



# STORMWATER MANAGEMENT PROGRAM ANNUAL REPORT



California Department of Transportation  
Statewide Stormwater Management Program Annual Report  
Fiscal Year 2007-2008  
CTSW-RT-09-182.32.1  
**APRIL 2009**

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**California Department of Transportation**

**STORMWATER MANAGEMENT PROGRAM  
ANNUAL REPORT**

**Fiscal Year**

**2007-2008**

**CTSW-RT-09-182.32.1**



**California Department of Transportation  
Division of Environmental Analysis  
Stormwater Management Program  
1120 N Street, Sacramento, California 95814  
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**April 1, 2009**

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**California Department of Transportation**

**1120 N Street**

**Sacramento, California 95814**

**Certification**

**STORMWATER MANAGEMENT PROGRAM**

**ANNUAL REPORT**

**April 1, 2009**

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**G. Scott McGowen**

Date:

3/25/09

**Chief Environmental Engineer  
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## Attachments

Attached to the Stormwater Management Program Annual Report (CTSW-RT-09-182.32.1), April 1, 2009, is the *Year-End Performance Report, A Summary of Construction Compliance Inspections (July 1, 2007 through June 30, 2008)*, (CTSW-RT-08-222-03.1), March 2009, which summarizes the results of stormwater task force construction compliance inspections. For immediate access to this report and data, see the enclosed compact disc (CD). For a complete list of these and all other Caltrans stormwater management and research reports, please see Caltrans Headquarters Stormwater Division of Environmental Analysis (DEA) website at <http://www.dot.ca.gov/hq/env/stormwater/special/newsetup>

## Acronyms

A Glossary of terms used in the Annual Report is on page G-1.

AASHTO	American Association of State Highway and Transportation Officials
AGC	Associated General Contractors
ASBS	Areas of Special Biological Significance
BMP	Best Management Practice
BPP	Brake Pad Partnership
CASQA	California Stormwater Quality Association
CEQA	California Environmental Quality Act
CIWMB	California Integrated Waste Management Board
COP	California Ocean Plan
CRA	California Restaurant Association
CTC	California Transportation Commission
DCSWC	District Construction Stormwater Coordinator
DEA	Division of Environmental Analysis
DTSC	Department of Toxics Substance Control
EIP	Environmental Improvements Project
EPA	Environmental Protection Agency (United States)
EUCA	Engineering and Utility Contractors Association
FPPP	Facility Pollution Prevention Plan
GSRD	Gross Solids Removal Device
HQ	Headquarters (California Department of Transportation or Caltrans)
IC/ID	Illicit Connection /Illegal Discharge
IMMS	Integrated Maintenance Management System
IVM	Integrated Vegetation Management
LID	Low Impact Development
M-SWAT	Maintenance Stormwater Advisory Team
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Construction
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
OSWMD	Office of Stormwater Management Design
PCA	Pest Control Advisor
PD-SWAT	Project Design Stormwater Advisory Team
PID	Project Initiation Document
PPDG	Project Planning and Design Guide
PS&E	Plans, Specifications, and Estimates
PY	Personnel Year
RWQCB	Regional Water Quality Control Board
SCCWRP	Southern California Coastal Water Research Project
SHOPP	State Highway Operation Protection Program
SMC	Southern California Monitoring Coalition
SR	State Route
SSP	Standard Special Provision
SWAT	Stormwater Advisory Team
SWDR	Stormwater Data Report
SWMP	Stormwater Management Plan

## Acronyms

A Glossary of terms used in the Annual Report is on page G-1.

SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TIE	Tahoe Inter Agency (Committee)
TMDL	Total Maximum Daily Load
TRPA	Tahoe Regional Planning Agency
TSACC	Tahoe Science Agency Coordination Committee
TSC	Tahoe Science Consortium
USCC	United States Compost Council
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VCP	Vegetation Control Plan
WPCP	Water Pollution Control Program
WQ	Water Quality
WQ-SWAT	Water Quality Stormwater Advisory Team

## Executive Summary

The California Department of Transportation (Caltrans) Stormwater Management Program Annual Report describes the stormwater management activities Caltrans performed from July 1, 2007 to June 30, 2008 to comply with the reporting requirements in its Statewide National Pollutant Discharge Elimination System Stormwater Permit and Statewide Stormwater Management Plan<sup>1</sup>. Through the program, Caltrans strives to protect water quality while fulfilling its mission to improve mobility across California. Water quality protection is a key component of Caltrans' day-to-day business, particularly during the design, construction, and maintenance of a project, as well as educating the public, training employees, and general housekeeping. Research into technologies that are conducive to the linear nature of highways and that address roadway pollutants continued during this reporting period.

This report describes specific measures Caltrans took during the year to implement water quality control measures and assesses the effectiveness of each activity performed. Among the water quality control measures used were best management practices (BMP), training courses and guidance, applied studies to treat highway runoff, the continuance of the successful "[Don't Trash California](#)" and "[Adopt-A-Highway](#)" public education campaigns, and numerous public outreach efforts.

During the reporting period, Caltrans' Stormwater Management Program received several awards for their national leadership and innovative research contributions to managing stormwater. The awards included:

- The United States Environmental Protection Agency's Clean Water Act Recognition Awards: Stormwater Management Excellence award for its national leadership in stormwater management;
- Honorable mention by *Stormwater Solutions Magazine* for its Rincon Creek bridge replacement and roadway realignment project along Route 15 (*Land and Water*, 2008);
- The American Society of Civil Engineers (ASCE) Sacramento section competition and statewide (Region 9) competition awarded Caltrans' Stormwater Treatment Pilot Studies at Lake Tahoe project its 2007 Environmental Project of the Year;
- The Green California Summit and Exposition's Green California Leadership Award (Transportation Category) for its outstanding accomplishments in sustainability; and
- The California Transportation Foundation's 2008 TRANNY Environmental Enhancement Project of the Year award for Caltrans' innovative approach to managing stormwater runoff.

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<sup>1</sup> All references made to the SWMP in this Annual Report pertain to the May 2003 edition of the SWMP.

## Overall Program Assessment

To determine the effectiveness of the overall Stormwater Management Program, each component of the program was evaluated for its contribution towards implementing the program (Level 1), creating awareness (Level 2), causing a change in behavior (Level 3), reducing pollutant loads (Level 4), and improving water quality (Level 5).

### Program Effectiveness Assessment Summary for the Overall Stormwater Management Program

Annual Report Chapter	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Pollutant Loads	Runoff Quality	Receiving Water Quality
Program Management (Chapter 2)	C	A	N/A	N/A	N/A	N/A
BMP Identification and Implementation (Chapter 3)	C	N	A	N/A	N/A	N/A
Project Delivery (Chapter 4)	C	C	C	C	N/A	N/A
Maintenance (Chapter 5)	C	N	C	C	N/A	N/A
Training and Public Education (Chapter 6)	C	A	A	C	N/A	N/A
Monitoring and Research (Applied Studies) (Chapter 7)	C	N	N/A	A	A	N/A
Location Specific Requirements (Chapter 10)	C	N	N	C	N/A	A*

C – An effectiveness assessment was conducted during fiscal year 2007-2008.

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports.

N – An effectiveness assessment is not anticipated.

N/A – This outcome level is not applicable to this program element.

\* This outcome level may only be assessed using Caltrans' data in conjunction with other available stakeholder datasets.

Based on this assessment, it was demonstrated that Caltrans is effectively implementing the Stormwater Management Program, and awareness of program requirements has increased, resulting in positive behavior change and decreased pollutant loadings.

## **Key Accomplishments**

### Outcome Level 1 (Program Implementation)

- The Districts completed 84% of the activities identified within their Regional Work Plans. The remaining activities are ongoing and will be completed in upcoming years.
- District staff coordinated the implementation of TMDLs, local public education campaigns and regional Stormwater Management Program implementation at over 250 municipal coordination meetings.
- Headquarters and District staff coordinated at 14 Stormwater Advisory Team (SWAT) meetings across the state to discuss and collaborate on stormwater elements of the program from project Planning and Design, Construction/Encroachment Permits, Operation and Maintenance, and Traffic Operations.
- The Super SWAT statewide stormwater conference was held this reporting period, themed “Leading the Way”, and was attended by over 120 District and Headquarters representatives as well as speakers from EPA, State Water Resources Control Board, CASQA, and other agencies. Almost all of the attendees rated the level of collaboration and the overall value of the conference as “excellent” or “good.”
- Over 2,400 employees were trained during 2007-2008, which included six Planning and Design courses, six Construction courses, and two Maintenance courses.
- Caltrans incorporated over 400 treatment BMPs in 47 projects. Of these, 37% were biofiltration swales, 29% were biofiltration strips, and 11% were gross solids removal devices.
- Of the illicit connections/illegal discharges documented, 38 of 80 were resolved, 21 were resolved from prior fiscal years, six are in the process of being resolved, and 15 were referred to the regional board or local agency.
- While implementing its baseline drainage facility inspection and cleaning program, Caltrans inspected over 45,000 inlets (11%) of the 413,189 drain inlets. Of those inspected, they cleaned 40,168 (89%) that had accumulated sediment. Caltrans conducted enhanced inspections on over 50% of storm drain inlets in the Counties of San Diego, Orange, Los Angeles, and Ventura and cleaned over 25% of them.
- The Districts actively participated in 25 Total Maximum Daily Loads that are currently being developed and implemented 37 TMDLs statewide. Over the reporting period, the Districts completed various TMDL-related activities, such as development of District TMDL Implementation Plans, water quality studies, collaboration with other stakeholders, inspections, and implementation projects.

### Outcome Level 2 (Knowledge and Awareness)

- Construction staff is aware of the requirements of the construction program and developed appropriate plans such as the SWPPPs and WPCPs. During the reporting period, 100% of the required SWPPPs and WPCPs were developed.

### Outcome Level 3 (Behavior Change)

- Construction compliance inspections resulted in 248 favorable ratings of 270 inspections (92%) during the non-rainy season and 181 favorable ratings of 204 inspections (89%) during the rainy season.
- Maintenance compliance inspections occurred at 24% of Caltrans' facilities, totaling 74 facilities statewide, and of these, 96% or 71 facilities complied with Caltrans' Maintenance Staff Guide, which resulted in favorable or high ratings. The 208 maintenance activities evaluated resulted in a 98% highly effective rating. Compliance inspections for the remainder of the facilities will be conducted in the following years.

### Outcome Level 4 (Load Reduction)

- The "Don't Trash California" campaign focused in the Los Angeles region to address the Trash TMDLs achieved 7.4 million impressions, and the Adopt-A-Highway program removed over 200,000 bags and over 30,000 cubic yards of trash and litter that might otherwise have ended up in the storm drains and/or receiving waters. In addition, 562 storm drain stencils were replaced or repainted.

## 1.0 OVERVIEW

The *Stormwater Management Program Annual Report* (CTSW-RT-09-182.32.1), April 1, 2009 (Annual Report) summarizes and discusses stormwater management activities conducted by the California Department of Transportation (Caltrans) during the period of July 1, 2007 to June 30, 2008 to protect stormwater while maintaining travel safety and meeting Caltrans' mission of improving mobility across California. Due to the diversity of geographic, climatic, population, and regulatory conditions, Caltrans uses a variety of strategies to control the discharge of pollutants from roadways and facilities throughout the state. This Annual Report describes specific measures Caltrans took during the year to implement those strategies.

The Annual Report complies with the reporting requirements described in Caltrans' Statewide National Pollutant Discharge Elimination System (NPDES) Stormwater Permit (Order No. 99-06-DWQ) (Permit) and Caltrans' Statewide Stormwater Management Plan (SWMP). All references made to the SWMP in this report pertain to the May 2003 edition of the SWMP.

The Annual Report is organized by each of the ten SWMP sections. Reporting elements within each Annual Report chapter are focused on reporting requirements specifically stated in the Permit or SWMP. A list of Permit and SWMP reporting requirements and their associated reporting location is listed in Table 1-1 below. In addition to reporting requirements of the Permit, the May 2003 SWMP contains additional reporting commitments. These commitments and their corresponding Annual Report chapters are provided in Table 1-2. If the Permit or SWMP reporting requirements are addressed in more than one section of the 2003 SWMP, the Annual Report chapter in which these activities are reported is indicated in the right column of the tables.

**Table 1-1: Annual Reporting Information**

1999 Permit Provision Number	Description	2003 SWMP Section	Annual Report Chapter
C.2.3	Discharges in exceedances of WQ standards – Iterative Approach – Construction	9.4	4
E.1	Documentation that describes and justifies the proposed SWMP changes (Revised SWMP status)	1.4	1
E.2	Regional Work Plans	2.2 and 9.2	2
F.3.f	BMP Selection Report submitted (describe and justify BMP changes and additions)	3.3	3
F.3.g	New Technologies Report submitted	3.3	3
G.1.b	Describe and summarize the activities conducted throughout the Districts and Headquarters to implement the Municipal Coordination Plan	2.3	2
G.2.b	Legal Authority – Documentation of specific problems encountered while implementing the SWMP that develops because of legal constraints	2.6	2

1999 Permit Provision Number	Description	2003 SWMP Section	Annual Report Chapter
G.3.b	Fiscal Analysis and provide fiscal constraints encountered in implementing the SWMP	2.2	2
H.9	DTSC lead variance	4.3.4	4
I.1.a (3)	Roadside Vegetated Slope Inspections and Actions Taken	5.3.2	5
I.1.b (4)	Annual submittal of Vegetation Control Plan (VCP)	5.3.4	5
I.2.b (4), B.9 <sup>2</sup>	IC/ ID Program Report	4.6, 5.3.2.3	5
J.1.b	Employee Training	6.2	6
J.2.b	Contractor Training	6.3	6
J.3.c	Public Education Progress Report (Including – Results of Partnership Opportunities, List of Informal Brochures, Storm Drain Stenciling)	6.4	6
K.1	Characterization of Discharges	7.4	7
K.2	Monitoring Strategy Update	7.4	7
K.2.a	Stormwater Monitoring and Reporting Program	7.4	7
K.3 (b)	Self-Audit (Construction)	8.4.1	4
K.3 (c)	Self-Audit (Maintenance)	8.4.2	5
K.3 (d)	Self-Audit (Program Effectiveness)	8.0	All
L.8 (a)	Solicit Consultation with RB at 50% Design Review for Lake Tahoe, Mammoth, and Truckee HU in Lahontan Region	9.6, 10	10
L.8 (b)	Lahontan (Lake Tahoe Unit) – Submit SWPPP or WPCP at least 30 days before Construction	9.6, 10	10
L.10 (b)	Deicer Effectiveness Monitoring	9.3, 10.2	10
M.7	Report of Waste Discharge (Permit Renewal Status Update)	1.5	1

**Table 1-2: 2003 SWMP Additional Reporting Information**

Description	2003 SWMP Section	Annual Report Chapter
Communication between the Districts and Headquarters functional programs; (SWAT Meetings)	2.2.7, 4.3.1, 4.5, 5.3, 8.3.1, and 8.5	2
Herbicide Usage	5.3.4	5
Enhanced Storm drain inlet cleaning activities by Section of Highway – Metropolitan areas of Los Angeles, San Diego, Ventura, and Orange Counties	5.3.2.2	5
Notify RWQCBs of Pre-Construction Meetings	6.3.1	6

<sup>2</sup> List of Exempt Discharges and IC/ID tracking contribute to Provision B.9 (Non-Stormwater Report)

Description	2003 SWMP Section	Annual Report Chapter
Summarize the review and revision of existing airspace leases	2.2.10.2	2
Baseline inspection and cleaning activities by section of highway	5.3.2.1	5
Chemical used for vegetative control measures on vegetated treatment BMPs	5.5.1	5
Self-Audit (Design Compliance Monitoring)	8.4.3	4
Summary of Caltrans Communications and Plans for Program Improvement	8.5.2	2, 8
TMDL coordination efforts	10.1	10

Each chapter of the Annual Report contains the following sections:

- I. Reporting Information** – This section identifies the Permit requirements associated with the SWMP section. All reporting requirements for the applicable Chapter are excerpted from Tables 1-1/1-2, and the applicable SWMP subsection(s) are identified.
- II. Activities** – This section describes all reportable Caltrans activities that were performed to meet the Permit and SWMP requirements. It uses the same headings as the 2003 SWMP, but only for SWMP sections with reporting information. Sections that do not have any requirements are not discussed.
- III. Program Effectiveness** – This section provides an effectiveness assessment for the Chapter. The effectiveness assessment measures the programmatic and/or environmental outcomes of the program and it is conducted to determine if the various programs and/or activities are resulting in the desired outcomes. The assessment identifies the outcome level(s) achieved as well as any program modifications that have been identified. The assessment identifies the outcome level(s) achieved, the outcomes level(s) that may be achieved in the future, and any program modifications that have been identified.

This is the third year that Caltrans has utilized the California Stormwater Quality Association's™ (CASQA) approach to assessing program effectiveness<sup>3</sup>. As illustrated in Figure 1-1, there are six outcome levels for the effectiveness assessment. The outcome levels help to categorize and describe the desired results or goals of the program. The ultimate goal of the SWMP is the protection and improvement of water quality, which is measured with outcome levels 5 and 6. In general, Levels 1, 2, 3, and 4 can be considered Implementation Outcomes, and Levels 5 and 6 can be considered Water Quality Outcomes.

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<sup>3</sup> Per the Municipal Stormwater Program Effectiveness Assessment Guidance document, May 2007

The outcome levels assist in categorizing and gauging the performance of Caltrans' Stormwater Management Program (see Table 1-3). Important points to consider about effectiveness assessments include:

- a. The ability of a stormwater management program to assess an outcome level tends to become progressively more difficult as one moves up the pyramid (e.g., Level 4 is more difficult to assess than Level 2). This is primarily because the upper levels of the pyramid assess the impact of the program on water quality, which requires a much more robust dataset over an extended period.
- b. Levels 1 through 3 are typically assessed using program management data, whereas levels 4 through 6 are assessed using physical and/or water quality monitoring data.
- c. Each major Stormwater Management Program element (e.g., BMP Identification and Elimination, Maintenance, etc.) can be assessed at one or more outcome levels based on the data and information available.
- d. Outcome Levels 5 and 6 are used to assess the effectiveness of the overall Stormwater Management Program; however, it is difficult to correlate the implementation of the program to changes that may be observed in runoff or receiving water quality. Therefore, these types of assessments are conducted less frequently and they require a more robust dataset than Outcome Levels 1-4. Caltrans' small contribution within any watershed, and extensive linear nature, may make this level of assessment infeasible.



**Figure 1-1: Classification of Outcome Types**

(See attached CD for color figure.)

For each level of effectiveness, the following questions are asked and answered:

**Table 1-3: Classification of Outcome Types**

	<b>Level 1</b>	Did Caltrans implement the components of the SWMP?
	<b>Level 2</b>	Can Caltrans demonstrate that the program significantly increased awareness of a target audience (staff or public)?
	<b>Level 3</b>	Can Caltrans demonstrate that the program resulted in significant behavior change (e.g., increased implementation of BMPs, decrease in number of incidents reported, etc.)?
	<b>Level 4</b>	Can Caltrans demonstrate that the program resulted in a significant decrease in the pollutant loadings from the Right-of-Way?
	<b>Level 5</b>	Can Caltrans demonstrate that the quality of runoff has improved?
	<b>Level 6</b>	Can Caltrans demonstrate that the quality of the receiving water has improved? Level 6 is difficult to demonstrate, as Caltrans' linear Right-of-Way is typically a small fraction of the watershed draining to a receiving water body. In general, Caltrans' property consists of less than 5% of the tributary drainage area of a watershed to the receiving water.

Section III of each chapter of the Annual Report assesses the effectiveness of the program area/element by:

- Determining the purpose or focus of the assessment* – Each section identifies the outcome levels that are being assessed as well as the related management questions to help focus the assessment. Where applicable, each section also identifies the goals that have been established for that program area/element.

- *Establishing/Identifying the baseline conditions* – A baseline is a defined point or metric by which effectiveness can be measured or compared. Baselines are linked to a specific point in time and are particularly important for measuring change over time. Where feasible, each section identifies the baseline(s) that has been established for the corresponding assessment.
- *Identifying the effectiveness assessment method(s) that was used to determine if the outcome level is being achieved* – Assessment methods are the specific activities, actions, or processes used to obtain and evaluate assessment data or information. Each section identifies the method of measurement that was used for each corresponding assessment. The assessment methods utilized include confirmation, tabulation, surveys, inspections, monitoring, and/or quantification.
- *Using the information* – Each section contains an analysis of the information and identifies what actions/activities are effective and which actions/activities should be improved. The identified improvements are summarized in the program modification section so they may be addressed during the next fiscal year.

A summary table is also contained within Section III of each chapter to identify the breadth and depth of the effectiveness assessment for each chapter of the Annual Report. The summary table is followed by the detailed assessment and supporting data and information.

## I. SWMP SECTION 1 REPORTING INFORMATION

1999 Permit Provision Number	Description	2003 SWMP Section
E.1	Documentation that describes and justifies the proposed SWMP changes (Revised SWMP status)	1.4
M.7	Report of Waste Discharge (Permit Renewal Status Update)	1.5

## II. SWMP SECTION 1 ACTIVITIES

### SWMP Section 1.4 Relationship between the Permit and the Statewide SWMP

The current NPDES Permit requires that the SWMP be revised annually as needed. In January 2004, Caltrans submitted a revised SWMP for the Permit renewal in anticipation of a new Permit to be issued in August 2004. The SWMP has been held as a draft document, without a renewed Permit since then. Caltrans submitted an updated (revised) SWMP in June 2007, incorporating additional activities recommended by the State Water Resources Control Board (SWRCB) in anticipation of the renewed permit. Caltrans began implementation of the updated SWMP in June 2007. However, in August 2007, the SWRCB subsequently indicated that Caltrans is still subject to the 2003 SWMP and 1999 Permit. Therefore, implementation of the 2007 SWMP was postponed in January 2008, and the program continued implementation of the May 2003 SWMP. This Annual Report describes how Caltrans met the reporting requirements of the 2003 SWMP and 1999 Permit during the 2007-2008 fiscal year.

## **SWMP Section 1.5 Regulatory Roles and Responsibilities**

The SWRCB regulates Caltrans' stormwater discharge activities through the issuance of a statewide NPDES permit. NPDES permits normally have a term of five years, and Caltrans' permit was scheduled to expire in August 2003. In accordance with the permit requirements, Caltrans submitted a revised SWMP on January 15, 2004. The January 2004 SWMP was intended to address anticipated requirements for Caltrans' Statewide Permit and the Construction General Permit. In a letter from Stan Martinson, Chief, SWRCB's Division of Water Quality, to Gary Winters, Chief, Caltrans' Environmental Analysis Division, August 4, 2004, Caltrans' current Permit, which expired on July 15, 2004, was administratively extended pending further review by the SWRCB.

### **Other Activities**

In 2007, Caltrans' Stormwater Management Program received the U.S. Environmental Protection Agency's (USEPA's) Clean Water Act Recognition Awards: Stormwater Management Excellence Award for its national leadership in stormwater management.

Caltrans received an honorable mention in *Stormwater Solutions Magazine* for its bridge replacement and roadway realignment project along Route 150. The article, "Rincon Creek Stormwater Quality Innovations: Stream Restoration through Green Highway Design of the Route 150 Rincon Bridge", was published in February 2008. The project included replacing the bridge over Rincon Creek and mitigating for the sensitive habitat near the project.

On February 19, 2008, the American Society of Civil Engineers (ASCE) awarded Caltrans' Stormwater Treatment Pilot Studies at Lake Tahoe project its 2007 Environmental Project of the Year awards in the Sacramento section competition and statewide (Region 9) competition.

At the Green California Summit and Exposition April 8, 2008, Caltrans' SWMP and the Stormwater Management Program received a Green California Leadership Award (Transportation Category) for its outstanding accomplishments in sustainability.

In June 2008, Caltrans' Stormwater Management Program was awarded the California Transportation Foundation's 2008 TRANNY Environmental Enhancement Project of the Year Award for its innovative integrated stormwater management approach on treating stormwater runoff, its collaborative efforts, and partnerships with other agencies on watershed protection, the development of new best management practices (BMPs), and its public outreach and education.

### **III. EFFECTIVENESS ASSESSMENT OF THE STORMWATER PROGRAM**

To determine the effectiveness of the overall Stormwater Management Program, an effectiveness assessment was conducted as a part of each chapter of the Annual Report and the results are presented in Part III of Chapter 8. Additional detail for each component of the assessment is contained within Part III of the corresponding chapter.

#### **Program Modifications**

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## 2.0 PROGRAM MANAGEMENT

### I. SWMP SECTION 2 REPORTING INFORMATION

1999 Permit Provision Number*	Description	2003 SWMP Section
E.2	Regional Work Plans	2.2
G.3.b	Fiscal Analysis and provide fiscal constraints encountered in implementing the Stormwater Management Program	2.2
-	Communication between the Districts and Headquarters functional programs; (SWAT Meetings)	2.2.7
-	Summarize the review and revision of existing airspace leases	2.2.10.2
G.1.b	Describe and summarize the activities conducted throughout the Districts and Headquarters to implement the Municipal Coordination Plan	2.3
G.2.b	Legal Authority – Documentation of specific problems encountered while implementing the Stormwater Management Program that develops because of legal constraints	2.6
-	Summary of Caltrans Communications and Plans for Program Improvement	8.5.2

\* Reporting requirements with no 1999 Permit Provision Number are requirements identified in the 2003 SWMP only.

### II. SWMP SECTION 2 ACTIVITIES

This section describes specific projects and activities conducted during the reporting period pertaining to the Districts' work in the nine Water Board Regions of the state, including region-specific work plan activities within each District and the progress that each District made during the fiscal year. Such activities include BMP inspections and improvements in District maintenance facilities; BMP modifications; vegetation and vegetated slope management; monitoring, including construction compliance; training and public outreach; and coordination with municipalities. The section also contains an analysis of fiscal constraints Caltrans experienced while implementing the program during the year, including anticipated program costs for the upcoming fiscal year. This section also examines activities conducted during the Districts' Stormwater Advisory Team (SWAT) meetings, coordination with municipalities and local agencies, and the adequacy of Caltrans' legal program.

