.43.01. November.

Caltrans, 2009. California Department of Transportation. BMP Pilot Study Guidance Manual. CTSW-RT-06-171.02.1. January.

State Water Board, 2014. Amended National Pollutant Discharge Elimination System Statewide Storm Water Permit No. CAS000003 (Permit) Waste Discharge Requirements for State of California Department of Transportation. California State Water Resources Control Board. Order No. 2014-0077-DWQ. May.

State Water Board, 2012. National Pollutant Discharge Elimination System Statewide Storm Water Permit No. CAS000003 (Permit) Waste Discharge Requirements for State of California Department of Transportation. California State Water Resources Control Board. Order No. 2012-0011-DWQ. September.

# **APPENDIX A**

## **Permit Attachment II; Non-ASBS Monitoring Constituent List**

## Permit Attachment II; Non-ASBS Monitoring Constituent List

Table A.1 lists the monitoring constituents, analytical methods, and reporting limits from Attachment II of the Permit. This list is not applicable to Areas of Special Biological Significance (ASBS) discharges.

**Table A.1. Constituent List**

| Constituent                              | Analytical Method           | Reporting Limit <sup>1</sup> | Units              |
|--|-----------------------------|------------------------------|--------------------|
| Hardness as CaCO <sub>3</sub>            | SM 2340 B or C              | 5                            | mg/L               |
| pH                                       | Calibrated Field Instrument |                              | pH Units           |
| Temperature                              | Calibrated Field Instrument |                              | C +/-              |
| Flow Rate                                | Calibrated Field Instrument |                              | ft <sup>3</sup> /s |
| Total Dissolved Solids                   | EPA 160.1                   | 1                            | mg/L               |
| Total Suspended Solids                   | EPA 160.2                   | 1                            | mg/L               |
| Oil & Grease                             | EPA 1664B                   | 1.4                          | mg/L               |
| Polycyclic Aromatic Hydrocarbons (Total) | EPA 8310                    | 0.05                         | µg/L               |
| Total Kjeldahl Nitrogen (TKN)            | EPA 351.3                   | 100                          | µg/L               |
| Nitrate as Nitrogen (NO <sub>3</sub> -N) | EPA 300.0                   | 100                          | µg/L               |
| Phosphorous (Total)                      | EPA 365.2                   | 30                           | µg/L               |
| Aluminum (Total)                         | EPA 200.8                   | 25                           | µg/L               |
| Chromium (Total)                         | EPA 200.8                   | 1                            | µg/L               |
| Copper (Total)                           | EPA 200.8                   | 1                            | µg/L               |
| Iron (Total)                             | EPA 200.8                   | 1                            | µg/L               |
| Lead (Total)                             | EPA 200.8                   | 1                            | µg/L               |
| Zinc (Total)                             | EPA 200.8                   | 5                            | µg/L               |
| Fecal Coliform                           | SM 9221 C E                 | 2                            | MPN/100 mL         |
| Enterococcus <sup>2</sup>                | EPA 1600                    | 2                            | CFU/100 mL         |
| Chronic Toxicity <sup>3</sup>            | EPA 821-R-02-013            | Pass/Fail                    |                    |



---

<sup>1</sup> Reporting limits should be sufficient enough to detect the presence of a constituent based on the applicable Regional Water Board Basin Plan. If no limit is specified in the Basin Plan, the reporting limit specified in this table will be used. If no limit is specified in this table, then the Regional Boards shall be consulted.

<sup>2</sup> applicable only for direct discharges to marine waters. See definition of direct discharges and indirect discharges in [Permit] Attachment VIII (glossary).

<sup>3</sup> To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used.

---

## **APPENDIX B**

### **Quality Assurance Project Plan Template**

**(Electronic Only—see CD)**