## **SWMP Section 2.2 Stormwater Management Responsibilities within Caltrans**

### **Regional Work Plans**

Based on agreements made with the SWRCB during preparation of the June 2007 updated SWMP (which is pending approval by the SWRCB), the title of the Regional Work Plans has been changed to District Work Plans. The current District Work Plans, published April 2009, summarize the activities that the Districts plan to perform during the fiscal year 2009-2010 reporting period to comply with the Permit and the May 2003 SWMP.

The main difference between the Regional Work Plans and the District Work Plans is in their organization. The Regional Work Plans are organized according to Regional Water Quality Control Board (RWQCB) Region, and the District Work Plans are organized according to Caltrans District. In addition, the District plans include relevant TMDL information for each District, otherwise the contents of both Regional and District plans are essentially the same.

In April 2007, the Regional Work Plans describing the activities for the fiscal year 2007-2008 reporting period were submitted. The information included:

- Major changes in District personnel and their responsibilities;
- Activities conducted for District facilities and how they affect neighboring water bodies, including the implementation of BMPs to address identified pollutants of concern;
- Activities affecting projects located near drinking water reservoirs and recharge facilities (formerly called “high-risk” areas);
- Implementation of BMPs where necessary; and
- Progress made toward addressing TMDLs adopted by the SWRCB.

Table 2-1 below summarizes the progress the Districts made on their 2007-2008 fiscal year work plan activities. See the Appendix on the CD for information regarding specific commitments, activities completed to achieve each commitment, and the percentages of each commitment completed for the Districts.

**Table 2-1: Progress on Work Plan Activities, Fiscal Year 2007-2008**

District	Estimated Percentage of District Work Plan Activities Completed <sup>4</sup>
<b>1</b>	<b>75%</b>
Anticipated Maintenance Activities and Other Management Practices	25% (No data available)
General Management Practices	100%
TMDLs	100%
<b>2</b>	<b>96%</b>
Anticipated Maintenance Activities and Other Management Practices	88% (BMP Improvements will be completed as funding becomes available)
General Management Practices	100%
TMDLs	100%
<b>3</b>	<b>No Data Available</b>
Anticipated Maintenance Activities and Other Management Practices	No Data Available
General Management Practices	No Data Available
TMDLs	No Data Available
<b>4</b>	<b>100%</b>
Anticipated Maintenance Activities and Other Management Practices	100%
General Management Practices	100%
TMDLs	100%
<b>5</b>	<b>67%</b>
Anticipated Maintenance Activities and Other Management Practices	No Data Available
General Management Practices	100%
TMDLs	100%
<b>6</b>	<b>79%</b>
Anticipated Maintenance Activities and Other Management Practices	75% (Missing data)
General Management Practices	83% (Missing data)
TMDLs	Not Applicable (No TMDLs in District 6)
<b>7</b>	<b>50%</b>
Anticipated Maintenance Activities and Other Management Practices	100%
General Management Practices	50% (Ongoing activities)
TMDLs	100%
<b>8</b>	<b>100%</b>
Anticipated Maintenance Activities and Other Management Practices	100%
General Management Practices	100%
TMDLs	100%
<b>9</b>	<b>100%</b>

<sup>4</sup> The percentage of activities completed was estimated for each category identified in Appendix Tables A-1 through A-12, and an overall average was calculated per District. Percentage estimates are based on the 80% of available data submitted for the progress report. The categories listed are consistent with what the Districts included in their fiscal year 2007-2008 Regional Work Plans.

**Table 2-1: Progress on Work Plan Activities, Fiscal Year 2007-2008**

District	Estimated Percentage of District Work Plan Activities Completed <sup>4</sup>
Anticipated Maintenance Activities and Other Management Practices	100%
General Management Practices	100%
TMDLs	Not Applicable (No TMDLs in District 9)
<b>10</b>	<b>71%</b>
Anticipated Maintenance Activities and Other Management Practices	75% (Missing data)
General Management Practices	67% (Missing data)
TMDLs	Not Applicable (No TMDLs in District 10)
<b>11</b>	<b>100%</b>
Anticipated Maintenance Activities and Other Management Practices	100%
General Management Practices	100%
TMDLs	100%
<b>12</b>	<b>87%</b>
Anticipated Maintenance Activities and Other Management Practices	60% (Missing data)
General Management Practices	100%
TMDLs	100%

**Fiscal Analysis**

A fiscal analysis was prepared to evaluate the financial constraints encountered in implementing the current Permit and SWMP. The fiscal analysis provides information on the following:

- Stormwater budget appropriations by program
- Stormwater allocations by geographical districts and headquarter divisions

Caltrans manages resources for the implementation and maintenance of Stormwater Management Program requirements. The Caltrans Stormwater Budget Item is appropriated under the Capital Outlay Support, State Operation Support budget. Appropriations under the Stormwater Budget Item are scheduled by programs and elements (e.g., 20.10 Capital Outlay Support, 20.65 Legal, 20.70 Traffic Operations, 20.80 Maintenance, and 50 Administration Programs). These resources are used to manage, develop, and implement the Stormwater Management Program.

The Capital Project funds (funds used to deliver capital projects) are appropriated to a separate budget item within Caltrans. Project funds include elements that provide funding for support during the development of the project, an element for Right-of-Way, and an element for Capital Construction costs. Additionally, Caltrans receives resources for support costs to deliver capital projects. These resources pay for salaries and benefits (personal service dollars) for all phases of project delivery from planning through construction.

***Fiscal Year 2007-2008 and 2008-2009, State Operations***

Caltrans was allocated approximately 329 personnel years to comply with Permit requirements and various court orders in support of the Stormwater Management Program. Table 2-2 identifies Caltrans' stormwater budget appropriations approved in the fiscal years 2007-2008 and 2008-2009 Governor's Budget by Program. Appropriations are scheduled from approved Budget Change Proposals, Finance Letters, Legislative Actions, or Department of Finance Budget Letters. The Stormwater Management Program plans for District and division allocations based on approved appropriations.

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**Table 2-2: Stormwater Budget Appropriations by Program and Element**

<i>Stormwater Management Program Component</i>	<b>Fiscal Year 2007-2008</b>				<b>Fiscal Year 2008-2009</b>			
	<i>Personnel Years</i>	<i>Personal Service Dollars</i>	<i>Operating Expense Dollars</i>	<i>Total</i>	<i>Personnel Years</i>	<i>Personal Service Dollars</i>	<i>Operating Expense Dollars</i>	<i>Total</i>
20.10 Capital Outlay Support	45.0	\$4,335,148	\$40,496,852	\$44,832,000	45.0	\$4,195,000	\$40,726,000	\$44,921,000
20.65 Legal	6.7	\$619,000	\$62,000	\$681,000	6.7	\$622,000	\$63,000	\$685,000
20.70 Traffic Operations	13.0	\$1,332,000	\$121,000	\$1,453,000	13.0	\$1,332,000	\$124,000	\$1,456,000
20.80 Maintenance	263.9	\$20,527,000	\$26,319,000	\$46,846,000	263.9	\$23,033,000	\$26,580,000	\$49,613,000
50 Administration	0.0	\$0	\$18,000	\$18,000	0.0	\$0	\$18,000	\$18,000
<b>Totals</b>	<b>328.6</b>	<b>\$26,813,148</b>	<b>\$67,016,852</b>	<b>\$93,830,000</b>	<b>328.6</b>	<b>\$29,182,000</b>	<b>\$67,511,000</b>	<b>\$96,693,000</b>

Table 2-3 summarizes Caltrans' stormwater budget resources allocated by Districts and Headquarters divisions for fiscal years 2007-2008 and 2008-2009. The Personnel Years allocation is the fraction amount derived from the amount of hours to be worked by positions. Personal Service Dollars is the dollar amount calculated from previous year expenditures to support the costs generated from the allocated Personnel Years. Operating Expense is the dollar amount calculated to support contract costs and general expenses (e.g., travel, training, or office supplies) for the allocated Personnel Years. Allocations for these categories are executed through task orders, and planned through a budget process that the Districts use to request contract funds, according to District workload and future stormwater regulatory requirements.

**Table 2-3: Stormwater Statewide District and Division Allocations**

Allocations	Fiscal Year 2007-2008				Fiscal Year 2008-2009			
	Personnel Years	Personal Service Dollars	Operating Expense Dollars	Total	Personnel Years	Personal Service Dollars	Operating Expense Dollars	Total
<b>Districts</b>								
01	13.1	\$1,129,115	\$946,239	\$2,075,354	13.2	\$1,045,200	\$483,937	\$1,529,137
02	16.6	\$1,400,822	\$1,056,123	\$2,456,945	16.5	\$1,284,900	\$701,825	\$1,986,725
03	53.4	\$3,548,333	\$4,360,433	\$7,908,766	51.7	\$4,135,820	\$3,477,947	\$7,613,767
04	36.1	\$2,915,028	\$1,473,757	\$4,388,785	33.4	\$2,710,371	\$1,348,840	\$4,059,211
05	18.3	\$1,495,015	\$1,208,022	\$2,703,037	18.5	\$1,474,900	\$547,842	\$2,022,742
06	26.3	\$2,160,047	\$1,960,774	\$4,120,821	25.9	\$2,166,492	\$2,340,783	\$4,507,275
07	37.8	\$3,214,300	\$10,756,129	\$13,970,429	36.8	\$3,298,765	\$6,868,314	\$10,167,079
08	23.0	\$1,968,325	\$1,225,545	\$3,193,870	20.6	\$1,657,975	\$1,058,849	\$2,716,824
09	7.3	\$630,277	\$491,686	\$1,121,963	7.3	\$578,864	\$516,877	\$1,095,741
10	18.3	\$1,512,571	\$895,683	\$2,408,254	18.1	\$1,415,300	\$737,499	\$2,152,799
11	27.9	\$2,376,995	\$887,240	\$3,264,235	28.3	\$2,498,029	\$752,087	\$3,250,116
12	22.2	\$1,959,921	\$698,084	\$2,658,005	20.9	\$1,759,819	\$709,679	\$2,469,498
<b>Districts Subtotals</b>	300.3	\$24,310,749	\$25,959,715	\$50,270,464	291.2	\$24,026,435	\$19,544,479	\$43,570,914
<b>Headquarter Divisions</b>								
Administration	0.0	\$0	\$18,000	\$18,000	0.0	\$0	\$18,000	\$18,000
Legal	6.7	\$619,000	\$62,000	\$681,000	6.7	\$622,000	\$63,000	\$685,000
Environmental	7.6	\$744,593	\$36,550,700	\$37,295,293	18.0	\$921,190	\$40,675,500	\$41,596,690
Traffic Operations	5.4	\$113,796	\$46,539	\$160,335	5.1	\$154,900	\$50,475	\$205,375
Right-of-Way	0.4	\$37,201	\$600	\$37,801	0.5	\$57,611	\$750	\$58,361
Design	2.1	\$254,191	\$3,150	\$257,341	1.0	\$144,418	\$1,500	\$145,918
Construction	0.9	\$111,590	\$1,350	\$112,940	1.0	\$145,258	\$1,500	\$146,758
Maintenance	5.0	\$462,578	\$4,514,646	\$4,977,224	5.0	\$3,097,700	\$7,155,646	\$10,253,346
Engineering Services	0.2	\$19,302	\$300	\$19,602	0.1	\$12,488	\$150	\$12,638
<b>Headquarters Subtotals</b>	28.3	\$2,362,251	\$41,197,285	\$43,559,536	37.4	\$5,155,565	\$47,966,521	\$53,122,086
<b>Total Allocations</b>	<b>328.6</b>	<b>\$26,673,000</b>	<b>\$67,157,000</b>	<b>\$93,830,000</b>	<b>328.6</b>	<b>\$29,182,000</b>	<b>\$67,511,000</b>	<b>\$96,693,000</b>

The fiscal year 2009-2010 budget appropriations are under development. It is anticipated that future Stormwater appropriations may be similar to the current year being reported. Future fiscal year funding must go through the State of California budget approval process, before appropriations can be made in the Governor's Budget. During the writing of this analysis, the Governor issued an Executive Order to reduce state spending. The Caltrans Stormwater Management Program is following this order by reducing expenditures where possible while still meeting permit and regulatory requirements.

### ***2007-2008 Annual Report SHOPP 335, Stormwater Mitigation***

The Streets and Highways Code requires Caltrans to prepare the Ten-Year State Highway Operation Protection Program (SHOPP). The plan provides input for funding distribution in the Fund Estimates (FE) adopted by the California Transportation Commission in August of each odd-numbered year. Projects are programmed in the SHOPP during every even-numbered year. Stormwater components may be funded in conjunction with other SHOPP and State Transportation Improvement Program (STIP) capital projects to comply with NPDES permit requirements.

Caltrans has a "stormwater mitigation element" (201.335) in the SHOPP. It addresses standalone stormwater capital projects that are required to comply with the provisions of the NPDES permit, various water board orders, and other legal mandates. Projects in the stormwater mitigation element of the SHOPP will be selected for funding in the next cycle, based upon maximum water quality benefit as compared to life cycle cost of the projects. This stormwater mitigation element is used in the following order of priorities:

- **Court Orders:** These stormwater projects are legal mandates from court orders or settlements, e.g., court ordered retrofit pilot BMP project or annual slope stabilization stipulated in a settlement agreement.
- **Board Orders:** These stormwater projects are programmed to correct violations of permit terms and conditions concerns or other stormwater quality concerns.
- **Statewide Stormwater Permit Compliance:** The need for certain projects is determined through a process of highway and facility inspections in the statewide Permit. An example is slope vegetation projects.
- **Location Specific Stormwater Permit Requirements:** The need for certain projects is identified from location specific requirements found in Regional Water Quality Control Plans, enforceable through the statewide Permit. Typical examples are the location specific requirements of implemented TMDLs, the Lake Tahoe Environmental Improvement Program (EIP), and Areas of Special Biological Significance (ASBS) within the California Ocean Plan (COP).
- **Special Conditions:** The need for certain projects is determined due to conditions covered under none of the four previously mentioned above. These are non-stormwater water quality improvements.

## **Stormwater Management Program Funding Needs**

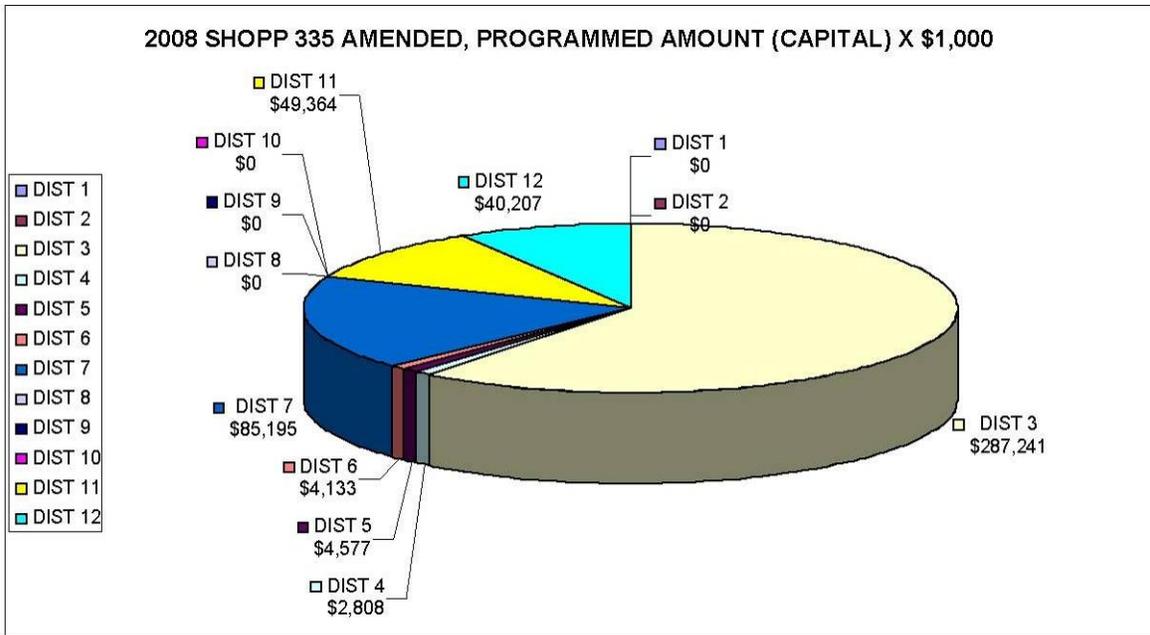
Currently, Caltrans is in the process of preparing the 2009 SHOPP Ten-Year Plan. According to this plan, projected funding needs to address existing TMDL requirements are \$1.96 billion. Total projected funding needs over the next ten years for stormwater in the proposed 2009 Ten-Year Plan, based upon known and projected regulations is over \$3 billion.

Caltrans is responsible for maintaining and operating over 50,000 lane miles of State Highway System (SHS). The needs identified in the proposed 2009 Ten-Year SHOPP plan are over \$91 billion. Since the economy is slowing and funding estimates are lower compared to previous years, Caltrans will be making funding decisions based upon strategic programs. In the wake of the present economic recession, the proposed allocation for the stormwater mitigation element of the SHOPP in the 2009 Ten-Year Plan will most likely be \$100 million per year for ten years starting fiscal year 2010-2011. Re-prioritization of all Caltrans projects is in progress, and although the plan was approved for the \$100 million per year, it is possible that much less will ultimately be available. This financially constrained allocation will not address ASBS needs. Caltrans will need to prioritize the stormwater mitigation needs and work with the SWRCB and RWQCBs and other stakeholders to explore alternative compliance strategies to supplement capital construction (treatment retrofit) so permit compliance can be achieved.

### **Programmed Funding for the SHOPP 335:**

The capital value of the stormwater mitigation element in the 2008 Amended SHOPP starting fiscal year 2008-2009 to fiscal year 2011-2012 is about \$473 million. After adding capital outlay support, the programmed budget for this element amounts to \$643 million. Since revenues from the gasoline tax have decreased, some programmed projects in the 2008 SHOPP may be delayed by the California Transportation Commission (CTC) until the funds become available.

Figure 2-1 shows the District-wide breakdown of capital programming for the stormwater mitigation element in the 2008 Amended SHOPP.



**Figure 2-1: 2008 SHOPP 335 Amended, Programmed Amount (Capital) x \$1,000**

(See attached CD for color figure.)

In fiscal year 2007-2008, the CTC voted funds worth \$89 million for capital outlay to address stormwater mitigation.

***Environmental Improvement Program and Caltrans Projects in Lake Tahoe Basin:***

The NPDES Permit also requires compliance with Water Quality Control Plans (also referred to as Basin Plans). For example, the Lahontan Region Basin Plan specifies numeric water quality objectives for the Lake Tahoe hydrological unit.

At this time, Caltrans is addressing the Lake Tahoe pollutant control requirements based on the Lahontan RWQCB’s current application of water quality standards. However, the proposed changes in requirements by the Lahontan RWQCB, including the development of TMDLs, will require Caltrans to revise its compliance strategy within the Tahoe Basin.

***Maintenance of Roadways and Stormwater BMPs***

Caltrans’ Division of Maintenance has increasing regulatory compliance responsibilities for implementing Caltrans’ NPDES Permit and SWMP. The requirements for controlling sediment, debris, and litter releases from the state highway system to coastal regions and the Tahoe Basin create an increasing workload. Sediment, litter, and debris impact biologically sensitive areas, endangered species spawning, and drinking water requirements. They also degrade coastal and inland waters, as well as sport, agricultural, and recreational uses.

To control these pollutants, Caltrans incorporates BMPs such as biofiltration strips/swales,

infiltration devices, detention devices, traction sand traps, dry weather flow diversion, gross solids removal devices, media filters, multi-chambered treatment trains, and wet basins into projects where they are feasible. Some BMPs are built as retrofits on existing roadways; others are constructed to implement TMDLs. The number of these types of BMPs included in improvement projects has been increasing each year. The operation and maintenance of these structural treatment BMPs require maintenance resources and equipment. As the types of stormwater pollutants requiring prevention increases, so will the number and different types of pollution prevention devices. The resources needed by the Division of Maintenance to maintain the expanding inventory are also expected to increase.

In addition to structural treatment BMP maintenance, the Division of Maintenance incorporates BMPs for its activities and facilities to eliminate or reduce the potential for polluting downstream water bodies.

When there are fiscal constraints in the Division of Maintenance program, competing elements are prioritized. Higher priority needs such as emergency conditions and public safety may outweigh the maintenance and operation of stormwater BMPs.

## **Conclusion**

Caltrans generally has sufficient funding to implement the SWMP. The changing financial status for Caltrans and the SHOPP program may significantly change Caltrans' current plans. However, as the number of BMPs installed and BMPs requiring maintenance increases, the required funding for the program will increase. In anticipation of the new permit and implementation of a revised SWMP, the fiscal resources required for the Stormwater Management Program are expected to increase.

## **SWMP Section 2.2.7 Stormwater Advisory Teams**

### **Communication between Districts and Headquarters Functional Units**

The Stormwater Management Program internally communicates issues to be resolved and suggestions for improvement through the five Stormwater Advisory Teams (SWATs). Each SWAT consists of functional unit representatives from Districts and Headquarters staff. SWAT meetings are held regularly or as needed when specific issues need to be addressed. In addition, the Stormwater Management Program holds an annual meeting (Super SWAT) to discuss accomplishments, challenges, and evolving issues with members of each of the SWATs and additional District and Headquarters Stormwater Management Program staff. Table 2-4 below summarizes the SWAT meeting information and identifies key agenda items and/or issues that were discussed at each meeting.

**Table 2-4: Summary of Stormwater Advisory Team Activities**

<b>Maintenance SWAT</b>		
<b>Meeting Date &amp; Location</b>	<b>September 18 – 19, 2007</b>	<b>Truckee</b>
District Updates	Maintenance stormwater staff changes and orientation Non-Stormwater discharge control at Maintenance Stations Facility Pollution Prevention Plans (FPPPs) Vector waste training Illicit Discharge Detection and Elimination (IDDE)	
Special Topics	Storm drains, outfalls, and subsurface treatment BMPs inventory (Flexible Pavement) and T (Management and Support) Family maintenance operations training Stormwater budget allocations and accounting practices Implementation of SWMP and Annual Report Data New SWAT facilitation and Agenda format Maintenance of Gross Solid Removal Devices (GSRDs) Potential permitting issues associated with Vector / sweeper decanting sites Measurable Objectives for Maintenance IDDE requirements of new Phase II permits Areas of Special Biological Significance (ASBS) Presentation of the Maintenance Staff Guide revisions regarding maintenance tasks for treatment BMPs	
<b>Meeting Date &amp; Location</b>	<b>January 8 – 10, 2008</b>	<b>District 7</b>
District Updates	New Maintenance HQ liaisons / Coordinators M-SWAT charter review Training / Resource needs Animal carcass disposal complaint Facility inspections / FPPP reviews Tracking stormwater data	
Special Topics	Roadway and facility Stormwater compliance inspections Treatment BMP inventory progress Training Slope inspections SWMP and Annual Report data SWAT facilitation and agenda format	
<b>Meeting Date &amp; Location</b>	<b>April 29 – May 1, 2008</b>	<b>San Luis Obispo</b>
District Updates	New maintenance Stormwater coordinators Training Stormwater compliance inspections Pump Station discharges Illicit discharges Stormwater data tracking Vector waste	
Special Topics	Charter update Teleconferencing tool Elevating issues to Stormwater Management team Maintainability of subsurface treatment BMPs	

**Table 2-4: Summary of Stormwater Advisory Team Activities**

Presentations	Illicit discharges and illegal connections tracking Facility inspections Storm drain inventory 2009 SHOPP 335 ten year plan Annual report data	
Group Exercises	March 2008 Super SWAT Field tour of the Cal Poly soil erosion / plant research facility Site visit to slope re-stabilization project along SR-46 Re-elect M-SWAT chair Review of Construction-Maintenance Handoff procedures	
<b>Construction / Encroachment Permits SWAT</b>		
<b>Meeting Date &amp; Location</b>	<b>October 16 – 18, 2007</b>	<b>Sacramento</b>
Presentations	Resource allocations Review of water quality plans from outside entities Construction prioritization scheme for compliance inspection frequency Plant establishment guidelines	
Group Exercises	Revise special provisions Stormwater assessment chart for prioritizing EP project inspections Enforcement options MOU between Caltrans and Dept. of Fish and Game Construction training for EP Stormwater Coordinators / permit writers	
<b>Meeting Date &amp; Location</b>	<b>October 23 – 25, 2007</b>	<b>Sacramento</b>
Special Topic	Review and comments on new (draft) construction compliance evaluation plan.	
<b>Meeting Date &amp; Location</b>	<b>December 19 – 20, 2007</b>	<b>Sacramento</b>
Summary	Finalize new construction compliance evaluation plan and develop outline for future training.	
<b>Meeting Date &amp; Location</b>	<b>May 12, 2008</b>	<b>Sacramento</b>
Special Topic	New construction project stormwater review tool for reviewing ongoing construction projects.	
<b>Meeting Date &amp; Location</b>	<b>June 11, 2008</b>	<b>Sacramento</b>
Presentations	SWMP implementation Super SWAT EP Breakout Session Web-based tool for locating 303(d) listed water bodies Changes to EP Manual	
<b>Meeting Date &amp; Location</b>	<b>February 6 – 7, 2008</b>	<b>San Diego</b>
Presentations	Encroachment Permits Division Stormwater assessment form Templates for enforcement letters to permittees Dewatering requirements Nationwide SWPPP certification and training for inspectors	

**Table 2-4: Summary of Stormwater Advisory Team Activities**

Group Exercises	Revise / edit Special Provisions Assessment chart for prioritizing Encroachment Permits Division projects for inspection Review / comment on draft training (PowerPoint) for Encroachment Permits Division Discussion of training within Districts Elect new Encroachment Permits chair / Charter Changes to Encroachment Permits Division Manual	
Information Sharing	Drain inlet protection for construction pavement grinding and overlays. SWPPP workload IC/ID incidents Stormwater Training Task orders for consultant assistance	
<b>Project Design SWAT</b>		
<b>Meeting Date &amp; Location</b>	<b>February 7- 8, 2008</b>	<b>Sacramento</b>
Presentations	Post-construction stabilization Implementation of treatment BMPs Categorical Exemption vs. Negative Declaration projects Hydromodification vs. LID Total Design Concept Approach	
District Issues	Need for additional SSPs RWQCB requirements for 'rework' areas Non-approved / alternative treatment BMPs incorporated into projects Level of review needed for smaller Encroachment Permit construction projects Treatment BMPs in Caltrans' Right-of-Way (oversight projects) Need to document other WQ BMPs in SWDR Rural vs. urban implementation of treatment BMPs Drainage report requirements on highway projects Siting and calculation of design volume for treatment BMPs	
<b>Meeting Date &amp; Location</b>	<b>May 19, 2008</b>	<b>Sacramento</b>
Presentation	PD-SWAT charter revisions Draft construction general permit and potential impact on Stormwater Design Implementation of treatment BMPs in rural areas Construction special provision S-5630; Relations with the Board	
District Roundtable Discussion	Hydromodification Right-of-way constraints for implementation of treatment BMPs Design infiltration rates Use of compost in post construction Rainy Season Maps	

**Table 2-4: Summary of Stormwater Advisory Team Activities**

<b>Water Quality SWAT</b>		
<b>Meeting Date &amp; Location</b>	<b>August 2, 2007</b>	<b>Sacramento</b>
Headquarter Updates	Case studies for development of hydromodification policy Interagency cooperation / development of pesticide use policy Encroachment construction Stormwater inspections Prioritization of SHOPP 335 projects Implementation of treatment BMPs in urban areas Revise construction compliance evaluation procedures SWAT charter revisions	
District Updates	401 compliance issues and enforcements Special permits / dewatering Public outreach activities EPA oversight project Training	
Special Topics	New positions / vacancies within the Stormwater Management Program Division of responsibilities for SWATs Public education activities and contract status SWMP training status Annual Report tool 2006 / 2007 fiscal year data for Annual Report Stormwater / water quality assessment guidance development Monitoring program update	
<b>Meeting Date &amp; Location</b>	<b>January 30, 2008</b>	<b>Sacramento</b>
Headquarter Topics	WQ-SWAT charter revisions / new chair SWMP Stormwater budget – discontinuation of need assessments BMP pilot study guidance manual Task order process Maintenance of treatment BMPs Draft guidance for selection of BMP pilot studies Statewide monitoring summary Annual Report tool (ART) training 2006-2007 fiscal year Annual Report Public education coordination efforts Water quality issues beyond SW SHOPP 335 program ASBS GoToMeeting® Web conferences HQ training and guidance documents	
District Topics	RWQCB enforcement actions Pre & post hydrograph monitoring Treatment BMP requirements for safety and locally administered projects Oversight projects Toll road projects	

**Table 2-4: Summary of Stormwater Advisory Team Activities**

Meeting Date & Location	June 5, 2008	Sacramento
Headquarter Topics	Proposals from other SWATs SWMP Implementation Annual report tool Stormwater / waste discharge assessment guidance for environmental documents Public education program Hydromodification issues Elevated issues to Stormwater management team Development of new standard special provisions for encroachment permits	
District Topics	Enforcement actions Public education events Local agency (oversight) project Stormwater issues Environmental clearance for BMP pilot studies District requests for guidance / studies TMDL coordination efforts	

***Super SWAT***

From March 24-27, 2008, the four-day Super SWAT conference was held at the San Diego Convention Center. Over 120 attendees represented District and Headquarters Stormwater staff, as well as guests from other divisions and agencies. For attendees who were unable travel to the conference, it was broadcast over the Internet via GoToMeeting® Web conferencing. The Super SWAT provided a forum to share current information, learn from regulators and leaders in the stormwater field, and to discuss recommendations to improve the program. It centered around the theme “Leading the Way” and, in addition to the regular conference presentations, attendees participated in break out sessions during the conference. Stormwater program management staff presented the status of the program, the accomplishments of the previous year, and future program goals.



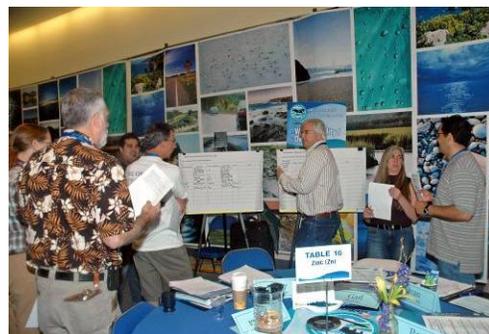
**Super SWAT attendees participated in panel discussions on how to improve the Stormwater Management Program.**

Guest speakers from state and federal agencies presented alternative perspectives on stormwater development. Three panels of experts discussed stormwater from their perspective and answered questions from participants, including EPA Region 9, Headquarters Division Stormwater Chiefs, and environmental consultants and regulatory staff. A Town Hall meeting was held at the end of the conference to answer written questions collected throughout the conference.

During conference breaks, posters were displayed with an overview of applied studies conducted by the Stormwater Management Program and technology demonstrations. Attendees were divided into groups and participated in team building exercises to enhance communication and cooperation within the program. Exercises included Stormwater Survival, Build a BMP Challenge, Stormwater Jeopardy, and Stormwater Resource Needs Assessment.

Key accomplishments by the Stormwater Management Program highlighted during the conference were:

- Improvements in cooperation between construction resident engineers and maintenance supervisors;
- Responsiveness to RWQCB issues/concerns;
- Coordination/response effort to spills/cleanups;
- Increased stormwater staff attendance/participation at project status meetings;
- Public education sharing with other agencies;
- Streamlining of the stormwater review process;
- Stormwater protection for emergency fire damage;
- Increased early-on participation in the environmental planning stages and stormwater data report;



**Attendees participate in one of the hands-on exercises at the Super SWAT.**

Based on the response of attendees to questionnaires about the usefulness of the program,

- 98% of the attendees who responded rated the **overall value of the conference** as “excellent” or “good”;
- 94% of the attendees who responded indicated that the **information from the conference will enable them to do their job more effectively**; and,
- 98% of the attendees who responded rated the **level of collaboration encouraged** as “excellent” or “good.”

Conference Evaluation Element	Excellent	Good	Fair	Poor
Value of Super SWAT	60.7%	37.5%	1.8%	
Level of Collaboration Encouraged	52.8%	45.3%	1.9%	
Level of Collaboration Encouraged Among Districts	35.7%	55.4%	8.9%	
Level of Collaboration Encouraged Among Functional Units	33.9%	51.8%	12.5%	1.8%
Level of Effectiveness of Teambuilding	40%	49.1%	10.9%	
Level of Effectiveness of Teambuilding	40%	49.1%	10.9%	
Valuable Information to Work More Effectively	48.2%	46.4%	3.6%	1.8%

## SWMP Section 2.2.10.2 Right-of-Way

### Revised Existing Airspace Lease Summary

As required by the SWMP, Caltrans summarizes its progress on the review and revision of existing air space leases each year in the Annual Report. The following is sample language from a District 7 lease, but similar language is used for all Districts as referenced in the Caltrans Right-of-Way Manual, Section 15.4

(<http://www.dot.ca.gov/hq/row/rowman/manual>) requiring control of non-stormwater and stormwater discharges that is included in new airspace leases and incorporated into existing airspace leases upon renewal.

### 5.11 Water Pollution Control

Tenant shall fully conform to the requirements of the Department of Transportation statewide National Pollutant Discharge Elimination System (NPDES) Stormwater Permit, Order No. 99-06-DWQ, NPDES No. CAS000003, adopted by the SWRCB on July 15, 1999. This permit regulates stormwater and non-stormwater discharges associated with activities within Department of Transportation Right-of-Way. Tenant shall develop, implement, and maintain a Facilities Pollution Prevention Plan (FPPP), describing the pollution prevention practices associated with activities on facilities located within the Department of Transportation Right-of-Way. Tenant shall comply with the statewide Stormwater Permit by incorporating stormwater management into its operational activities. The FPPP will accomplish compliance by implementing Best Management Practices (BMPs) described in the Department of Transportation Statewide Stormwater Management Plan (SWMP). Copies of the Stormwater Permit and the Department of Transportation SWMP may be obtained from the Department of Transportation, Material Operations Branch, Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 98518, Telephone: (916) 445-3520. Copies of the Permit and the SWMP are also available for review at Department of Transportation, District 7, 120 South Spring Street, Los Angeles, CA 90012.

Tenant shall not allow the unauthorized discharge of stormwater runoff to private or public stormwater drainage systems.

Tenant must comply with State and Federal stormwater pollution control standards, including those of the State Water Resources Control Board, and the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of stormwater to separate storm sewer systems or other watercourses under jurisdiction of the above agencies.

Tenant shall not allow vehicle or equipment washing, fueling, maintenance and repair on the Site to minimize the discharge of pollutants, spilled, leaked fluids, and any other wastewater into the stormwater drainage system.

Tenant shall not allow the storage or stockpile of hazardous material on site to minimize the discharge of pollutants to stormwater resulting from contact with hazardous material.

Landlord, or its agents or contractors, shall at all time have the right to go upon and inspect the Site and the operations thereon to assure compliance with the requirements herein stated. Inspection may include taking samples of substances and materials present for testing, and/or the testing of storm sewer systems or watercourses on the Site.

The approximate number of leases, including new and renewed leases, with start dates between July 1, 2007 and June 30, 2008 is shown below in Table 2-5 by District. Only the overall totals are given, since the Right-of-Way Property Management System does not distinguish between new and renewed leases.

**Table 2-5: Airspace Leases Modified to Include SWMP Requirements 2007-2008**

District	Total Number of Leases (New and Existing as of June 30, 2008)	Total Number of Leases with Stormwater Language (New and Renewed as of June 30, 2008)
1	0	0
2	2	2
3	58	27
4	206	113
5	8	6
6	4	1
7	186	97
8	3	2
9	0	0
10	15	2
11	36	13
12	18	6
<b>Total</b>	<b>536</b>	<b>269</b>

There were approximately 536 airspace leases statewide as of June 30, 2008. The leases with no stormwater language incorporated are older long-term leases that were executed before the Stormwater Management Program was established. Leases are legal documents that outline terms agreed upon at the time of their execution. Caltrans cannot change these leases until they expire, the tenant vacates, a new tenant and lease are established, or the leases are renewed. All renewed and new leases contain the stormwater clause previously cited.

## SWMP Section 2.3 Coordination with Municipal Stormwater Permittees

### Municipal Coordination Plan Activities

The Districts participated in many coordination activities, such as attending meetings, participating in special studies, and collaborating with local agencies as required by Permit Provision G.1.b and SWMP Section 2.3. Table 2-6 summarizes the Districts' coordination activities for fiscal year 2007-2008. Over 250 meetings were attended by District staff to coordinate the implementation of TMDLs, public education campaigns, regional planning, and other activities with municipal stormwater permittees. Specific information about the topics of discussion during the municipal coordination meetings is included in the Appendix on the attached CD.

**Table 2-6: Summary of Municipal Coordination**

District	Construction Projects and Permit Compliance	Enforcement	Fiscal Planning	Municipal Permit Coordination	Public Education & Staff Training	TMDLs
1	X		X	X	X	X
2						
3	X	X	X	X		X
4	X		X	X	X	X
5			X	X	X	
6					X	
7			X	X	X	X
8	X		X	X	X	X
9						
10					X	
11						X
12			X			X

### Other Participation Efforts

Caltrans has partnerships with various stakeholder groups, and was an active participant during the 2007-2008 fiscal year. Details of Caltrans' involvement in the key groups are presented below.

#### ***California Stormwater Quality Association (Statewide Participation) Activities***

Caltrans is an active member of the California Stormwater Quality Association (CASQA), serving on the Board of Directors, Executive Program Committee and various subcommittees. As an active participant, Caltrans staff communicates and participates with other permittees, consultants, and state and federal agencies regarding stormwater policy, BMP applied studies, and other permit compliance issues. During the reporting period, Caltrans:

- Assisted CASQA on the funding and content review of the CASQA Newsflash (originally developed by Caltrans);
- Participated in the Stormwater Task Force discussions with the SWRCB on stormwater issues and funding opportunities;
- Coordinated and participated in discussions on the CASQA stormwater strategic workshop and policies; and,
- Presented and attended the 2007 CASQA conference in Oakland.

***De minimis Permit Activities for Temporary Dewatering for Upper Newport Bay/San Diego Creek***

The Nitrogen and Selenium Management Program (NSMP) Working Group, in which DEA and District 12 participate, has progressed through Year 3 of the Santa Ana RWQCB mandated Work Plan to comply with the Santa Ana RWQCB's Order No. R8-2004-0021, "General Waste Discharge Requirements for Short-Term Ground Water Related Discharges and De minimis Waste Water Discharges to Surface Waters within the San Diego Creek/Newport Bay Watersheds."

Year 3 Work Plan Implementation by the Working Group included the following completed or in-progress tasks:

- Assess and develop a quantitative relationship between nitrogen levels, algal growth, and beneficial use impairment to determine relative risk of nitrogen impacts in the watershed.
- Survey current selenium and nitrogen treatment methods and their potential applicability in the watershed.
- Develop a simple treatment-related model based on the conceptual models developed in Year 1 tasks.
- Select and pilot test candidate BMP and treatment technologies.
- Develop a BMP and treatment technology implementation plan.
- Develop an offset, trading, or mitigation program.
- Develop site-specific objectives (SSOs) for selenium.

The Working Group consists of representatives of private developers and environmental groups; staff from all municipalities within the watershed; staff from Caltrans and County of Orange; and staff from water and power utilities.

### ***American Association of State Highway and Transportation Officials Program Activities***

Caltrans has been actively participating within the American Association of State Highway and Transportation Officials (AASHTO) organization on stormwater policy issues as they pertain to Highway Transportation Systems. Caltrans is an active participant in the Standing Committee on the Environment (SCOE), a commentary and advisory group to the members on issues pertaining to the environment including stormwater, and the Standing Committee on Design (SCOD), an advisory group discussing design issues including stormwater issues that may affect construction practices. The Caltrans Chief Environmental Engineer monitored points of discussion with the AASHTO stormwater advisory group (including the Federal Highway Administration (FHWA), EPA, and nationwide transportation department representatives) as developed during the first AASHTO stormwater meeting in June 2008. Caltrans' participation included collaborating, learning about new technologies, and sharing information to increase nationwide understanding while developing a proactive approach to cost effectively address stormwater quality, and meeting stormwater NPDES requirements. This meeting facilitated the formation of a national technical working group on transportation stormwater quality issues. Caltrans has been an active participant in the development of the first AASHTO Practitioner's Handbook on Stormwater, initiation of the first Communities of Practice collaboration via conference calls on stormwater issues, and the nationwide Domestic Scan studies on Stormwater Management Programs across the nation implemented by transportation departments.

### ***Construction Site BMP Incorporation Project Activities***

During the previous reporting period, Caltrans assembled an ad hoc committee represented by Environmental Engineering, Construction, and Design staff from both the Districts and Headquarters, and the Association of General Contractors (AGC) to explore methods to promote consistent incorporation of BMPs as separate contract items, in lieu of "Lump Sum" estimates into construction contracts. This committee was formed at the urging of the construction industry because contractors maintained that contract documents do not adequately specify stormwater compliance, specifically, the costs for construction site BMPs.

During the current reporting period, recommendations of the Construction Site BMP Incorporation Project were implemented. These included:

- Revisions to design guidance, specifically the Project Planning and Design Guide (PPDG);
- Revisions to contractor guidance, specifically the Stormwater Pollution Prevention Plan and Water Pollution Control Program Preparation Guide;
- Revisions to several existing specifications namely, Water Pollution Control Standard Special Provisions;

- Creation of a single specification called “Construction Site Management” for all the waste and materials management and for non-stormwater BMPs, often called “housekeeping” BMPs;
- Development of an internal concurrence process between Design and Construction for construction site BMP strategy, selection, and quantities; and
- Development and presentation of the training course “Construction Site BMPs for Design” which guides design staff towards selecting, specifying, and estimating BMPs for contract documents.

The committee anticipates the benefits of incorporating construction site BMPs into project planning and design to include:

- Statewide consistency for contract documents;
- Consistent bids with less disparity between the bidders for stormwater items;
- Easier contract administration; and
- Timely installation and maintenance of construction site BMPs;

Since projects will include contract items for project-specific temporary BMPs, the committee anticipates a reduction in the most common construction site deficiencies, such as:

- Improper tracking controls;
- Missing spill and drip protection/prevention/clean-up;
- Missing sediment controls;
- Improper installation and maintenance of sediment controls;
- Improper stockpile management;
- Improper material storage/handling;
- Improper concrete waste management; and
- Improper solid waste management.

District 8 Design consistently requires designers to submit the Construction BMP Consideration Form during preparation of the SWDR at the PA/ED phase of project development. This results in proper scoping for construction BMPs as well as inclusion of line items for construction BMPs in the estimate at this early stage. District 8 Construction NPDES also reviews and comments on Section 6 of long form SWDRs at this stage, providing expertise on local conditions in the field.

The District 8 NPDES Coordinator requires designers to obtain concurrence from the Construction NPDES Coordinator for the construction BMP strategy and quantities on each project; this concurrence is documented in the PS&E phase SWDR.

Due to the high number of internal and oversight projects in District 8, the District NPDES Coordinator holds weekly meetings at the District office with NPDES representatives from Maintenance, Construction, Landscape Architecture and Design to answer questions from designers. At these meetings, designers can receive technical assistance, signatures for approved SWDRs, and Stormwater policy and procedure information.

### ***Partnering with the Compost Industry***

To implement Caltrans' commitment to state recycling goals, Caltrans' Landscape Architecture Program continues to collaborate with the California Integrated Waste Management Board (CIWMB), the United States Compost Council (USCC), University of California researchers, and erosion control contractors to explore the benefits and expand the use of compost for Caltrans on its vegetated slopes.

Caltrans anticipates the benefits of increased compost use to include:

- Increased infiltration of stormwater;
- Successful vegetation establishment;
- Reduced soil erosion and stormwater runoff; and
- Decreased volume of green waste entering California's landfills.

To encourage the increased use of compost, Caltrans' Landscape Architecture Program worked closely with the industry stakeholders to accomplish the following:

- Develop new specifications for erosion control; and
- Conduct a series of daylong workshops featuring presentations from compost suppliers, university researchers, and Caltrans employees on the successful application of compost.

### ***Partnering with the Erosion Control and Landscape Industry***

Strengthening its partnership with the construction industry, the Landscape Architecture Program held its 10th annual meeting with both northern and southern California erosion control and landscape contractors. These meetings are attended by Headquarters and District Landscape Architects, construction staff, erosion control application contractors, and landscape installation contractors. Benefits of these meetings include:

- Improved communications with Contractors;
- Improvements in Caltrans' standards, policy, procedures, and guidance;
- Revisions to plans and specifications;
- Better installation of design pollution prevention BMPs; and
- Better installation of construction site BMPs

### ***Stormwater Monitoring Coalition of Southern California Activities***

Caltrans is an active participant in the Stormwater Monitoring Coalition (SMC), a collaborative working group. The goal of this relationship is to better understand stormwater mechanisms and impacts, then develop the monitoring tools that will improve stormwater decision making. This group consists of Phase I municipal stormwater NPDES lead permittees and the NPDES regulatory agencies in southern California. Caltrans participates in the Low Impact Development (LID) Task Force, which is a subgroup of the SMC. Caltrans comments on project proposals and shares LID studies and other information from projects. A LID manual is currently under development by the LID Task Force and Caltrans is participating in that effort. Chapter 7 of the Annual Report has more information on this coordination effort.

### ***Tahoe Science-Agency Coordination Committee Activities***

Caltrans is a partner with the Tahoe Science-Agency Coordination Committee (TSACC), which was established to ensure that the interests and scientific needs of their respective agencies are represented in coordination and collaboration with the newly established Tahoe Science Consortium (TSC). The TSACC is endorsed by the Tahoe Interagency Executive Committee (TIE), and its mission is to represent management agency interests and needs in with the TSC. Caltrans contributed input for projects and studies considered by this group.

### ***Brake Pad Partnership Activities***

The Brake Pad Partnership (BPP) is a multi-stakeholder effort to understand the impacts on the environment that may result from brake pad wear debris generated by the use of motor vehicles. Working together, manufacturers, regulators, stormwater management agencies, and environmentalists have developed a set of interlinked technical studies to understand the role of copper from brake pad wear debris on water quality. The goal of this group is to remove copper from brake pads if it is found to be a major source of copper stormwater runoff. Copper is major constituent of concern in highway and urban runoff. Caltrans participates in reviewing and commenting on the developments of this group and assists in funding specific scientific components. To date, Caltrans has funded the watershed-modeling component of the BPP's technical studies and is working with the BPP to augment the modeling efforts of copper in highway environments. Chapter 7 of the Annual Report has more information on this coordination effort.

### ***Bight 2008***

Bight 2008 is a study being administered by the Southern California Coastal Water Research Project (SCCWRP), a “joint powers” agency, to provide a regional assessment of ocean environmental conditions, and ultimately improve the quality of ongoing monitoring in southern California. Bight 2008 comprises 14 member agencies including academia, municipal agencies, regulatory agencies, and environmental groups, engaging in an ongoing effort to improve water quality. Caltrans is a member of the ASBS Regional Planning Committee, a subcommittee of the Bight 2008 core group.

### ***ASBS Statewide Task Force***

The ASBS Stakeholder Group has been convened by the SWRCB to facilitate implementation of a statewide ASBS Monitoring Program, preferably operating under existing monitoring programs like Bight 2008 in Southern California, the Central Coast Long-term Environmental Assessment Network (CCLEAN) in Central California, and an equivalent group in Northern California. The goal is to set up a flexible monitoring program aimed at satisfying the requirements of ASBS Special Protections that would allow stakeholders trade-offs for participation in the regional monitoring programs in lieu of individual efforts.

## **SWMP Section 2.6 Legal Authority**

### **Analysis of Adequacy of Legal Authority**

The Permit requires Caltrans to revisit any changes in its legal authority to ensure compliance with the provisions of its statewide NPDES Permit and SWMP. The *California Streets and Highway Code* grants Caltrans this authority. There have been no changes in Caltrans’ legal authority regarding the protection of stormwater.

### III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 2 PROGRAM ACTIVITIES

To determine the effectiveness of Program Management, an effectiveness assessment of the program data was conducted as a part of the Annual Report.

#### Outcome Levels

Due to the types of data generated, the assessment primarily focused on Outcome Level 1 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
District Work Plans	1	• Confirmation
Fiscal Analysis	1	• Confirmation • Tabulation
Stormwater Advisory Teams	1	• Confirmation • Tabulation
Right-of-Way – Airspace Lease Summary	1	• Confirmation • Tabulation
Coordination with Municipal Stormwater Programs and Local Agencies	1	• Confirmation • Tabulation
Legal Authority	1	• Confirmation

The program effectiveness assessment addressed the following areas. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.). The table below summarizes the effectiveness assessment that was conducted for Program Management as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is provided in subsequent sections.

## Program Effectiveness Assessment Summary for Program Management

Program Management	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
District Work Plans	C – # and Types of Activities Completed	N	N/A	N/A	N/A	N/A
Fiscal Analysis	C – Current and Projected Expenditures	N/A	N/A	N/A	N/A	N/A
Stormwater Advisory Teams	C – # SWAT Meetings and Topics C – Super SWAT	A – Levels of Awareness for Key Issues	N/A	N/A	N/A	N/A
Right-of-Way Airspace Leases	C – # Leases with Stormwater Language	N	N/A	N/A	N/A	N/A
Coordination with Municipal Stormwater Permittees	C – # Regional and Statewide Meetings Held	N/A	N/A	N/A	N/A	N/A
Legal Authority	C – Evaluation Completed	N/A	N/A	N/A	N/A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

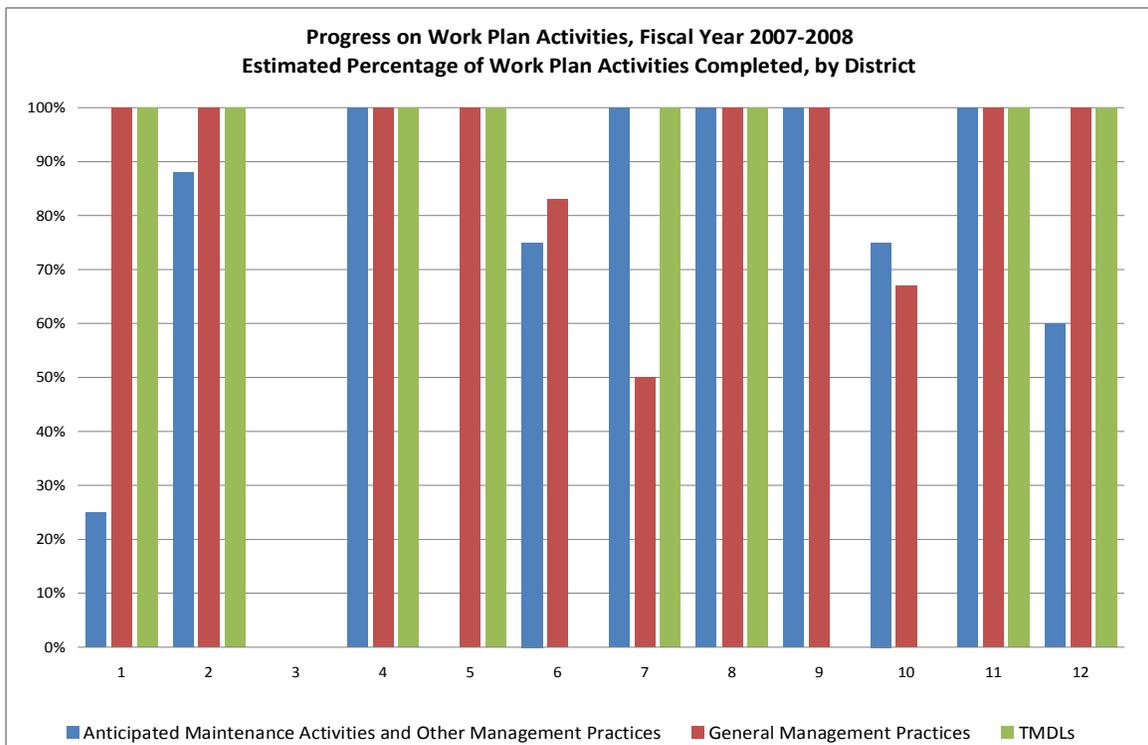
N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

### District Work Plans

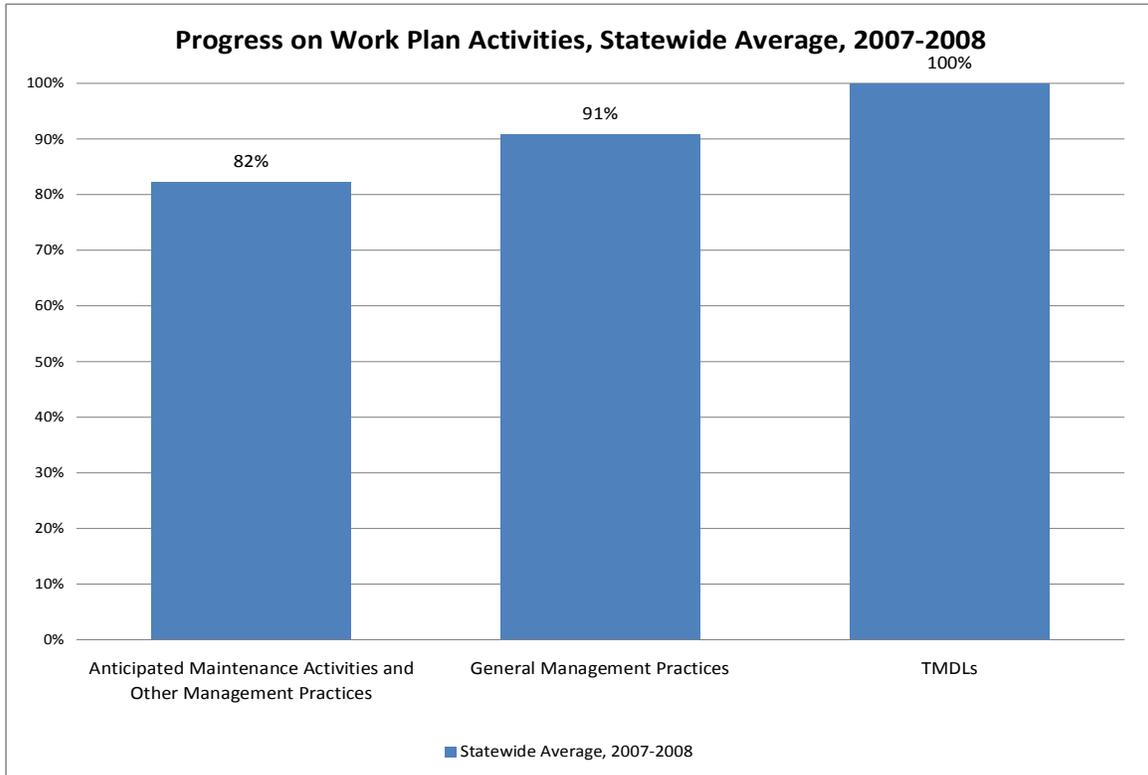
Caltrans addresses regional issues by developing, submitting, and implementing District Work Plans on an annual basis. Each District actively implemented their Work Plan. Estimates on the percentages of the identified tasks that were completed during 2007-2008 are identified below and in Figure 2-2 and Figure 2-3. Overall, the Districts indicated that they completed 84% of the activities identified within their District Work Plans. The remaining activities are ongoing and will be completed in upcoming years. **(L1)**

- Four Districts (Districts 4, 8, 9, and 11) indicated that they completed 100% of the activities identified within their District Work Plans.
- Four Districts (Districts 1, 2, 6, and 12) indicated that they completed 75% or more of all the activities identified within their District Work Plans.
- Three Districts (Districts 5, 7 and 10) indicated that they completed 50% or more of all the activities identified within the District Work Plans.
- For the Anticipated Maintenance Activities and Other Management Practices, the Districts completed an average of 82% of the activities identified within the District Work Plans.
- For the General Management Practices, the Districts completed an average of 91% of the activities identified within the District Work Plans.
- For the TMDL related activities, the Districts completed an average of 100% of the activities identified within the District Work Plans.



**Figure 2-2: Estimated Percentage of Work Plan Activities Completed, by District**

(See attached CD for color figure.)



**Figure 2-3: Progress on Work Plan Activities, Statewide Average**

(See attached CD for color figure.)

## Fiscal Analysis

Caltrans maintained funding to implement the program and conducted an evaluation to identify financial constraints as well as projected costs. The fiscal analysis provided information regarding the budget for each program element and the allocation of funds to each District. **(L1)**

- Caltrans was allocated approximately 329 personnel years (PYs) to comply with the Permit and various court orders in support of the program. The total funding appropriation for 2007-2008 was \$93.8 million (compared to \$91.5 million for 2006-2007). Although the PYs were the same as last year, the funding appropriation increased about 2.5% overall.
- Caltrans is anticipating a future allocation of 329 personnel years and \$96.7 million for 2008-2009 to implement the program; however, this is subject to future funding and the renewal of the stormwater Permit. Approval of this budget would represent a funding appropriation increase of about 3% over the previous year.
- Caltrans has a “stormwater mitigation element” in the SHOPP to address capital projects that are required to comply with the Permit and/or other legal mandates.

- Although the fiscal resources for the program are expected to increase during the present economic recession, the additional funds will only maintain the program relative to inflation. The expected increase in regulatory requirements will require Caltrans to prioritize the needs of the program and explore other innovative compliance methods, which will present significant financial challenges over the next few years.

## Stormwater Advisory Teams

The Stormwater Management Program communicates on an ongoing basis to share information and to resolve issues and/or suggest improvements. This internal communication is of high value to Caltrans and ensures that the stormwater-related issues are addressed in a timely and effective manner. **(L1)**

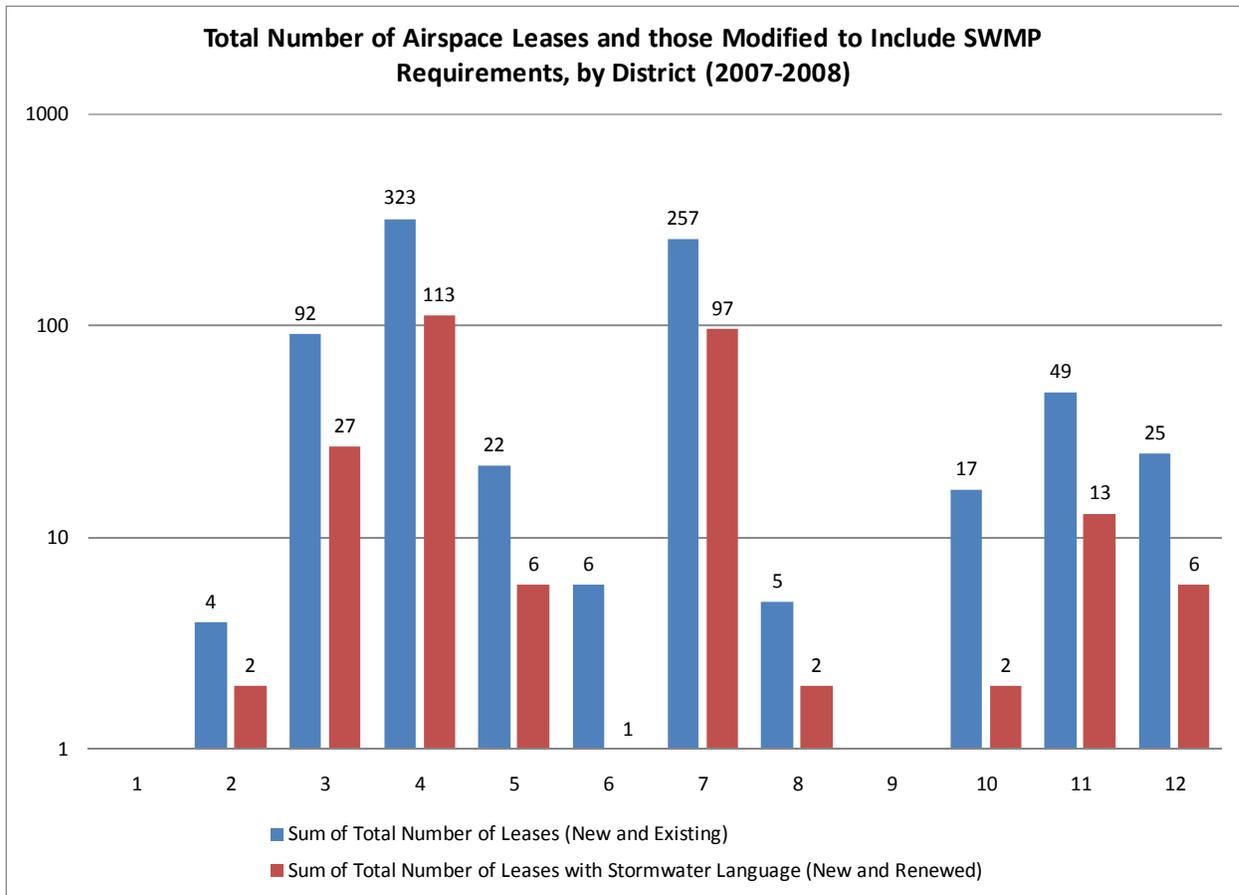
- The Stormwater Advisory Teams (SWATs) for Water Quality, Project Design, Maintenance, and Construction/Encroachment Permits continued to meet throughout the year and completed a number of activities. Individual SWATs conducted 14 meetings (compared to 17 in 2006-2007):
  - The Maintenance SWAT met three times to discuss issues such as non-stormwater discharge control at maintenance stations, vector waste training, animal carcass disposal complaint, illicit discharges and illegal connections tracking, and compliance inspections.
  - The Construction/Encroachment Permits SWAT met six times to discuss issues such as the draft construction compliance evaluation plan, future training, the new construction project stormwater review tool, the review of water quality plans, dewatering requirements, enforcement, and the nationwide SWPPP certification and training for inspectors.
  - The Project Design SWAT met twice to discuss issues such as post-construction stabilization, hydromodification, LID, implementation of treatment BMPs, and design infiltration rates.
  - The Water Quality SWAT met three times to discuss issues such as the development of a hydromodification policy, a pesticide use policy, statewide monitoring summary, and BMP pilot studies.
- Caltrans held the annual Super SWAT 4-day conference in March 2008 with the theme “Leading the Way” and provided a forum to share current information, learn from regulators and leaders in the stormwater field, and discuss recommendations to improve the program. Over 120 people physically attended (compared to 130 in 2006-2007) and seven individuals participated in the meeting via the Internet. A number of key accomplishments were also highlighted during the conference. Based on the responses from the attendees, the conference was rated as follows:

- 98% rated the overall value of the conference as “excellent” or “good”.
- 94% indicated that the information from the conference would enable them to do their job more effectively.
- 98% rated the level of collaboration encouraged as “excellent” or “good”.

### **Airspace Leases**

Caltrans ensured that new or renewed airspace leases included the necessary stormwater language for compliance with the SWMP. Overall, Caltrans has incorporated stormwater language into about 50% of the airspace leases statewide (out of 536 airspace leases) (Figure 2-4). (L1)

- Two Districts (Districts 1 and 9) indicated that they either have no airspace leases.
- One District (District 2) indicated that they have incorporated stormwater language into 100% of their airspace leases.
- One District (District 5) indicated that they have incorporated stormwater language into 75% or more of their airspace leases.
- Three Districts (Districts 4, 7, and 8) indicated that they have incorporated stormwater language into 50% or more of their airspace leases.
- Five Districts (Districts 3, 6, 10, 11, and 12) indicated that they have incorporated stormwater language into less than 50% of their airspace leases, because they have a higher percentage of older long-term leases that have not expired or been renewed.



**Figure 2-4: Total Number of Airspace Leases and those Modified to include SWMP Requirements, by District**

(See attached CD for color figure.)

### Coordination with Municipal Stormwater Programs

Caltrans coordinated with local agencies to effectively and consistently communicate stormwater issues, track key technical issues, and implement the Stormwater Management Program and TMDLs. (L1)

- Over 250 meetings were attended by District staff with local NPDES programs. The Districts met with municipalities, flood control districts, RWQCBs, and/or other entities to discuss issues related to:
  - Construction projects and permit compliance (four Districts);
  - Enforcement (one District);
  - Fiscal planning (seven Districts);
  - Municipal permit coordination (six Districts);

- Public education and staff training (seven Districts); and
- TMDL-related issues (seven Districts).
- Caltrans continued their involvement with a number of organizations statewide. This statewide coordination allows Caltrans staff to stay abreast of the latest stormwater-related issues and to leverage their resources with the work that is being conducted by the other organizations. The organizations that Caltrans actively participates in include:
  - The California Stormwater Quality Association (CASQA);
  - The Newport Bay Watershed Nitrogen and Selenium Management Program Working Group;
  - The American Association of State Highway and Transportation Officials;
  - The Stormwater Monitoring Coalition of Southern California;
  - The Tahoe Science Agency Coordination Committee;
  - The Brake Pad Partnership;
  - The California Integrated Waste Management Board;
  - The Erosion Control and Landscape Industry;
  - The Association of General Contractors;
  - The Southern California Coastal Water Research Project;
  - The ASBS Statewide Task Force; and
  - Other local partnerships.

### **Legal Authority**

Caltrans reviewed the Stormwater Management Program's legal authorities to ensure compliance with the statewide NPDES Permit and the SWMP and determined that no additional authorities were necessary to effectively implement the program. (L1)

### **Program Modifications**

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

### 3.0 BMP IDENTIFICATION AND IMPLEMENTATION

#### I. SWMP SECTION 3 REPORTING INFORMATION

1999 Permit Provision Number	Description	2003 SWMP Section
F.3.f	BMP Selection Report submitted (describe and justify BMP changes and additions)	3.3
F.3.g	New Technologies Report submitted	3.3

#### II. SWMP SECTION 3 ACTIVITIES

This section summarizes activities conducted in regards to identifying, evaluating, and approving (or rejecting) candidate BMPs. Chapters 4, 5, and 6 of this *Annual Report* discuss the integration of approved BMPs into policy and guidance (BMP implementation).

Caltrans' program to review, evaluate and approve new stormwater management technologies was implemented during the 2007-2008 fiscal year. Because of the program, porous asphalt concrete overlay was identified as a potential BMP technology to develop, and no new BMPs were approved as treatment BMPs during the 2007-2008 fiscal year.

#### III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 3 PROGRAM ACTIVITIES

To determine the effectiveness of BMP Identification and Implementation, an effectiveness assessment of the program data was conducted as a part of the Annual Report process.

##### Outcome Levels

Due to the types of data generated, the assessment primarily focused on Outcome Level 1 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
BMP Development and Approval	1	• Confirmation

The program effectiveness assessment addressed the areas discussed below. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.).

The table below summarizes the effectiveness assessment that was conducted for BMP Identification and Implementation as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is shown below.

### Program Effectiveness Assessment Summary for BMP Identification and Implementation

Program Management	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
BMP Development and Approval	C – Applied Studies Conducted	N/A	N/A	N/A	N/A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

Caltrans continued their program to assess new and existing technologies for stormwater management. “New technologies” represent the latest innovations in permanent stormwater treatment and control. “Existing technologies” are BMPs that are used by other stormwater management programs but that have not been selected for use by Caltrans.

Caltrans assess new and/or improved technologies for potential use in Caltrans projects. Caltrans’ has organized its BMPs into four categories: Treatment BMPs, Maintenance BMPs, Design Pollution Prevention BMPs, and Construction BMPs. **(L1)**

- Only one new treatment BMP was identified during the reporting period – porous asphalt concrete overlay.

Annually, Caltrans reevaluates the Monitoring and Research Program (Applied Studies), which includes the objectives, activities, and findings of the treatment technology studies conducted during the past fiscal year. **(L1)**

- Specific applied studies are or have been conducted to gain information on stormwater pollution, evaluate existing and potential BMPs, and meet the monitoring and characterization assessment requirements of the SWMP and Permit.

Successfully piloted technologies may be considered for approval as BMPs that can be implemented in highway projects according to SWMP guidelines. **(L1)**

### Program Modifications

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## 4.0 PROJECT DELIVERY STORMWATER MANAGEMENT PROGRAM

### I. SWMP SECTION 4 REPORTING INFORMATION

1999 Permit Provision Number*	Description	2003 SWMP Section
H.9	DTSC lead variance	4.3.4
C.2.3	Discharges in exceedances of WQ standards – Iterative Approach-Construction	4.5
-	Self-Audit (Design Compliance Monitoring)	8.4.3
K.3 (b)	Self-Audit (Construction Compliance Evaluation)	8.4.1

\* Reporting requirements with no 1999 Permit Provision Number are requirements identified in the 2003 SWMP only.

### II. SWMP SECTION 4 ACTIVITIES

This section describes the project delivery program, evaluates how the program relates to stormwater (in terms of programmatic information and specific project information), and lists the number of treatment BMPs incorporated into projects, construction site reviews, and project design evaluations. It gives an overview of the Design program, describing how it contributes to the protection of water quality. This section also includes reporting requirements from the Construction program and Environmental program from the hazardous waste section.

Stormwater Management Design, Drainage Design, Landscape Architecture, Geotechnical Design, Structures Design, Structures Hydraulics, Office Engineer, along with the other functional units, contribute to the overall highway facility design and the incorporation of stormwater BMPs into project plans and specifications. Permit requirements for the Design program include goals for an annual program evaluation and training of Design staff. The Design Division has accomplished both of these goals annually and continues to improve them as more scientific information is gathered through pilot programs, literature research, and input from District Design, Environmental, Construction, and Maintenance.

During this reporting period, the Design Division developed various documents and tools for Caltrans Design staff to assist in the compliance and implementation of BMPs into projects. These were also shared with other municipal agencies and the public. Design documents are available in both hard copy and electronically via Caltrans' Division of Design website (<http://www.dot.ca.gov/hq/oppd>).

Caltrans' Stormwater Management Program is nationally recognized as a leader in designing stormwater BMPs for highway and roadway projects. Caltrans' design guidance includes project plans and specifications for treatment BMPs, design pollution prevention BMPs, and construction BMPs. During this reporting period, Caltrans Design documents were revised including: the Caltrans *Highway Design Manual* (HDM) and the Caltrans *Stormwater Project Planning and Design Guidance Manual* (PPDG). These documents describe the process for Caltrans Design staff to conduct a feasibility analysis for stormwater BMPs to ensure their appropriate incorporation and to perform a formal documentation of all decisions made related to stormwater throughout all phases of the Project Delivery process. During the reporting period,

Caltrans Design revised various standard plans, standard specifications, manuals, and design guidance for stormwater BMPs and developed those documents for BMPs that previously did not exist.

### **Stormwater Management Design**

The Office of Stormwater Management Design (OSWMD) developed design guidance, plans, and specifications for the incorporation of BMPs into Caltrans projects. The stormwater BMP design and feasibility analysis process is defined in the Project Planning Design Guide (PPDG), which this office continued to evaluate and implement during the reporting period. Stormwater design decisions are documented at each phase of project delivery in the Stormwater Data Report (SWDR). OSWMD conducted regular reviews of the program based on input from the Project Design Stormwater Advisory Team (PD-SWAT), reviews of the SWDRs prepared by the Districts, and through ongoing specific project design assistance.

OSWMD updated the design guidance for Detention Basins, Infiltration Basins, Infiltration Trenches, Sand Traps, Gross Solids Removal Devices, Austin Sand Filters, Delaware Sand Filters, Biofiltration Strips, Biofiltration Swales, Multi-Chambered Treatment Trains, Flow Splitters, Dry Weather Flow Diversion, and Wet Basins during this reporting period. There are now accompanying plans, specifications, and special provisions for a selection of these BMPs. In addition to the Treatment BMP design guidance, Caltrans developed and updated standard plans and specifications for a variety of construction and design pollution prevention BMPs for current use on projects. They are available on Design's website as public information to be used by other MS4 agencies.

In addition to the approved standards, OSWMD developed many non-standard special provisions that were used to incorporate construction, pollution prevention, and treatment BMPs that had special conditions or that have not yet been developed into approved standards.

The mentioned activities and improvements are significant because they demonstrate more than just compliance with the Permit, as they show the institutional project delivery advancements in the area of water quality that Caltrans has undergone.

### **Drainage Design**

The Drainage Design section is an essential part of the highway design program. Among its primary goals is to calculate highway drainage design to protect highway facilities and to provide critical information to protect water quality. This information is updated as new methods are accepted by the civil engineering community. Caltrans drainage design standards predate the Clean Water Act but comprise the fundamentals of stormwater design. Flow, velocity, and volumes are all used in BMP design and feasibility studies. The highway design manual is comprehensive in that the designer is required to consider both the downstream and upstream effects of the highway design on the receiving water and adjacent properties. This is important because changes in flows and velocities can affect water quality, and an accurate hydrology and hydraulics assessment is one of the most important parameters in the design, function, and operation of BMPs.

Highway Drainage design guidelines in Section 800 of the HDM are based on decades of studies from numerous agencies and are updated continuously as new scientifically defensible information is made available. As new information becomes available, Caltrans updates its Standard Plans and Specifications, which are shared and used by many of the local MS4 agencies in designing their projects.

During the reporting period, fish passage design guidelines were developed cooperatively with the National Oceanic and Atmospheric Administration (NOAA) and the Department of Fish and Game. They are available on the Caltrans Division of Design Web page (<http://www.dot.ca.gov/hq/oppd>). Caltrans recently completed a study of desert hydrology and developed new methods to more accurately calculate hydrology in these arid regions of California, where traditional hydrologic methods were not applicable. The updated methods have been adopted by other agencies, including the United States Geological Survey (USGS). Caltrans is developing new methods and materials to rehabilitate culverts, methods that reduce soil disturbance, increase service life, reduce erosion, and prevent catastrophic failure, thereby protecting water quality. Furthermore, Caltrans Drainage Design assessed a variety of new products, some of which reduce erosion on stream banks and increase stream bank stability.

Caltrans offered its engineers the following continuing education classes last year, which are critical to highway design and related to stormwater:

- Introduction to Highway Hydraulics;
- Urban Highway Hydraulics;
- Culvert design;
- Floodplain Encroachment; and
- Drainage Law and Fish Passage Design.

In addition, Caltrans engineers were also given the ability to take Federal Highway Administration (FHWA) training classes, which cover topics ranging from highway hydrology to stream stability. The full list of available guidance can be found at [http://www.fhwa.dot.gov/engineering/hydraulics/library\\_listing.cfm](http://www.fhwa.dot.gov/engineering/hydraulics/library_listing.cfm).

## **Landscape Architecture**

The Landscape Architecture (LA) Program provides technical assistance to project delivery on new and ongoing applied studies related to permanent erosion control and permanent BMPs. Permanent erosion control techniques are used throughout the state highway system, which is critical to long term erosion control and reduction of sediment losses from the highway. The LA program also develops methods to enhance roadside vegetation, which protects slopes from erosion and sediment loss, and provides additional treatment of stormwater.

During the reporting period, the LA program developed standard specifications for compost, compost incorporation, and erosion control. Additionally, LA has created specifications for successful seed mixes and seeding methods for various geographic regions and site conditions of

California. Erosion control specifications that were developed include Erosion Control (Compost Blanket), Erosion Control (Incorporate Compost), Erosion Control (Bonded Fiber Matrix), and Erosion Control (Hydraulic Matrix). These specifications are used for standard design pollution prevention BMPs, erosion control of slopes, and design of treatment BMPs. LA and OSWMD recently developed biofiltration swale and biofiltration strip design guidance. The landscape specifications are a crucial part of establishing vegetative growth and encouraging infiltration of stormwater.

New applied studies conducted during this reporting period from LA and Stormwater Management Design included:

- Adequate moisture for plant establishment
- Reinforced native grass sod installation
- Native plants for slope stabilization
- Ornamental roadside vegetation design
- Arid region non-vegetated permanent erosion control installation
- Compost improvement studies for erosion control and soil enhancement for vegetation
- Roadside vegetation treatment sites pilot studies

Vegetated BMPs have proven to be the most cost effective and successful treatment BMPs for water quality treatment, increasing the infiltration capacity of the soil, and reducing pollutant loads. The arid region permanent erosion control study helped Caltrans meet the competing regulations for reducing water use and protecting water quality in areas that require irrigation to maintain vegetation.

### **Geotechnical Engineering, Structures Design, and Structures Hydraulics Branches**

These Design branches provided technical assistance and oversight of all the new BMPs and improvements during the reporting period. These functions also provided important engineering expertise to Caltrans for all projects delivered during the reporting period. Such knowledge is used in the design of highway shoulder areas and highway structures and to help prevent catastrophic failures, which in turn protects water quality statewide.

Design staff receives training on a variety of stormwater topics throughout the fiscal year, which is described in Chapter 6.0. Other training is discussed in this chapter as it relates to stormwater and water quality but is also required by other regulations and requirements.

## **Notification of Construction**

Caltrans Districts file a Notification of Construction (NOC) with the RWQCB at least 30 days before the start of construction per Section 4.2.1 of the 2003 SWMP. The NOC is the equivalent of the Notice of Intent (NOI) associated with the General Construction Permit. The signatory responsibility, preparation, and submittal of the NOC vary by District. In general, the NOC submittal includes several reviews to ensure that the NOC form is submitted to the RWQCBs on time. This process has been effective since the adoption of the Permit.

Generally, the designer prepares the information then submits it to the District NPDES Coordinator or designated Caltrans representative responsible for signing and submitting the NOC to the RWQCB. The designer and/or District NPDES Coordinator then submit the information to the Resident Engineer for incorporation into the SWPPP. Records of the NOC submittals are kept at Caltrans Districts and the RWQCBs.

## **Incorporation of Design Pollution Prevention BMPs into Projects**

The SWMP identifies Design Pollution Prevention BMPs to be considered and incorporated into the design of new highway facilities or the reconstruction and expansion of existing facilities.

Section 4.3.1 of the SWMP requires feedback on using innovative measures to be analyzed. Innovative design approaches are typically coordinated through the Monitoring and Research Program (Applied Studies) within the DEA. Chapter 3.0 of the Annual Report describes the proposed Design Pollution Prevention BMPs under consideration.

The BMP feedback process occurs through communication from District Project Delivery and Maintenance functions with the NPDES Coordinators and the Headquarters Functional SWATs.

The Project Design SWAT discusses revisions to plans and specifications standards, which are posted on Caltrans' Division of Design website (<http://www.dot.ca.gov/hq/oppd>). In addition, the website has an extensive list of specifications for treatment BMPs, design pollution prevention BMPs, and construction BMPs. Many pollution prevention BMPs have been incorporated into Caltrans' standard plans, which include culverts, rock-lined ditches, retaining walls, flared end sections, energy dissipaters, and many others. Standard plans, their associated specifications, and special standard provisions, are regularly updated as needed and are available on the website.

If the standard plans and specifications do not cover a particular project need, the project engineer, office engineer, and Headquarters functional units collaborate to develop non-standard specifications to address the project's specific design. If the new specifications are successful, and it is determined that they could be applied to other projects, they will be submitted for approval as standards. The list of Caltrans design pollution prevention BMPs has grown since the development of the 2003 SWMP, as has recognition of existing design features as a mechanism to prevent pollution.

### **SWMP Section 4.3.4 Re-Use of Lead Contaminated Soils**

When Caltrans projects include the reuse of soil contaminated with California hazardous waste levels of lead, the Department of Toxic Substances Control (DTSC) variances are invoked. Districts 4, 6, 7, 8, 10, 11, and 12 currently have variances. DTSC and the appropriate RWQCB must be notified each time the variance is invoked, and each District is required to keep records. DTSC has extended the existing variances through June of 2009. New variances, which are still being negotiated, will apply to all twelve Caltrans Districts and will require tracking in a database accessible to DTSC. On February 4, 2009, DTSC assigned staff to work on the new variances. The target date for approval of the new variances is currently July 2009. If DTSC cannot meet this date, they have indicated that the current variances will be extended until the California Environmental Quality Act (CEQA) process is complete and the new variances can go into effect.

### **SWMP Section 4.4.1 New Construction and Major Reconstruction Projects**

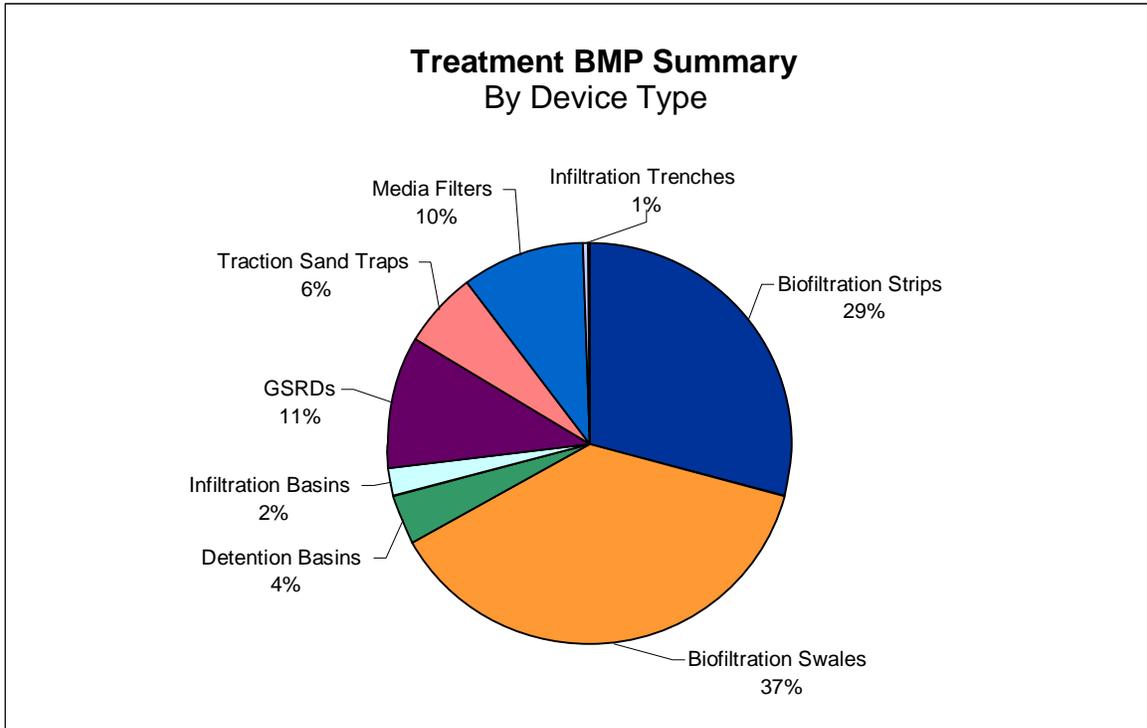
#### **Project Category Evaluation**

Caltrans evaluates BMPs for all projects and documents the process in the Stormwater Data Report (SWDR). Table 4-1 summarizes the number of PS&E projects and the number of treatment BMPs in projects planned to be incorporated during the reporting period. Treatment BMPs are included as appropriate to the maximum extent practicable (MEP) based on TMDL commitments, 303(d) water bodies, location specific requirements, and other water related permits using the Targeted Design Constituent approach.

Table 4-1 lists treatment BMPs planned for incorporation during 2007-2008, based on the final PS&E version of the SWDR and the estimated construction completion date of each project. In the future, Caltrans will develop an efficient method of tracking and reporting treatment BMPs based on the project construction completion date. This will replace Table 4-1 and represent a more accurate number of completed (field accepted) treatment BMPs during the reporting period.

**Table 4-1: Treatment BMPs Planned for Incorporation During Fiscal Year 2007-2008, Based On Construction Completion Dates**

District	Total Number of Projects Required to Incorporate Treatment BMPs	# Biofiltration Strips	# Biofiltration Swales	# Detention Basins	# Infiltration Basins	# Infiltration Trenches	# GSRDs	# Traction Sand Traps	# Dry Weather Diversion	# Media Filters	# MCTT	# Wet Basins	Total
1	1	1	1	0	0	0	0	0	0	0	0	0	2
2	2	3	1	0	0	0	0	0	0	0	0	0	4
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	9	72	35	1	0	0	0	0	0	0	0	0	108
5	1	2	0	0	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	14	15	32	3	4	0	42	0	0	39	0	0	135
8	8	4	43	3	5	2	0	24	0	0	0	0	81
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
11	9	19	32	8	0	0	0	0	0	0	0	0	59
12	3	0	5	0	0	0	0	0	0	0	0	0	5
<b>Total:</b>	<b>47</b>	<b>116</b>	<b>149</b>	<b>15</b>	<b>9</b>	<b>2</b>	<b>42</b>	<b>24</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>396</b>



**Figure 4-1: Treatment BMP Summary by Type**

(See attached CD for color figure.)

Figure 4-1 indicates that the types of treatment BMPs incorporated into projects are predominantly biofiltration swales, biofiltration strips, and Gross Solids Removal Devices. In addition to vegetated treatment, traction sand traps, detention basins, and infiltration basins were incorporated into projects delivered during the reporting period as documented in project PS&E stormwater data reports.

**Summary of Projects for which BMP Implementation is Infeasible**

Caltrans completes a technical report for all projects that require the consideration of treatment BMPs but cannot implement permanent treatment BMPs. The technical report documents the feasibility analysis of the project development team and includes the design constraints that prevented treatment BMPs from being incorporated in the final design. The requirement to prepare and submit these notices to the appropriate RWQCB is a routine part of the project delivery process.

#### **SWMP Section 4.4.4 Vegetated Treatment BMPs**

Caltrans incorporates certain vegetated treatment BMPs into all projects and documents these decisions in the SWDR. Design guidance on how to design biofiltration strips and biofiltration swales was revised and released (<http://www.dot.ca.gov/hq/oppd>). All slopes are vegetated using a variety of methods, which are incorporated into the standard special provisions for construction, and may include drill seeding, hydroseeding, and hand dispersal of seeds. In addition to seed, fertilizers, compost, and mulch are typically applied to help establish the vegetation. In areas with higher flows, erosion control blankets, fiber rolls, and other methods may be used to help the vegetation become established. Vegetated treatment BMPs are included in Table 4-2.

During the reporting period, the following were developed to assist staff with designing vegetated treatment BMPs:

- Biofiltration Swale Animation
- Biofiltration Strip Animation
- Design Guidance for Biofiltration Strips and Biofiltration Swales
- Specifications for Compost
- Specifications for Compost Incorporation
- Specifications for All Vegetation Applications

#### **SWMP Section 8.4.3 Design Compliance Monitoring**

Caltrans has developed a self-audit program to serve as a quality control mechanism to ensure effective implementation of the design Stormwater Pollution Prevention Program. The self-audit includes a compliance-monitoring program for design activities as described in the following subsections. Caltrans is required to submit an outline of the proposed audit by February 1 of each year. Caltrans used the design compliance monitoring program as an assessment tool during this reporting period.

Design Compliance Monitoring was developed by Caltrans' Project Design SWAT (PD-SWAT). The Design Compliance Monitoring process uses the Stormwater Data Report (SWDR), which is detailed in the PPDG, as the basis for documenting compliance with the design pollution prevention and treatment BMP requirements of the Permit and SWMP. The SWDR and its checklists are used by the Districts ensure that BMPs are being considered and appropriately incorporated into Caltrans' projects. SWDRs are reviewed by District Staff to ensure compliance throughout the project planning and design phases.

As part of the Design Compliance Monitoring Program, SWDRs must be submitted at each phase of the project delivery process for all projects and are tracked accordingly. In addition, the Headquarters Office of Stormwater Management – Design randomly selects

SWDRs to conduct independent reviews. Information gathered during these reviews is used to improve the SWDR process and to determine if improvements are needed in the design guidance and training classes. Table 4-2 and Table 4-3 compare general information gathered from SWDRs reviewed during fiscal year 2006-2007 and fiscal year 2007-2008. Table 4-2 and Table 4-3 do not correspond with the treatment BMPs listed in Table 4-1. Table 4-2 and Table 4-3 summarize the total treatment BMPs planned within the listed SWDRs for all phases of project delivery and not just those based on construction completion dates during the reporting period as identified in Table 4-1. Districts 6, 9, and 10 do not have treatment BMPs identified in the tables below because no BMPs were identified as planned within the PS&E level SWDRs approved during the reporting period. In addition, the PD-SWAT evaluates the project delivery program and identifies issues of concern for stormwater. This ongoing audit continuously improves the Stormwater Management Program.

**Table 4-2: SWDR Submittals and Reviews by District (July 2006-June 2007)**

District	Number of SWDRs							SWPPP Required	Total Treatment BMPs Planned
	Total	Project Phase			SWDR Form Type				
		PID	PA/ED	PS&E	Long	Short			
1	17	1	8	8	12	5	10	5	
2	11	1	5	5	5	6	5	3	
3	57	5	10	42	17	40	21	127	
4	178	31	41	106	48	130	60	19	
5	81	22	13	46	26	55	17	5	
6	110	15	27	69	23	87	10	1	
7	159	30	15	114	76	83	40	296	
8	73	10	11	52	33	40	27	15	
9	21	4	4	13	2	19	21	0	
10	82	18	23	42	24	58	11	10	
11	43	6	1	36	14	29	15	19	
12	56	2	8	46	18	38	12	7	
<b>Total</b>	<b>888</b>	<b>145</b>	<b>166</b>	<b>579</b>	<b>298</b>	<b>590</b>	<b>249</b>	<b>507</b>	

**Table 4-3: SWDR Submittals and Reviews by District (July 2007-June 2008)**

District	Number of SWDRs							
	Total	Project Phase			SWDR Form Type		SWPPP Required	Total Treatment BMPs Planned
		PID	PA/ED	PS&E	Long	Short		
1	25	4	1	20	10	15	12	13
2	25	2	0	23	10	15	11	3
3	69	16	21	32	25	44	41	256
4	217	51	49	117	56	161	70	60
5	120	19	32	69	39	81	46	1
6	103	31	16	56	31	72	33	0
7	139	32	20	87	60	79	40	136
8	114	13	35	66	16	98	26	15
9	20	4	2	14	1	19	20	0
10	56	8	15	63	21	65	22	0
11	64	6	15	43	16	44	9	39
12	77	15	19	43	28	49	23	9
<b>Total</b>	<b>1,029</b>	<b>201</b>	<b>225</b>	<b>633</b>	<b>313</b>	<b>742</b>	<b>353</b>	<b>532</b>

## **SWMP Section 4.5 Construction Site BMPs (Category II)**

### **Water Quality Deficiencies for Construction Activities (Iterative Approach)**

The requirement to report deficiencies (Notice of Discharge) with the appropriate RWQCB is a routine part of the project delivery construction process. To track incidents of water quality deficiencies, District Construction Stormwater Coordinators are required to inform the Headquarters Office of Stormwater Policy Implementation about all non-permitted discharge incidents.

To address comments from the SWRCB with respect to tracking enforcement actions, Caltrans gathered information on its water quality deficiencies for construction activities during the fiscal year. An evaluation of the deficiencies was conducted and trends were analyzed. As a result, program modifications were identified, and they are included in Part III of this Section. A summary and status of the programmatic deficiencies is included in the Appendix on the attached CD.

**WPCPs, SWPPPs, and Pre-Construction Meetings**

The Districts hold pre-construction meetings for all projects that require a Stormwater Pollution Prevention Plan (SWPPP), and appropriate staff from the RWQCB is invited to attend. During the meetings, important or unique project requirements are identified. The pre-construction meetings, when attended by the RWQCB staff, allow all three parties (Caltrans, Contractor, and RWQCB) to better understand the requirements and stormwater control needs of a specific project. These meetings also allow RWQCB staff to relay water quality issues of concern to Caltrans staff and contractors, so potential problems can be identified before work begins, and solutions can be evaluated and implemented at the start of a project. Table 4-4, Table 4-5, Figure 4-2, and Figure 4-3 summarize activities and compliance by the Division of Construction. The tables show:

- The total number of active Water Pollution Control Programs (WPCPs) increased by 11%, from 464 in 2005-2006 to 518 in 2007-2008;
- The total number of active SWPPPs increased by 9%, from 328 in 2005-2006 to 359 in 2007-2008; and
- The number of pre-construction meetings attended by the RWQCB increased by 40% from fiscal year 2005-2006. (As stated earlier, the RWQCB is invited to all pre-construction meetings.)

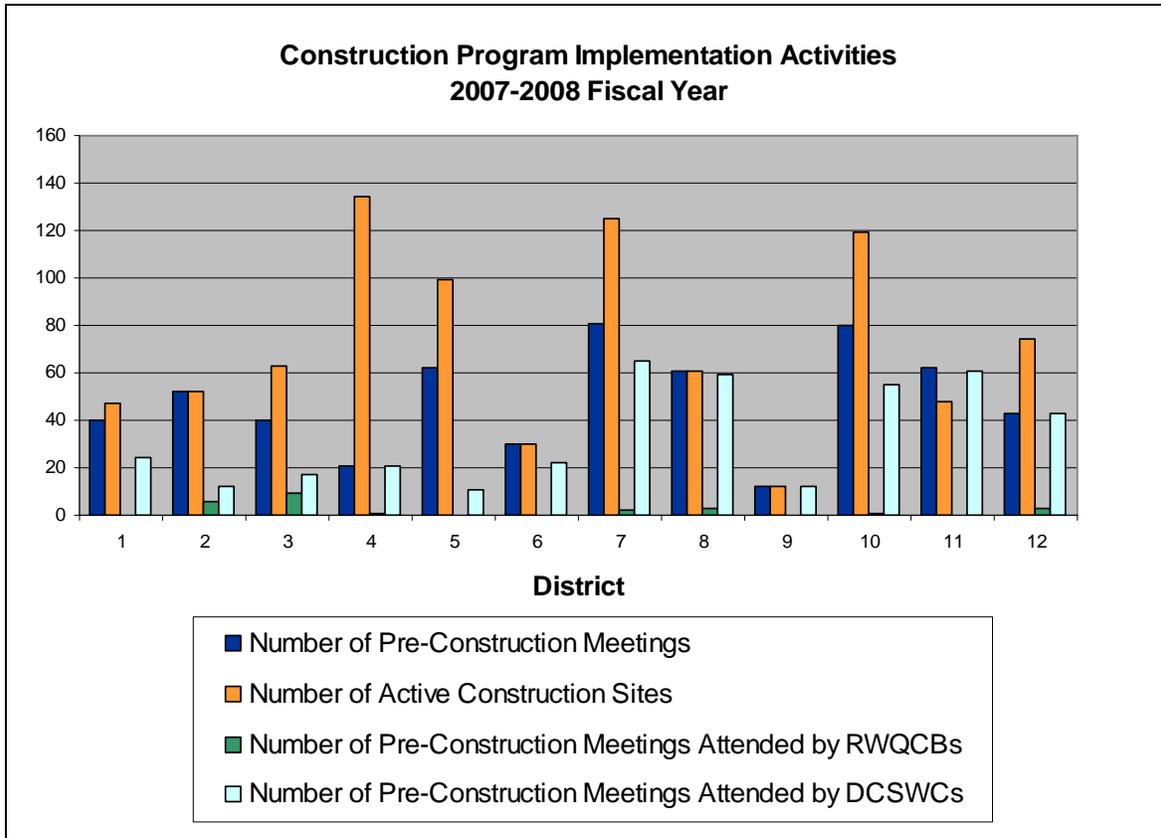
**Table 4-4: Construction Program – Meeting Attendance**

District	Number of Pre-Construction Meetings	Number of Pre-Construction Meetings Attended by DCSWCs	Number of Pre-Construction Meetings Attended by RWQCBs
1	40	24	0
2	52	12	6
3	40	17	9
4	21	21	1
5	62	11	0
6	30	22	0
7	81	65	2
8	61	59	3
9	12	12	0
10	80	55	1
11	62	61	0
12	43	43	3
<b>Total</b>	<b>584</b>	<b>402</b>	<b>25</b>

SWPPP Stormwater Pollution Prevention Plan  
DCSWC District Construction Stormwater Coordinator  
INA Information not available this reporting period  
WPCP Water Pollution Control Program  
RWQCB Regional Water Quality Control Board

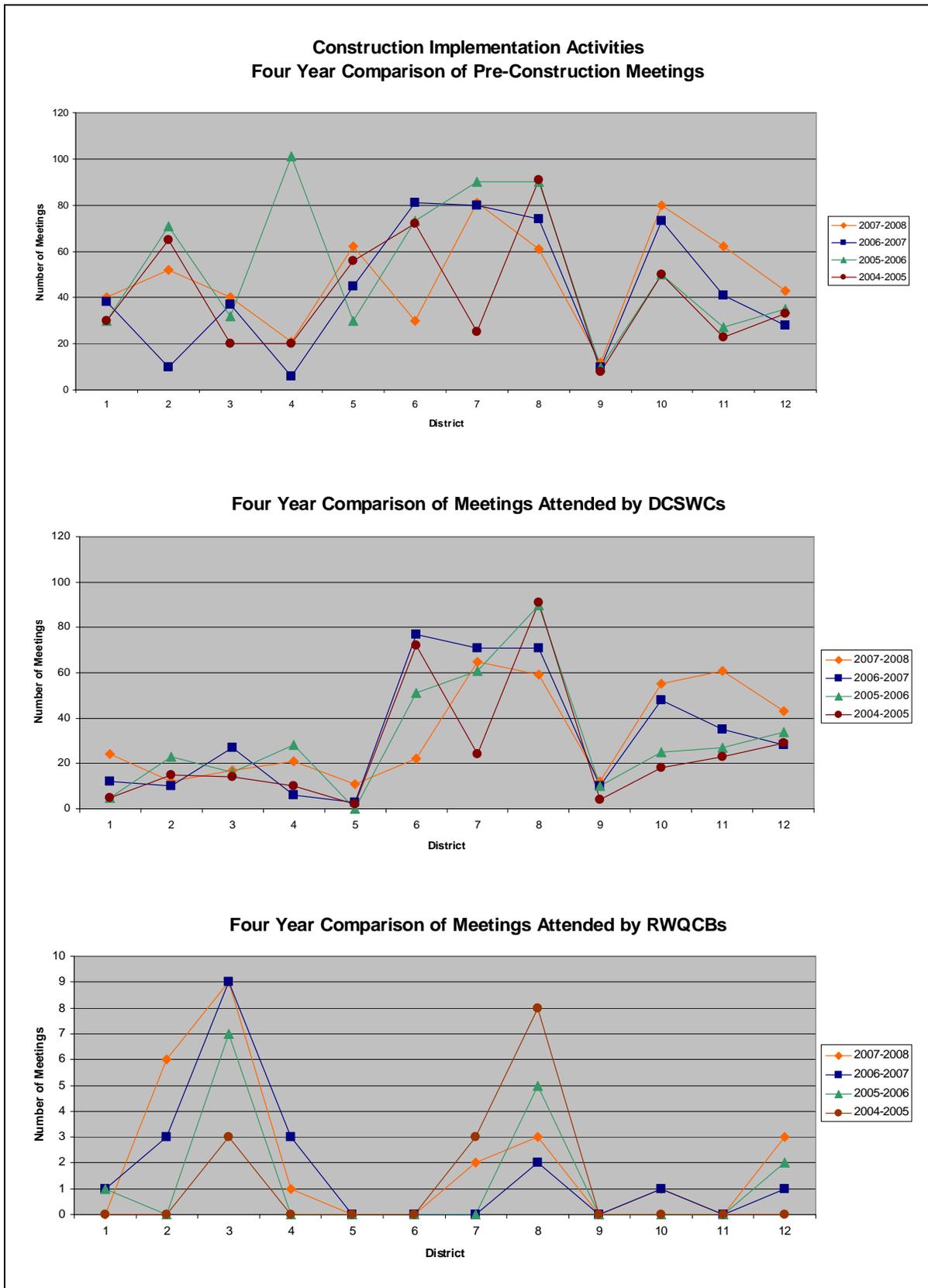
**Table 4-5: Construction Program – SWPPP Implementation**

District	Total # Active Construction Sites	Total # of Active Construction Sites Requiring a SWPPP	Total # of Active Construction Sites With a SWPPP	Total # of Active Construction Sites Requiring a WPCP	Total # of Active Construction Sites With a WPCP
1	47	25	25	22	22
2	52	21	21	31	31
3	63	27	27	36	36
4	134	64	64	70	70
5	99	36	36	63	63
6	30	10	10	20	20
7	125	50	50	75	75
8	61	26	26	35	35
9	12	4	4	8	8
10	119	52	52	67	67
11	48	14	14	34	34
12	74	30	30	57	57
<b>Total</b>	<b>864</b>	<b>359</b>	<b>359</b>	<b>518</b>	<b>518</b>



**Figure 4-2: Construction Program Implementation Activities**

(See attached CD for color figure.)



**Figure 4-3: Construction Program Implementation Activities Comparison**

(See attached CD for color figure.)

### **SWMP Section 8.4.1 Construction Compliance Monitoring**

Caltrans has also developed a self-audit program to serve as a quality control mechanism to ensure effective implementation of the construction Stormwater Pollution Prevention Program. Caltrans is required to submit an outline of the proposed audit by February 1 of each year. As agreed to by representatives from Caltrans and the SWRCB, the Annual Compliance Review Plans prepared for Construction and Maintenance in August of each year meet this requirement for the following February submittal.

The goal of construction compliance inspection activities is to verify compliance with the Permit, the SWMP, and Caltrans' Construction Program requirements. The following is a brief summary of performance ratings and trends for projects inspected during the reporting period. The rating system is as follows:

- Rating of 1 or 2 – up to 5 minor deficiencies were noted during the inspection
- Rating of 3 – at least 6 minor and/or a major deficiency was noted during an inspection
- Rating of 4 – critical deficiencies were noted

Ratings criteria are described in detail in Caltrans' *Annual Construction Compliance Review Plan, August 2005*. Table 4-6, Table 4-7, Figure 4-4, and Figure 4-5 summarize the performance ratings for inspections conducted during the non-rainy and rainy seasons of the reporting period.

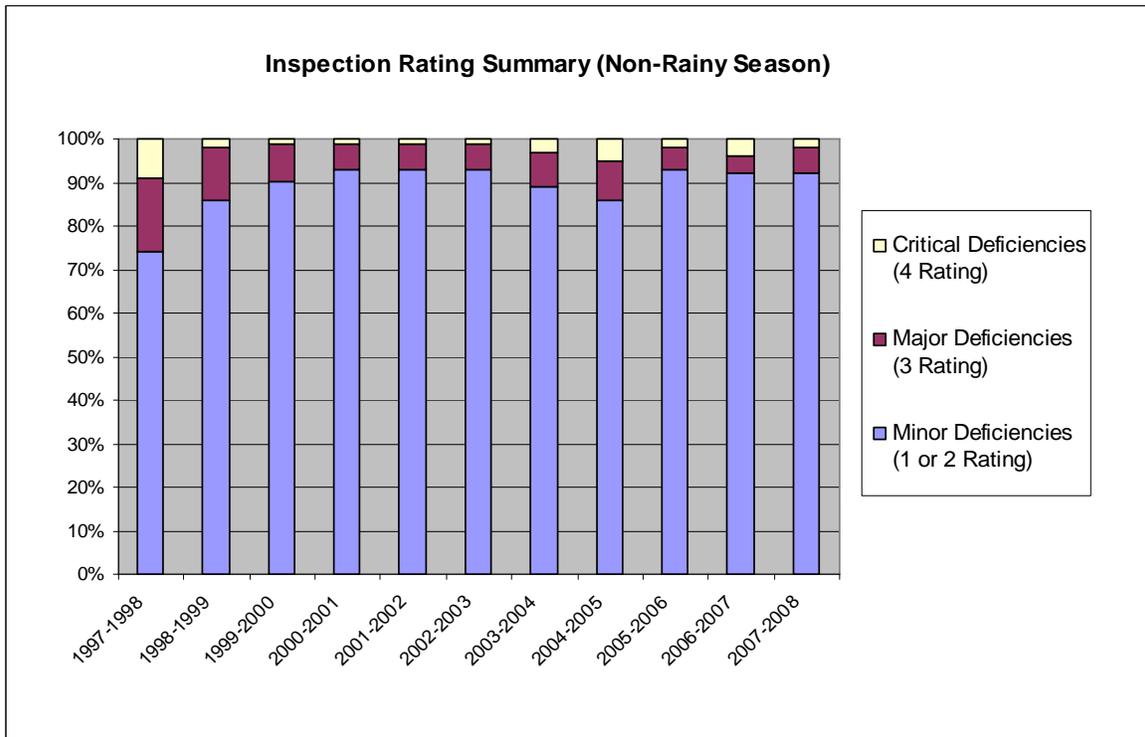
**Table 4-6: Construction Inspection Rating Summary – Non-Rainy Season By District  
July 1, 2007 to October 15, 2007 and April 16, 2008 to June 30, 2008**

District	No. of Inspections	Minor Deficiencies		Major Deficiencies		Critical Deficiencies	
		1 or 2 Rating		3 Rating		4 Rating	
1	15	14	93%			1	7%
2	23	21	92%	1	4%	1	4%
3	33	30	91%	2	6%	1	3%
4	55	48	87%	5	9%	2	4%
5	7	7	100%				
6	14	14	100%				
7	36	35	97%	1	3%		
8	32	28	88%	4	12%		
9	2	2	100%				
10	13	13	100%				
11	17	17	100%				
12	23	19	82%	2	9%	2	9%
<b>Total</b>	<b>270</b>	<b>248</b>	<b>92%</b>	<b>15</b>	<b>6%</b>	<b>7</b>	<b>2%</b>

**Table 4-7: Construction Inspection Rating Summary – Rainy Season By District  
October 16, 2007 to April 15, 2008**

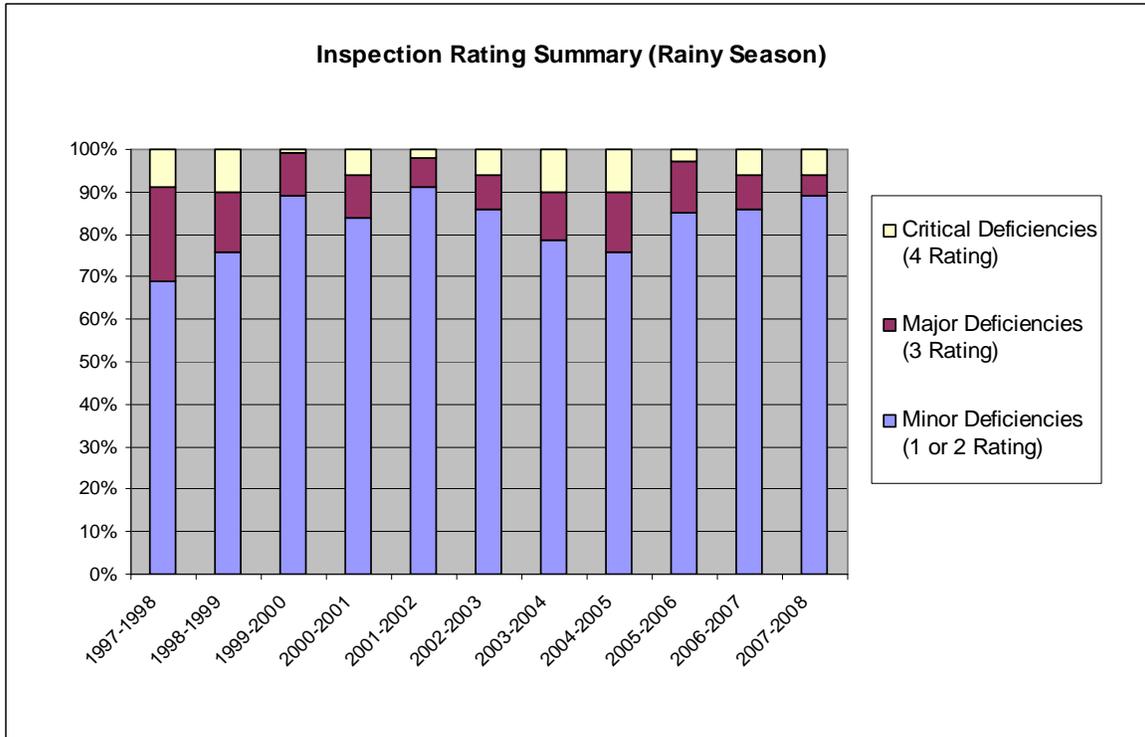
District	No. of Inspections	Minor Deficiencies		Major Deficiencies		Critical Deficiencies	
		1 or 2 Rating		3 Rating		4 Rating	
1	11	10	91%			1	9%
2	3	3	100%				
3	17	15	88%	2	12%		
4	46	38	82%	4	9%	4	9%
5	10	10	100%				
6	8	7	88%	1	12%		
7	28	26	93%			2	7%
8	38	32	84%	2	5%	4	11%
9	2	2	100%				
10	6	6	100%				
11	8	8	100%				
12	27	24	89%	1	4%	2	7%
<b>Total</b>	<b>204</b>	<b>181</b>	<b>89%</b>	<b>10</b>	<b>5%</b>	<b>13</b>	<b>6%</b>

Figure 4-4 and Figure 4-5 summarize the results for non-rainy and rainy season inspections conducted during the reporting period.



**Figure 4-4: Inspection Rating Summary (Non-Rainy Season)**

(See attached CD for color figure.)



**Figure 4-5: Inspection Rating Summary (Rainy Season)**

(See attached CD for color figure.)

Table 4-8 lists the 10 most common deficiencies noted on the inspection reports for inspections resulting in unfavorable ratings and compares the top ten deficiencies of the previous reporting period (2006-2007) to the 2007-2008 reporting period.

**Table 4-8: Top Ten Deficiencies Comparison**

Top Ten Deficiencies from 2006-2007	Top Ten Deficiencies from 2007-2008
1. Missing sediment controls	1. Improper concrete waste management
2. Improper maintenance of sediment controls.	2. Improper solid waste management
3. Missing spill and drip protection/prevention/clean-up	3. Improper vehicle maintenance
4. Improper tracking controls.	4. Missing sediment controls
5. Improper Concrete Waste Management	5. Improper hazardous waste management
6. Improper solid waste management	6. Improper material storage and handling
7. Improper material storage and handling	7. Improper tracking controls
8. Improper hazardous waste management	8. Improper stockpile management
9. Incomplete documentation	9. Improper maintenance of sediment controls
10. Missing soil stabilization	10. Missing soil stabilization

To address the noted deficiencies, the Construction SWAT will consider additional training of Construction staff, potential changes to contract specifications that address these deficiencies, and changes to guidance manuals.

### III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 4 PROGRAM ACTIVITIES

To determine the effectiveness of Project Delivery, an effectiveness assessment of the program data was conducted as a part of the Annual Report. Since BMP development and project delivery studies take multiple years to complete, some of the determinations at the higher outcome levels may require a longer period to obtain the data necessary for the assessment.

#### Outcome Levels

Due to the types of data generated, the assessment primarily focused on Outcome Levels 1 – 4 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

Outcome Level 2 answers the question:

- Can Caltrans demonstrate that the program significantly increased awareness of a target audience?

Outcome Level 3 answers the question:

- Can Caltrans demonstrate that the program resulted in significant behavior change?

Outcome Level 4 answers the question:

- Can Caltrans demonstrate that the program resulted in a significant decrease in the pollutant loadings to the storm drain system?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
Incorporation of Design Pollution Prevention BMPs into Projects	1 & 4	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Monitoring</li> </ul>
Vegetated Treatment BMPs	1	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Tabulation</li> </ul>
Design Compliance Monitoring	1	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Tabulation</li> </ul>
Construction Site BMPs	1, 2, 3	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Tabulation</li> <li>• Inspection</li> </ul>

The program effectiveness assessment addressed the following areas. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.).

The table below summarizes the effectiveness assessment that was conducted for Project Delivery as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is shown below.

### Program Effectiveness Assessment Summary for Project Delivery

Project Delivery	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Incorporation of Design Pollution Prevention BMPs into Projects	C – Guidance Updates C – # Treatment BMPs Incorporated	N/A	N/A	C – Study Results	N/A	N/A
Vegetated Treatment BMPs	C – Guidance Updates	N/A	A	N/A	N/A	N/A
Design Compliance Monitoring	C – Activities Completed	N/A	N/A	N/A	N/A	N/A
Construction Site BMPs	C – Guidance Updates C – # Meetings C – Compliance Evaluation Completed	C – Awareness of Processes – Materials Developed	C – BMP Implementation & Compliance	N/A	N/A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

## Project Delivery

The Caltrans Stormwater Management Program is nationally recognized as a leader in designing stormwater BMPs for highway and roadway projects. The design guidance that has been developed includes project plans and specifications for treatment BMPs, design pollution prevention BMPs, and construction BMPs. This information is updated on an ongoing basis and disseminated to the staff involved in the incorporation of the BMPs into projects to ensure that they are aware of the requirements and follow the guidance. **(L1)** Some of the key highlights during the reporting period include:

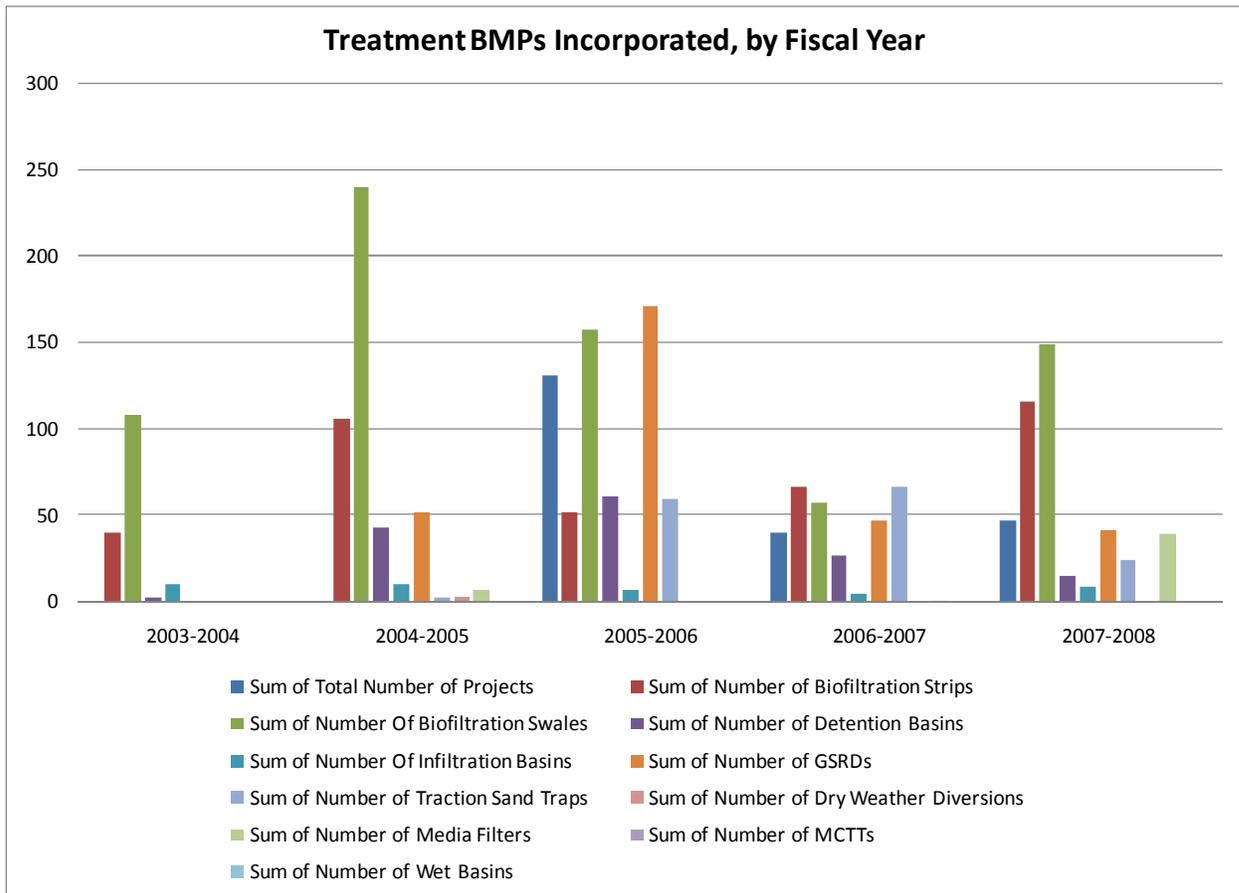
- The Office of Stormwater Management Design updated the design guidance for several treatment BMPs including detention basins, infiltration basins, infiltration trenches, sand traps, gross solids removal devices, Austin sand filters, Delaware sand filters, biofiltration strips, biofiltration swales, multi-chambered treatment trains, flow splitters, dry weather flow diversions, and wet basins.
- The Office of Stormwater Management Design also developed many non-standard special provisions that were used to incorporate construction, pollution prevention, and treatment BMPs that have special conditions or that had not been developed into approved standards.
- Drainage Design developed fish passage guidelines cooperatively with NOAA and the Department of Fish and Game.
- Caltrans completed a study of desert hydrology and developed new methods to accurately calculate hydrology in these arid regions of California. These methods have been adopted by other agencies, including USGS.
- The Landscape Architecture Program conducted a number of new applied studies projects last year and developed standard specifications for compost, compost incorporation, and erosion control, as well as successful seed mixes and seeding methods for various geographic regions and site conditions of California. The landscape specifications are a crucial part of establishing vegetative growth and encouraging infiltration of stormwater.

## Incorporation of Design Pollution Prevention BMPs into Projects

Caltrans has identified both Design Pollution Prevention BMPs (Design BMPs) and treatment BMPs that need to be considered and incorporated into the design of new highway facilities or the reconstruction and expansion of existing facilities. **(L1)**

- Many design pollution prevention BMPs have been incorporated into Caltrans' standard plans pages, including culverts, rock-lined ditches, retaining walls, flared end sections, and energy dissipaters. The standard plans and associated specifications, and special standard provisions are regularly updated and made available to the public.

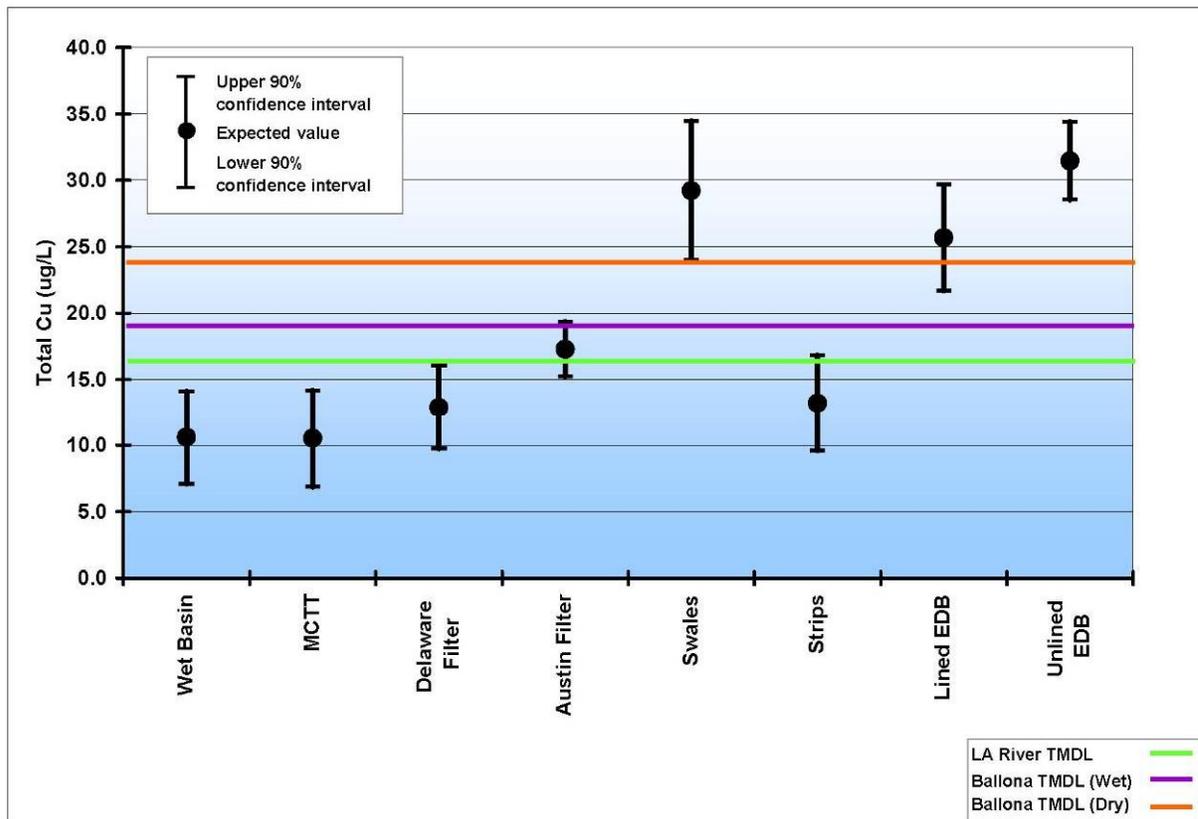
- Caltrans evaluates BMPs for all projects and documents the process in the SWDR. During the reporting period, 396 treatment BMPs were incorporated in 47 projects. The types of treatment BMPs that were incorporated into projects were predominately biofiltration swales (37%), biofiltration strips (29%), and gross solids removal devices (11%). This is consistent with the types of treatment BMPs that have been incorporated into projects during previous reporting periods (Figure 4-6).



**Figure 4-6: Treatment BMPs Incorporated by Fiscal Year**

(See attached CD for color figure.)

Caltrans has considered incorporating treatment BMPs on all projects. Treatment BMPs reduce pollutants by collecting and treating stormwater runoff. Figure 4-7 shows BMP pollutant removal efficiencies for total copper. Due to the pollutant removal efficiencies of these BMPs, it is anticipated that the installation of them over time will decrease copper and zinc loadings to receiving waters. (L4)



Source: California Department of Transportation, Division of Environmental Analysis, *BMP Retrofit Pilot Program Final Report* (CTSW-RT-01-050), January 2004. The report may be accessed via this link: [http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/pdfs/new\\_technology/CTSW-RT-01-050.pdf](http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/pdfs/new_technology/CTSW-RT-01-050.pdf)

**Figure 4-7: BMP Pollutant Removal Efficiency – Total Copper (Influent = 94 ug/L)**

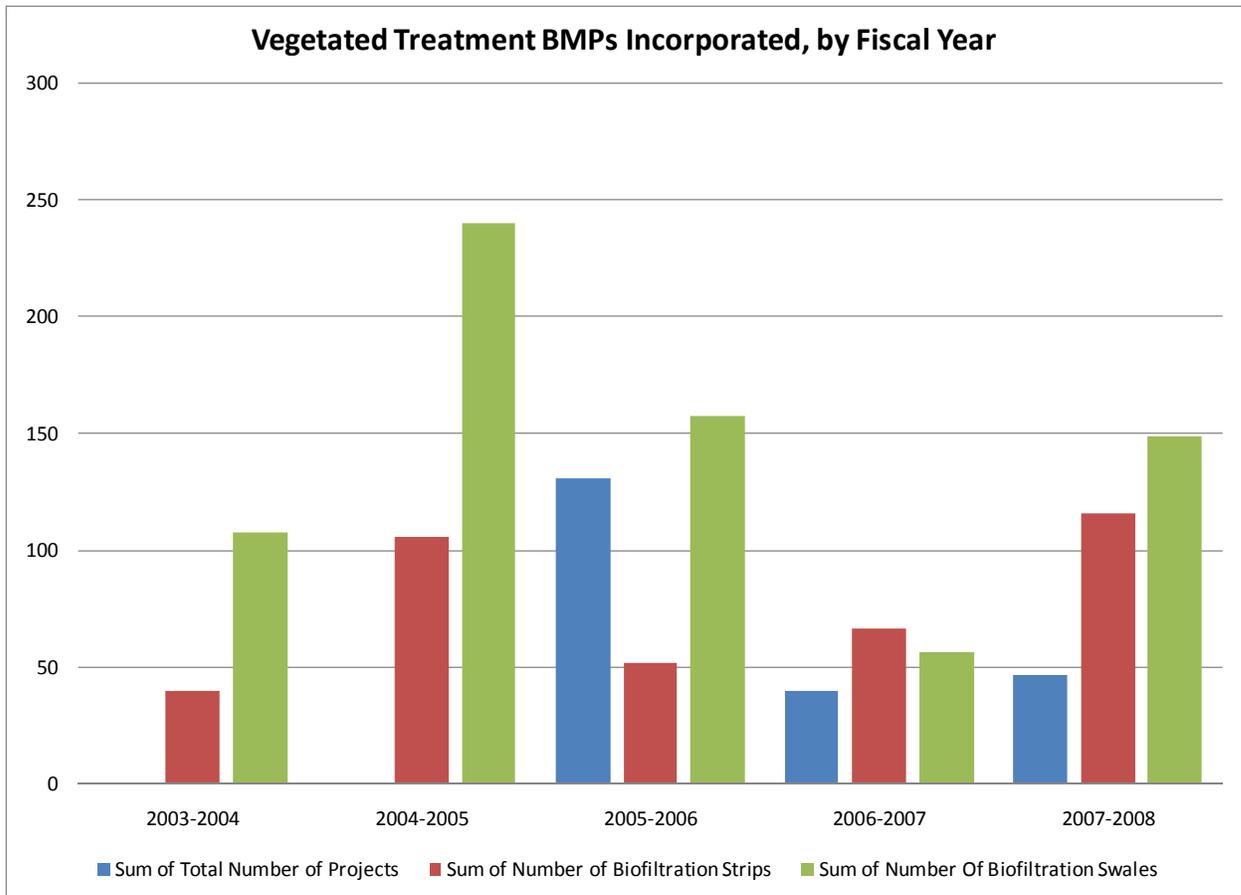
(See attached CD for color figure.)

## Vegetated Treatment BMPs

Caltrans considers which vegetated treatment BMPs to include in all projects and documents these decisions in the SWDR. Caltrans also continues to conduct applied studies and monitor Vegetated Treatment BMPs (Figure 4-8) to confirm the potential pollutant load reductions. (L1)

- During 2007-2008, Caltrans developed a number a new documents that covered such topics as biofiltration swale animation, biofiltration strip animation, design guidance for biofiltration strips and biofiltration swales, specifications for compost incorporation, and specifications for all vegetation applications. Designers both internally and externally are using the guidance.

Vegetated treatment BMPs are now being considered and built on many project sites within the Caltrans right-of-way. (L3)



**Figure 4-8: Vegetated Treatment BMPs Incorporated by Fiscal Year**

(See attached CD for color figure.)

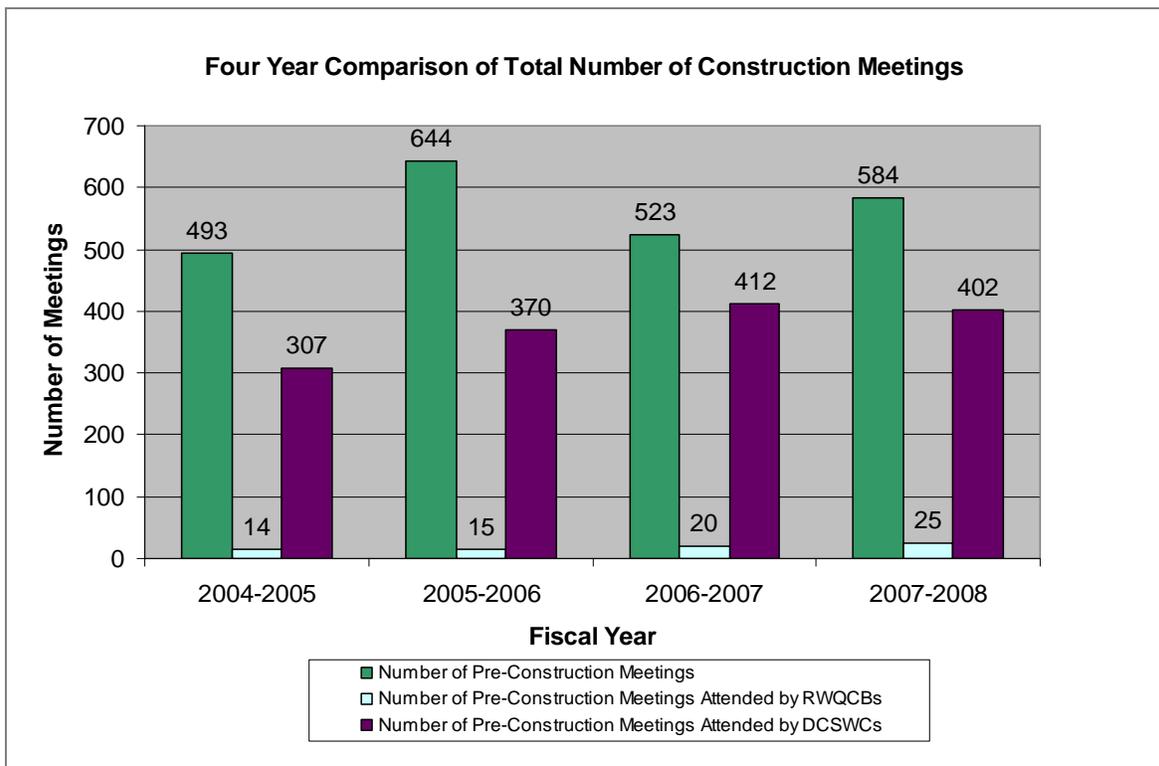
## Design Compliance Monitoring

Caltrans developed and implemented a self-audit program. This program serves as a quality assurance mechanism to ensure effective implementation of the Stormwater Pollution Prevention Program. **(L1)**

## Construction Site BMPs

Caltrans has developed a Construction Site BMP Manual that identifies the procedures for proper field installation and maintenance of temporary BMPs at construction sites. Caltrans has also added guidance to the Project Planning and Design Guide (PPDG) to assist in the selection and estimation of construction site BMPs during project planning and design. **(L1)**

The Districts hold pre-construction meetings for all projects that require a SWPPP and RWQCB staff is invited to attend. The Districts held 584 pre-construction meetings for their projects. Of the 584 pre-construction meetings, District Construction Stormwater Coordinators attended 402 (68%) overall. However, since there are often multiple meetings for construction projects, the District Construction Stormwater Coordinators may not need to attend all of the meetings. In general, the number of meetings attended by the RWQCBs and the DCSWCs has remained constant from year to year (Figure 4-9). (L1)



**Figure 4-9: Four-Year Comparison of Total Number of Construction Meetings**

(See attached CD for color figure.)

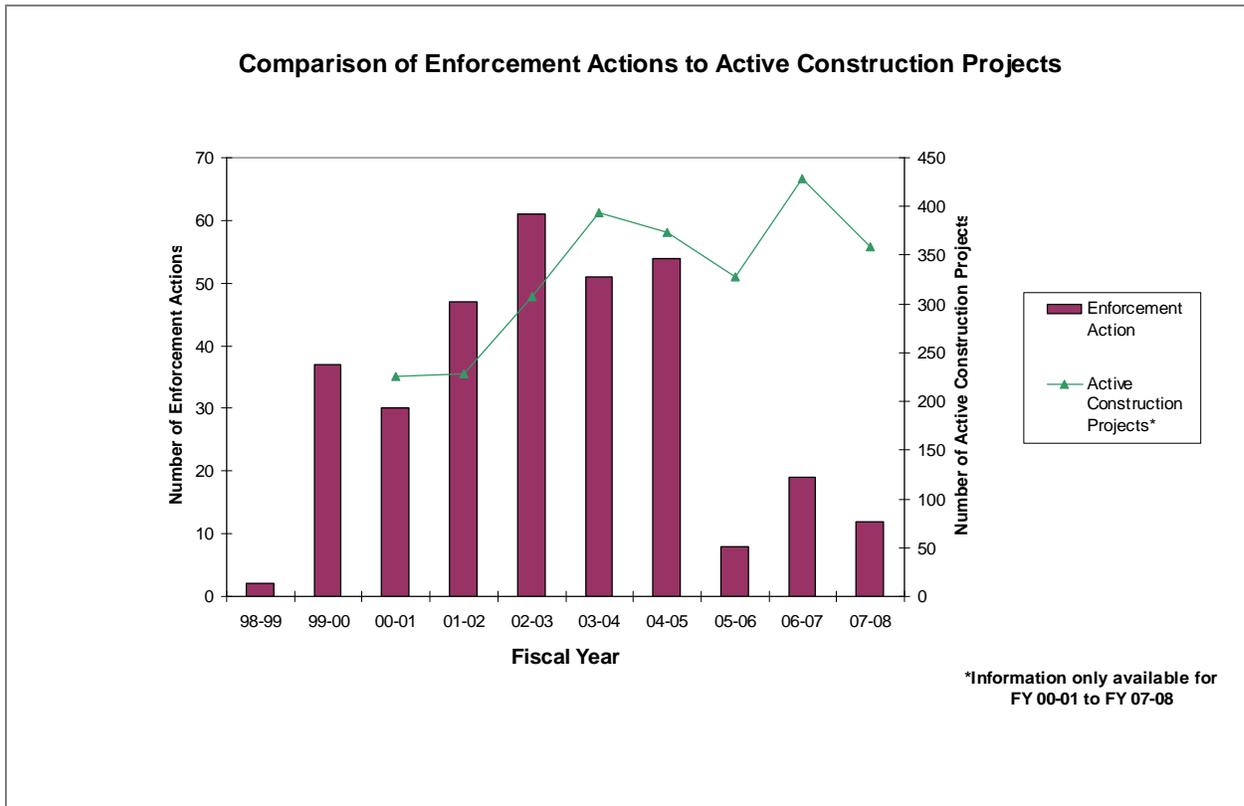
- Three Districts (District 4, 9, and 12) indicated that a District Construction Stormwater Coordinator attended 100% of the pre-construction meetings.
- Three Districts (District 7, 8, and 11) indicated that that a District Construction Stormwater Coordinator attended at least 75% or more of the pre-construction meetings.
- Three Districts (District 1, 6, and 10) indicated that that a District Construction Stormwater Coordinator attended at least 50% or more of the pre-construction meetings.
- Three Districts (District 2, 3, and 5) indicated that that a District Construction Stormwater Coordinator attended less than 50% of the pre-construction meetings.

The Caltrans staff is aware of the requirements of the construction program and developed the appropriate plans such as the Stormwater Pollution Prevention Plan and the Water Pollution Control Programs. **(L2)**

- During the reporting period, 100% of the required SWPPPs or WPCPs were developed.

Caltrans developed and implemented a self-audit program to serve as a quality control mechanism to ensure effective implementation of the construction program and activities. **(L1)**. Over the years, Caltrans has decreased the number of sites with critical deficiencies. This indicates that staff at the construction sites is aware of the BMPs that are necessary onsite and are implementing them appropriately. **(L3)**

- 270 compliance inspections were conducted during the non-rainy season. The results indicated that 92% of the construction sites had minor deficiencies (1 or 2 rating); 6% indicated major deficiencies (3 rating); and 2% indicated critical deficiencies (4 rating).
- 204 compliance inspections were conducted during the rainy season. The results were similar to the non-rainy season results, in that 89% of the construction inspections indicated minor deficiencies (1 or 2 rating); 5% indicated major deficiencies (3 rating); and 6% indicated critical deficiencies (4 rating).
- When comparing the construction site compliance inspections and the enforcement actions issued, data indicates that as the number of construction projects has increased, the number of enforcement actions issued to Caltrans increased then decreased sharply in recent years (Figure 4-10). This may be due, in part, to the internal auditing of the sites and training sessions, which increase awareness and encourage behavior change.



**Figure 4-10: Comparison of Enforcement Actions to Active Construction Projects**

(See attached CD for color figure.)

- Where there were deficiencies in BMP implementation, the top deficiencies included solid waste management, vehicle maintenance, tracking controls, concrete waste management, stockpile management, hazardous waste management, maintenance of sediment controls, material storage and handling, missing sediment controls, and incomplete documentation.
- Although slight variations occur from year to year, the overall status of stormwater management compliance and BMP implementation remains positive. Since 1997-1998, Caltrans has effectively decreased the number of sites that have major or critical deficiencies during non-rainy and rainy seasons, which indicates increased awareness and behavior change.

### Program Modifications

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## 5.0 MAINTENANCE STORMWATER MANAGEMENT PROGRAM

### I. SWMP SECTION 5 REPORTING INFORMATION

1999 Permit Provision Number*	Description	2003 SWMP Section
I.1.a (3)	Roadside Vegetated slope inspections and Actions Taken	5.3.2
-	Baseline inspection and cleaning activities by section of highway	5.3.2.1
-	Enhanced Storm drain inlet cleaning activities by Section of Highway – Metropolitan areas of Los Angeles, San Diego, Ventura, and Orange Counties	5.3.2.2
I.2.b (4)	IC/ ID Program Report	5.3.2.3
I.1.b (4)	Annual submittal of Vegetation Control Plan (VCP)	5.3.4
-	Herbicide Usage	5.3.4
B.9	Non-Stormwater Report (Update)	5.3.4
-	Chemical used for vegetative control measures on vegetated treatment BMPs	5.5.1
K.3 (c)	Self-Audit (Maintenance Compliance Evaluation)	8.4.2

\* Reporting requirements with no 1999 Permit Provision Number are requirements identified in the 2003 SWMP only.

### II. SWMP SECTION 5 ACTIVITIES

This section describes specific projects and activities conducted during the reporting period pertaining to how the Maintenance Division incorporated maintenance BMPs into projects. It discusses the results of its roadside vegetated slope inspections; progress made in inspecting and cleaning stormwater drainage facilities, including storm drain inlets; illicit connections/illegal discharges (IC/ID) addressed; vegetation control plans and use of herbicides.

#### SWMP Section 5.3 Maintenance BMPs

During the 2007-2008 fiscal year, Caltrans developed maintenance activities for treatment BMPs not currently in the *Maintenance Staff Guide* (CTSW-RT-02-057). The following maintenance sections were added:

- Gross Solids Removal Devices (Section C.23.6)
- Austin Sand Filters (Section C.23.7)
- Delaware Sand Filters (Section C.23.8)
- Multi-Chambered Treatment Trains (Section C.23.9)
- Wet Basins (Section C.23.10)

The new sections include a description of the inspection and maintenance measures necessary to maintain the BMPs' function for water quality treatment. A table of maintenance indicators was also included, as well as measurement frequency and the required maintenance activity. The Vegetated Treatment Systems section was updated to include recommended maintenance indicators, frequencies, and activities based on observations and lessons learned as part of Caltrans' Roadside Vegetated Treatment Sites (RVTS) Study.

The Maintenance Staff Guide is available online at [http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSWT\\_RT\\_02-057.pdf](http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSWT_RT_02-057.pdf)

## **SWMP Section 5.3.2 C Family (Slopes/Drainage/Vegetation)**

### **Roadside Vegetated Slope Inspections**

Caltrans' Division of Maintenance has an ongoing program to inspect roadside vegetated slopes for erosion. The inspections are conducted on a five-year cycle. In addition to the SWMP mandated program, the division also has a Storm Patrol program. Selected highways are patrolled during or immediately after storms, wildfires, or earthquakes. The Division also investigates complaints by the public related to stormwater damage during these times. Major stabilization work identified by these inspections and patrols generate erosion control projects. The Division of Maintenance will normally conduct minor slope damage repair, which includes light slope grading, installation of erosion control BMPs, backfilling erosion, and highway clearing when the cost does not exceed \$1,000 per site or \$15,000 per mile.

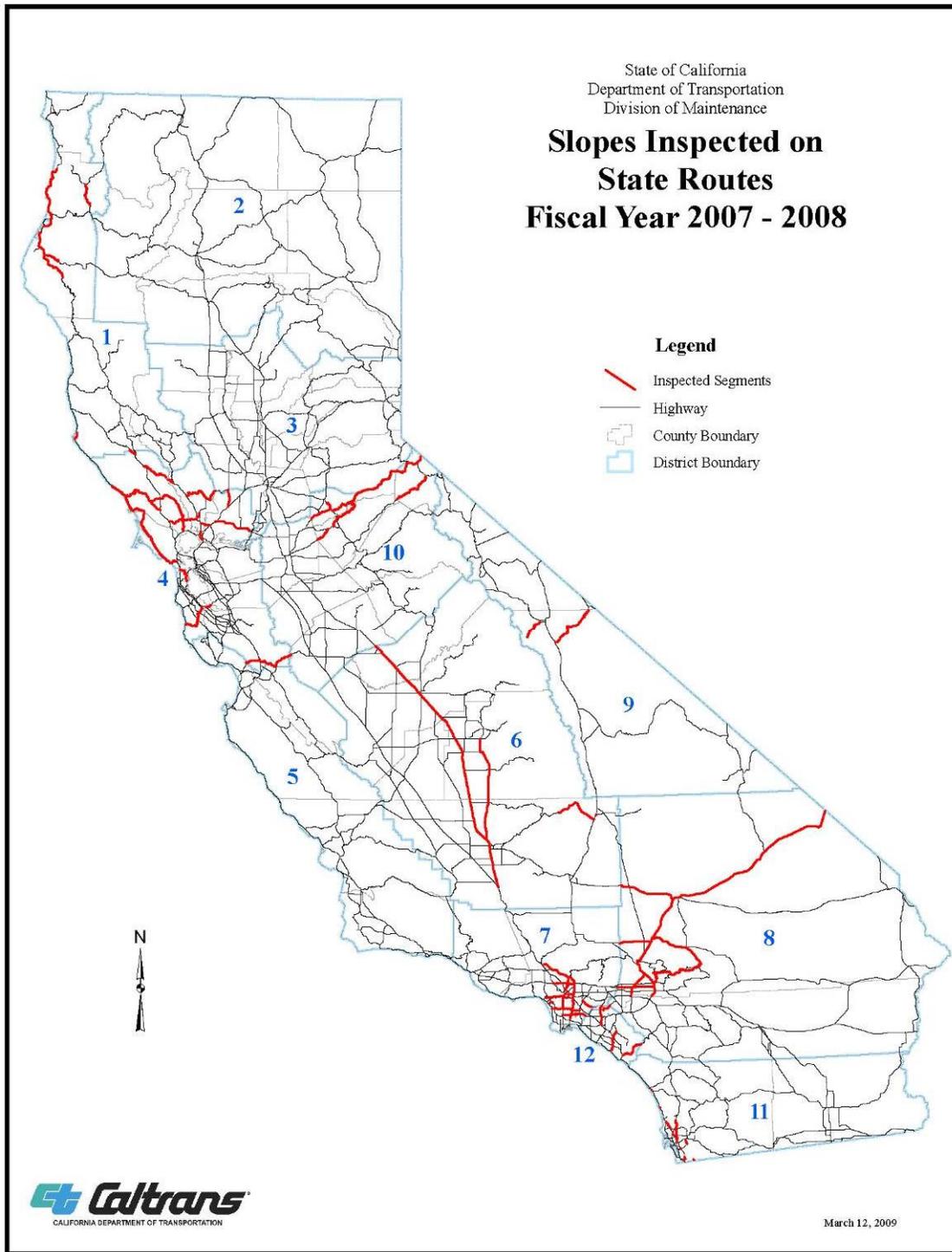
Table 5-1 and Figure 5-1 summarize the slope inspections conducted during the 2007-2008 fiscal year. For information on specific inspection results, refer to the table on the attached CD in the Appendix.

**Table 5-1: Slope Inspection Summary, Fiscal Year 2007-2008**

<b>District</b>	<b>Total Shoulder Miles<sup>5</sup></b>	<b>Total Shoulder Miles Inspected</b>	<b>Total # of Problem Slope Locations Identified</b>	<b>Response to Slope Problems</b>
1	948	152.2	1	Installed BMPs
2	1,752	None	None	None
3	1,544	Not Available	Not Available	Not Available
4	1,447	415.2	15	Repaired problems, applied soil stabilizer
5	1,178	10.5	54	Repaired problems
6	2,046	237.3	2	Repaired problems
7	1,208	143.8	12	Repaired problems
8	1,931	382.4	3	Repaired problems
9	750	98	20	Repaired problems, applied BMPs and soil stabilizer
10	1,337	171.64	31	Repaired problems
11	1,031	24.1	11	Problem slope areas were referred for funding and are proceeding as landscape projects
12	279	46.8	0	Referred problem slopes to Maintenance Inspection and Slope Stabilization Team

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<sup>5</sup> California Department of Transportation, *Statewide Stormwater Management Plan*, Appendix A, Descriptions of Individual Districts, May 2003.



**Figure 5-1: Slopes Inspected on State Routes, fiscal year 2007-2008**

## SWMP Section 5.3.2.1 Baseline Stormwater Drainage Facilities Inspection and Cleaning Program

An inventory of the inspected facilities is included on the CD. Over 45,000 inlets were inspected, and those with accumulated sediment were cleaned as needed. Figure 5-2 and Table 5-2 summarize the storm drain inlet inspection and cleaning program.

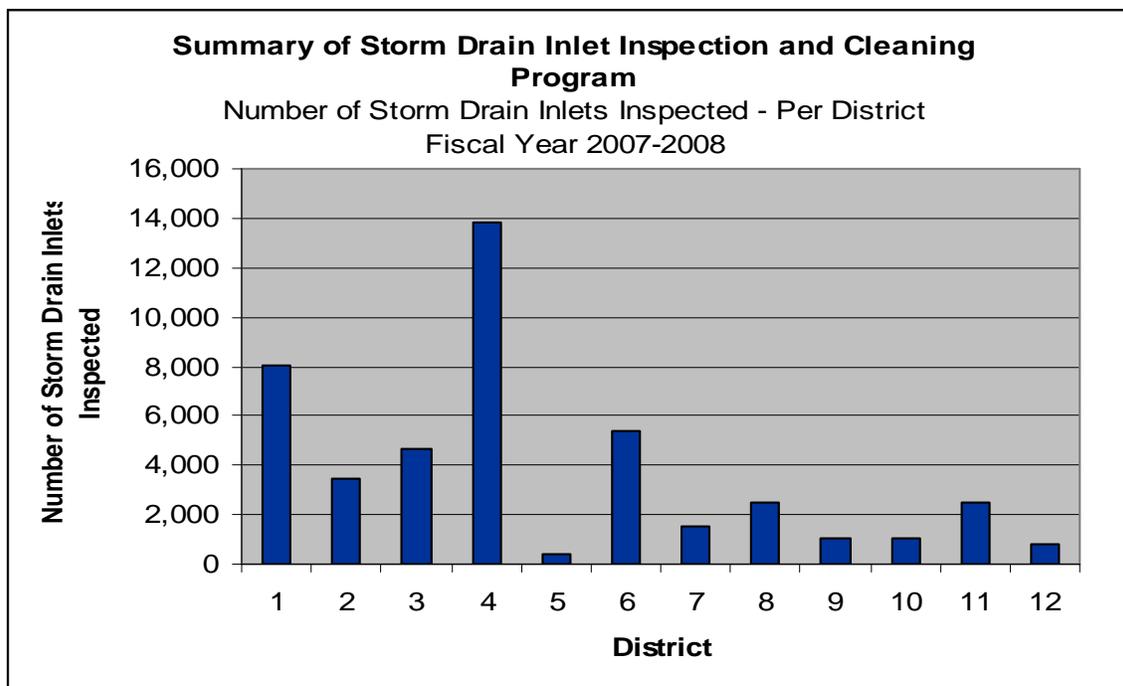


Figure 5-2: Summary of Storm Drain Inlet Inspection and Cleaning Program

(See attached CD for color figure.)

Table 5-2: Drain Inlet Inspection and Cleaning, Fiscal Year 2007-2008

District	Total # of Drain Inlets	Total # of Drain Inlets Inspected	Total # of Drain Inlets Cleaned
1	26,547	8,014	2,652
2	36,576	3,466	3,090
3	36,956	4,693	3,747
4	55,875	13,801	12,294
5	37,049	406	446
6	50,242	5,383	2,569
7	46,399	1,553	0
8	41,150	2,512	639
9	11,213	1,079	407
10	33,285	1,048	14,200
11	24,158	2,495	67
12	13,739	772	57
<b>Total</b>	<b>413,189</b>	<b>45,222</b>	<b>40,168</b>

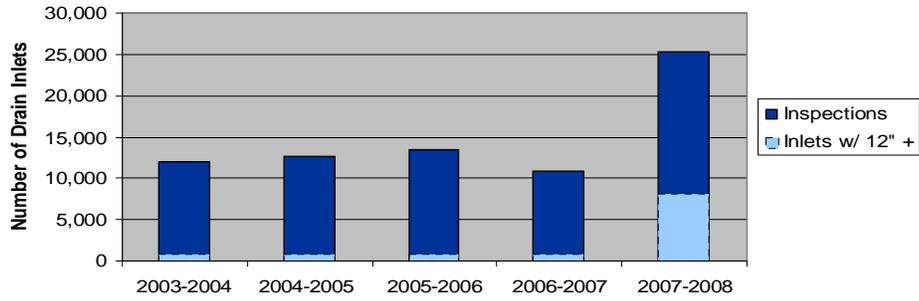
### **SWMP Section 5.3.2.2 Enhanced Storm Drain Inlet Inspection and Cleaning Program**

The Division of Maintenance implements an enhanced annual storm drain inlet inspection and cleaning program in the metropolitan areas of San Diego (District 11), Orange (District 12), and Los Angeles and Ventura (District 7) counties. An effort is made each year to inspect all the storm drain inlets in these counties each year. The build-up of sediment, litter, and debris in these inlets is assessed. Regardless of remaining hydraulic capacity, inspected inlets with 12 or more inches of accumulated material are cleaned. A database is kept of all sites inspected and cleaned. The enhanced program is a part of Caltrans' commitment to preserve Southern California coastal waters and their contributing watersheds.

Figure 5-3 and Table 5-3 summarize the enhanced storm drain inlet inspection and cleaning program and compare the past four fiscal years to the 2007-2008 fiscal year.

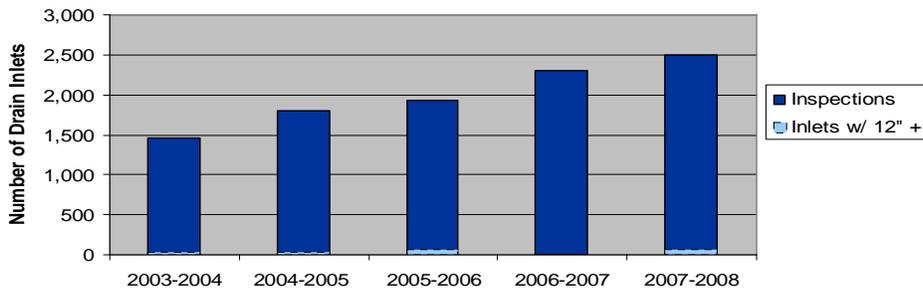
**Summary of Enhanced Drain Inlet Inspection and Cleaning Program**

**District 7**



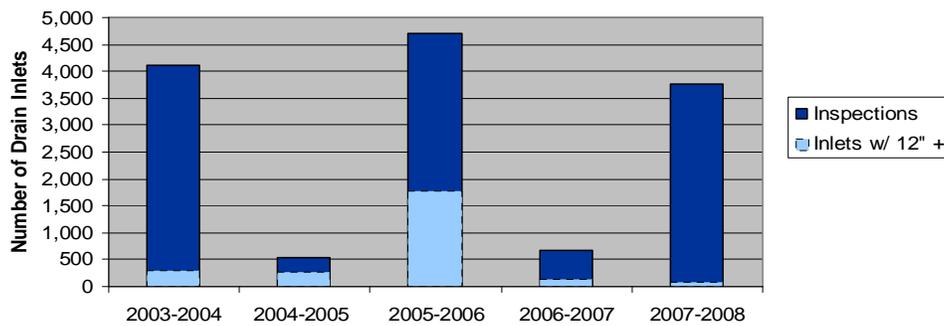
**Summary of Enhanced Drain Inlet Inspection and Cleaning Program**

**District 11**



**Summary of Enhanced Drain Inlet Inspection and Cleaning Program**

**District 12**



**Figure 5-3: Summary of Enhanced Storm Drain Inlet Inspection and Cleaning Program**

(See attached CD for color figures.)

**Table 5-3: Enhanced Drain Inlet Inspection and Cleaning, Fiscal Year 2007-2008**

District	Total # of Drain Inlets	Total # of Drain Inlets Inspected	Total # of Drain Inlets Cleaned
7	25,327	11,114	8,153
11	8,104	2,495	67
12	7,526*	3,462	80
<b>Total</b>	<b>33,431</b>	<b>17,071</b>	<b>8,300</b>

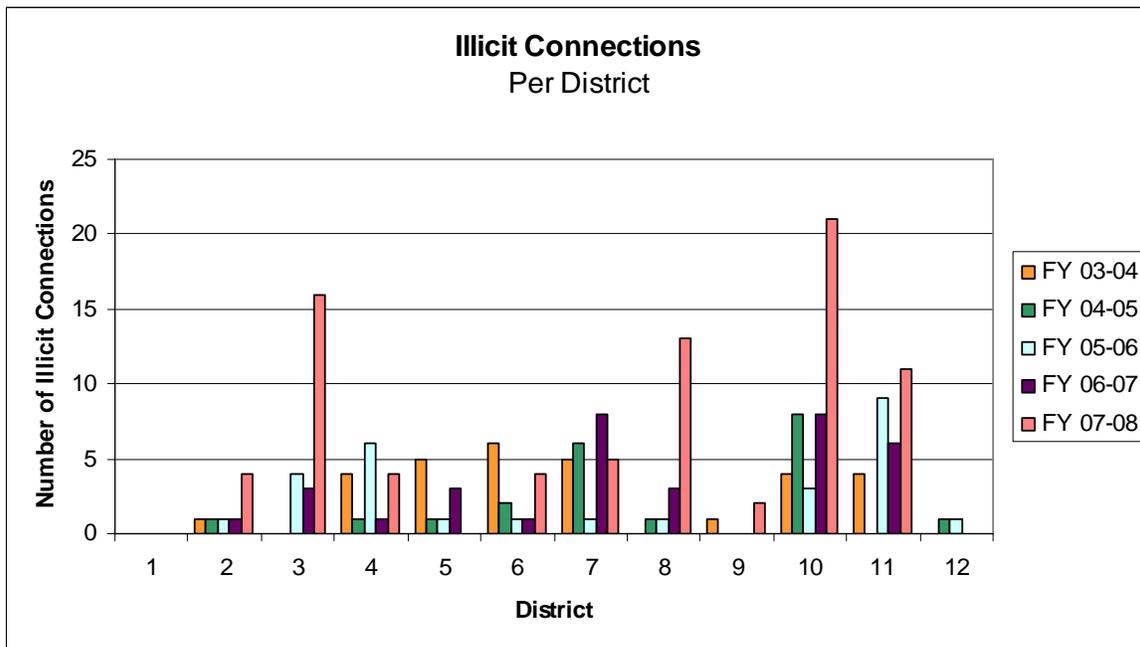
\* The Districts' number of drain inlets was estimated from data collected during the Storm Drain System Inventory in NPDES Phase I and Phase II permitted areas currently being conducted.

**SWMP Section 5.3.2.3 Illicit Connection/Illegal Discharge**

Permit provision I.2.b (4) requires that Caltrans submit a report on the IC/ID Program, and this portion of the Annual Report fulfills this reporting requirement. IC/IDs are documented, and notification letters are sent to the discharger or responsible parties. A meeting is arranged with all parties to discuss the discharge and possible solutions. During fiscal year 2007-2008, 38 of 80 IC/IDs were resolved, 21 were resolved from prior fiscal years, and six are in the process of being resolved. Unresolved incidents are being researched, improvements are in progress, or further monitoring is required to indicate that the discharge has been eliminated. All IC/IDs are further described in Table 5-4 and summarized in Figure 5-4 below. A detailed table of the incidents is in the Appendix on the CD.

**Table 5-4: Illicit Connection/Illegal Discharge Summary, Fiscal Year 2007-2008**

District	# of Incidents	# In Progress	# Resolved from prior fiscal years	# Resolved during fiscal year 2007-2008	# Referred to RWQCB or Local Agency
1	None				
2	4			2	2
3	16		3	4	9
4	4			4	
5	None				
6	4		2	1	1
7	5	1		4	
8	13			12	1
9	2			1	1
10	21	5	6	9	1
11	11		10	1	
12	None				
<b>Total</b>	<b>80</b>	<b>6</b>	<b>21</b>	<b>38</b>	<b>15</b>



**Figure 5-4: Illicit Connections**

(See attached CD for color figure.)

The Districts investigate all identified IC/IDs discharging to Caltrans’ right-of-way per the approved procedures. Caltrans is in the process of conducting that evaluation to determine if a tracking system could assist with tracking IC/IDs.

***Accidental Spills***

Caltrans is working to refine the procedures to control discharges or flows resulting from emergency activities, as necessary, by reviewing current procedures and practices and by developing improved procedures, as appropriate.

**SWMP Section 5.3.4 E Family (Landscaping)**

**Submittal of Vegetation Control Plans**

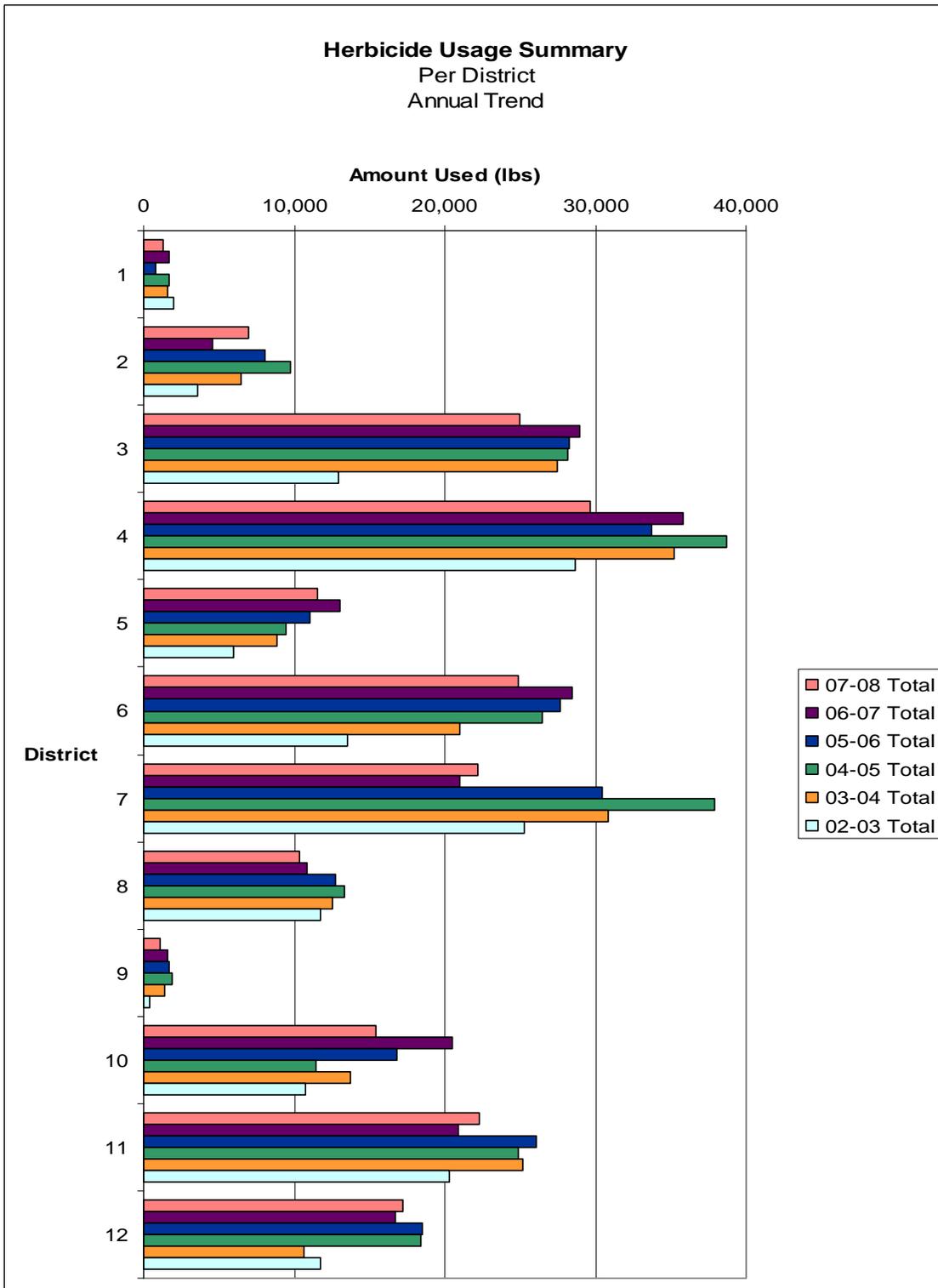
By April 1 each year, the Division of Maintenance prepares Vegetation Control Plans (VCPs) for each District. These plans designate which Integrated Vegetation Management (IVM) methods are to be used in specific right-of-way areas. The information for this Annual Report compliance requirement is tracked in the Division of Maintenance Integrated Maintenance Management System (IMMS) database. The plans are prepared to estimate inventory and personnel resource needs for the next fiscal year’s vegetation control program. On or before May 15 each year, Caltrans Headquarters Roadside Maintenance Office sends electronic VCP files and Geographic Information System (GIS) maps of VCP implementation locations to the appropriate staff of each RWQCB.

## Herbicide Usage

After reviewing the Districts' proposed VCPs for the upcoming fiscal year, Caltrans' Headquarters Roadside Maintenance Office allocates a certain amount of active ingredient for each District. Caltrans assists local agencies with fire suppression (fuel abatement) and in combating invasive and noxious weeds. The Landscape Program Administrator in the Roadside Maintenance Office is a State of California licensed Pest Control Advisor (PCA). To avoid the development of resistant strains, chemical products with slightly different formulations are allocated to Districts after reviewing their use history. This results in minor but noticeable fluctuations in active ingredient totals. Monthly chemical usage by type is summarized on the attached CD. Presented in Table 5-5 and Figure 5-5 is a summary of the fiscal year 2007-2008 herbicide usage and comparison to the five previous years' usage. Approximately 188,000 pounds of active ingredient were used in Caltrans' Integrated Vegetation Management (IVM) program for the 2007-2008 fiscal year.

**Table 5-5: Herbicide (Active Ingredient) Usage Summary, Fiscal Year 2007-2008**

<b>District</b>	<b>Acres Treated With Herbicide</b>	<b>Total Pounds Applied (Active Ingredient)</b>
1	163	1,286
2	2,000	7,010
3	5,462	25,006
4	10,396	29,618
5	4,386	11,524
6	6,465	24,826
7	7,889	22,146
8	2,357	10,394
9	223	1,083
10	12,454	15,442
11	3,779	22,244
12	3,854	17,220
<b>Total</b>	<b>59,429</b>	<b>187,799</b>



**Figure 5-5: Herbicide (Active Ingredient) Usage Summary Discussion**

(See attached CD for color figure.)

Although herbicide usage fluctuates, some Districts have increased their usage as measured by pounds of herbicide active ingredient. The reasons include:

- Local weather conditions, such as increased rainfall, leading to increased weed production;
- The need to address new mandates for fire suppression (fuel abatement) adjacent to roadways;
- Requests from local cities and counties; and
- Increases in or outbreaks of noxious weeds in areas adjacent to farmland.

The following describes why an increase occurred in the individual Districts.

**District 1** – The District had a decrease between 2006-2007 and 2007-2008.

**District 2** – The District had an increase between 2006-2007 and 2007-2008 because during the 2006-2007 season, a new Supervisor and crew were not able to complete the pre-emergent season application due to their inexperience with the program and equipment failure.

**District 3** – The District had a decrease between 2006-2007 and 2007-2008.

**District 4** – The District had a decrease between 2006-2007 and 2007-2008.

**District 5** – The District had a decrease between 2006-2007 and 2007-2008.

**District 6** – The District had a decrease between 2006-2007 and 2007-2008.

**District 7** – The District had an increase between 2006-2007 and 2007-2008 because local fire authorities requested that the District focus on maintaining fire strips along the roadways and fence lines in non-landscaped areas to prevent any vegetation from becoming a fire threat. Law enforcement also requested that vegetation be maintained to discourage new homeless encampments. However, this practice exposes soil and stimulates weed growth since the weeds thrive where there is no competition. Mechanical weeding alone does not adequately suppress the vegetation, so additional herbicide applications were necessary.

**District 8** – The District had a decrease between 2006-2007 and 2007-2008.

**District 9** – The District had a decrease between 2006-2007 and 2007-2008.

**District 10** – The District had a decrease between 2006-2007 and 2007-2008.

**District 11** – The District had an increase between 2006-2007 and 2007-2008 because of several factors, such as an increase in shoulder miles as construction projects are completed, as plant establishment ends, and as they are turned over to maintenance crews and become part of operational highway maintenance. In addition, the District received requests from the local fire marshal's office to increase efforts for fire suppression and fire fuel management.

**District 12** – The District had an increase between 2006-2007 and 2007-2008 because of weed growth prompted by the drought over the past three years and only brief periods of rain. Fires from two years ago prompted more herbicide use, since the areas had to be revegetated for erosion control. Herbicides had to be applied before replanting. The actual allotted active ingredient amount designated to the District has not increased since 2006.

### **SWMP Section 5.5.1 Vegetated Treatment BMPs**

#### **Chemical Use on Vegetated Treatment BMPs**

Caltrans continues to maintain vegetated treatment BMPs based on the Maintenance Staff guide, which provides details on triggers, protocols, and activities associated with maintaining vegetated treatment BMPs. Chemical vegetative control measures are used only as needed and consistent with requirements of the California Department of Food and Agriculture to treat for invasive weeds. During the 2007-2008 fiscal year, no chemical use was reported on any vegetated treatment BMP.

### **SWMP Section 8.4.2 Maintenance Compliance Monitoring**

Caltrans developed a self-audit program to serve as a quality control mechanism to ensure effective implementation of the Stormwater Pollution Prevention Program. This program contracts a third party (consultant) for compliance review of maintenance activities and facilities as described in the following subsections, with a goal of inspecting 10 activities and 20% of statewide facilities per year. Each activity and facility should be inspected at least once within each 5-year period. The Division of Maintenance participates in these reviews. Caltrans is required to submit an outline of the proposed audit by February 1 of each year. This is submitted to the SWRCB every August as required by the 2003 SWMP.

This fiscal year, Caltrans inspected 74 facilities or 24% of its total. The following BMP categories were reviewed at each facility.

- Building and Grounds Maintenance;
- Storage of Hazardous Materials (Working Stock);
- Material Storage Control (Hazardous Waste);
- Outdoor Storage of Raw Materials;
- Vehicle and Equipment Fueling;
- Vehicle and Equipment Cleaning;
- Vehicle and Equipment Maintenance and Repair; and
- Aboveground and Underground Tank Leak and Spill Control.

Table 5-6 and Table 5-7 summarize the results of maintenance facility compliance inspections. Figure 5-7 compares the 2007-2008 fiscal year to the past five fiscal years.

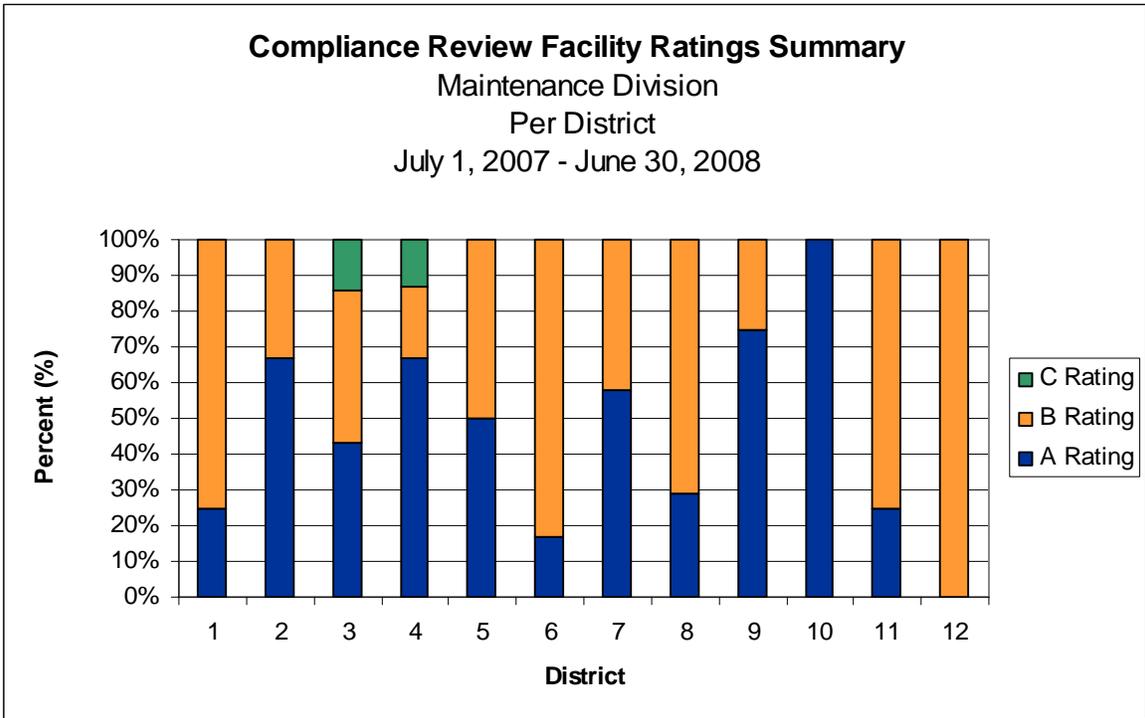
Table A-18 in the Appendix on the CD identifies the fiscal years that maintenance facility inspections occurred.

**Table 5-6: Maintenance Facility Compliance Review Ratings Summary – By District**

District	No. of Facilities Reviewed	No Deficiencies		Minor Deficiencies		Major Deficiencies		Critical Deficiencies	
		1 Rating		2 Rating		3 Rating		4 Rating	
1	4	1	25%	3	75%				
2	6	4	67%	2	33%				
3	7	3	43%	3	43%	1	14%		
4	15	10	67%	3	20%	2	13%		
5	4	2	50%	2	50%				
6	6	1	17%	5	83%				
7	12	7	58%	5	42%				
8	7	2	29%	5	71%				
9	4	3	75%	1	25%				
10	3	3	100%						
11	4	1	25%	3	75%				
12	2	0	0%	2	100%				
<b>Total</b>	<b>74</b>	<b>37</b>	<b>50%</b>	<b>34</b>	<b>46%</b>	<b>3</b>	<b>4%</b>		

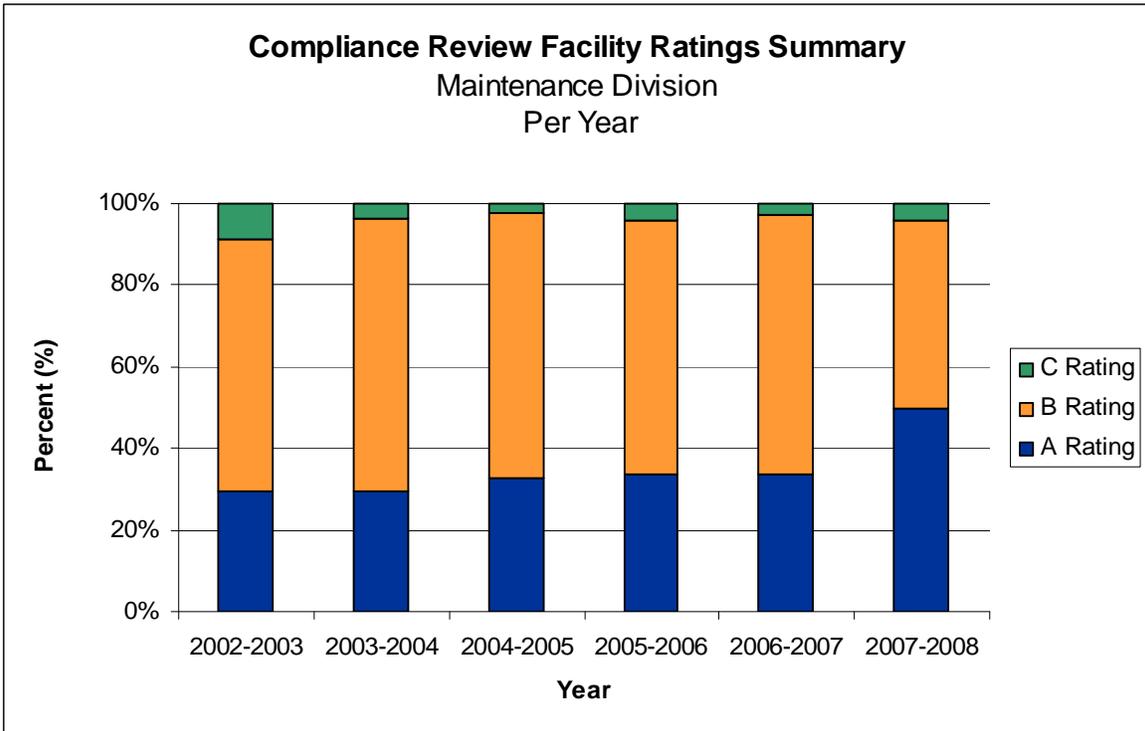
**Table 5-7: Maintenance Facility Compliance Review – Letter Rating Summary By District**

District	No. of Facilities Reviewed	Highly Effective		Moderately Effective		Ineffective	
		A Rating		B Rating		C Rating	
1	4	3	75%			1	25%
2	6	1	17%	5	83%		
3	7	3	43%	1	14%	3	43%
4	15	3	20%	12	80%		
5	4	1	25%	3	75%		
6	6	2	33%	4	67%		
7	12	7	58%	5	42%		
8	7	4	57%	3	43%		
9	4	1	25%	3	75%		
10	3	1	33%	2	67%		
11	4	3	75%	1	25%		
12	2	1	50%	1	50%		
<b>Total</b>	<b>74</b>	<b>30</b>	<b>41%</b>	<b>40</b>	<b>54%</b>	<b>4</b>	<b>5%</b>



**Figure 5-6: Compliance Review Facility Ratings Summary by District**

(See attached CD for color figure.)



**Figure 5-7: Compliance Review Facility Ratings Summary Compared to Previous Five Years**

(See attached CD for color figure.)

Table 5-8 and Table 5-9 summarize the maintenance facility compliance results by BMP category.

**Table 5-8: BMP Compliance Review Ratings Summary – By BMP Category**

BMP Category	No. of Facilities w/BMP Activity	Compliant				Non-Compliant			
		Substantially Compliant		Minor Deficiencies		Major Deficiencies		Critical Deficiencies	
		1 Rating		2 Rating		3 Rating		4 Rating	
Building and Grounds Maintenance	74	47	64%	24	32%	3	4%		
Storage of Hazardous Materials (Working Stock)	73	56	77%	17	23%				
Material Storage Control (Hazardous Waste)	70	55	79%	15	21%				
Outdoor Storage of Raw Materials	67	60	90%	6	9%	1	1%		
Vehicle and Equipment Fueling	64	59	92%	5	8%				
Vehicle and Equipment Cleaning	63	57	90%	6	10%				
Vehicle and Equipment Maintenance and Repair	63	50	79%	13	21%				
Aboveground and Underground Tank Leak and Spill Control	60	58	97%	2	3%				

**Table 5-9: BMP Compliance Review Ratings – Letter Rating Summary By BMP Category**

BMP Category	No. of Facilities w/BMP Activity	Highly Effective		Moderately Effective		Ineffective	
		A Rating		B Rating		C Rating	
Building and Grounds Maintenance	74	41	55%	30	41%	3	4%
Storage of Hazardous Materials (Working Stock)	73	52	71%	20	27%	1	1%
Material Storage Control (Hazardous Waste)	70	57	81%	13	19%		
Outdoor Storage of Raw Materials	67	60	90%	7	10%		
Vehicle and Equipment Fueling	64	60	94%	4	6%		
Vehicle and Equipment Cleaning	63	57	90%	6	10%		
Vehicle and Equipment Maintenance and Repair	63	51	81%	12	19%		
Aboveground and Underground Tank Leak and Spill Control	60	58	97%	2	3%		

Over 50 maintenance activities are identified in the Stormwater Quality Handbook, Maintenance Staff Guide, November 2007. Maintenance activities are grouped into twelve families of activities that represent work of a similar nature. In addition, certain BMPs are commonly applied to all maintenance activities. These BMPs are defined as general BMPs in the Stormwater Quality Handbook, Maintenance Staff Guide, November 2007. The team performed 208 inspections, averaging 17 individual maintenance activities in each District. The results indicated the following:

- 207 activities (99%) received a rating of 1 or 2.
- One activity (1%) received a 3 rating.
- No activities received a 4 rating.
- 203 activities (98%) were rated A.
- 4 activities (2%) were rated B.
- One activity (2%) was rated C.

A detailed summary of results from activity reviews is shown in Table 5-10, Table 5-11, Table 5-12, and Table 5-13, as follows.

**Table 5-10: Activity Compliance Review Ratings Summary – By District**

District	No. of Activities Reviewed	No Deficiencies		Minor Deficiencies		Major Deficiencies		Critical Deficiencies	
		1 Rating		2 Rating		3 Rating		4 Rating	
1	21	19	90%	1	5%	1	5%		
2	19	18	95%	1	5%				
3	17	17	100%						
4	18	18	100%						
5	19	19	100%						
6	19	18	95%	1	5%				
7	21	21	100%						
8	11	9	82%	2	18%				
9	17	17	100%						
10	10	10	100%						
11	17	16	94%	1	6%				
12	19	15	79%	4	21%				
<b>Total</b>	<b>208</b>	<b>197</b>	<b>95%</b>	<b>10</b>	<b>5%</b>	<b>1</b>	<b>0%</b>		

**Table 5-11: Activity Compliance Review – Letter Rating Summary By District**

District	No. of Activities Reviewed	Highly Effective		Moderately Effective		Ineffective	
		A Rating		B Rating		C Rating	
1	21	20	95%			1	5%
2	19	18	95%	1	5%		

**Table 5-11: Activity Compliance Review – Letter Rating Summary By District**

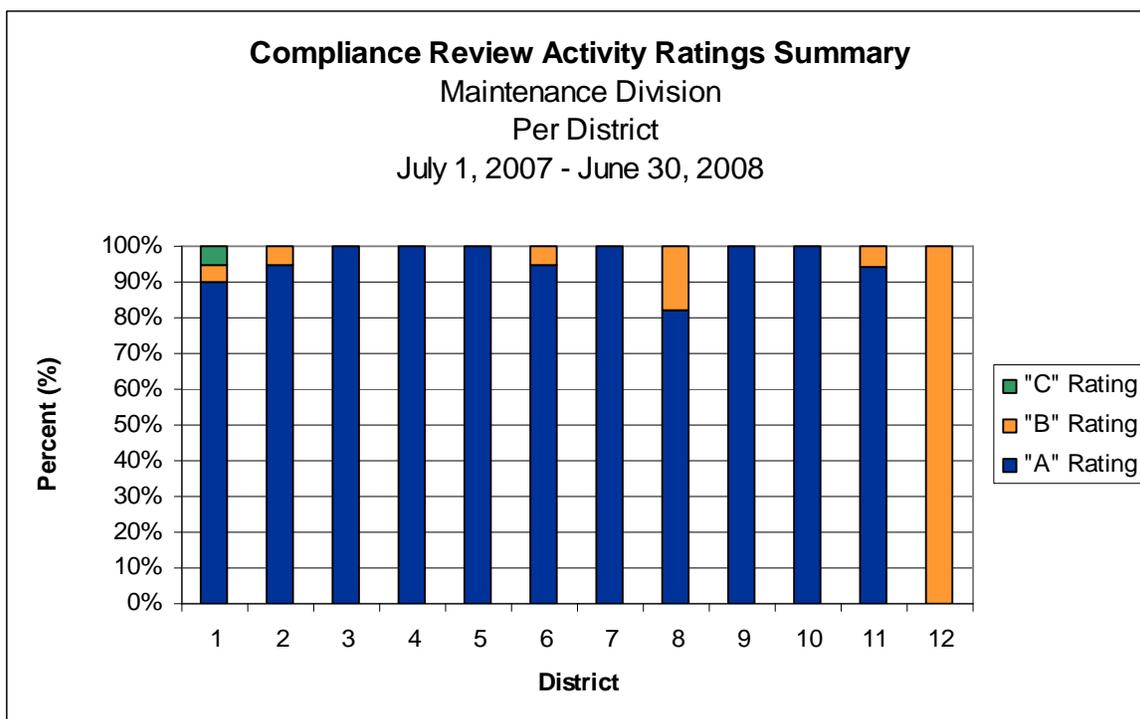
District	No. of Activities Reviewed	Highly Effective		Moderately Effective		Ineffective	
		A Rating		B Rating		C Rating	
3	17	17	100%				
4	18	18	100%				
5	19	19	100%				
6	19	19	100%				
7	21	21	100%				
8	11	10	91%	1	9%		
9	17	17	100%				
10	10	10	100%				
11	17	16	94%	1	6%		
12	19	18	95%	1	5%		
<b>Total</b>	<b>208</b>	<b>203</b>	<b>98%</b>	<b>4</b>	<b>2%</b>	<b>1</b>	<b>0%</b>

**Table 5-12: BMP Compliance Review Ratings Summary – By Activity Family**

Family of Activity	No. of Activities per Family	Compliant				Non-Compliant			
		Substantially Compliant		Minor Deficiencies		Major Deficiencies		Critical Deficiencies	
		1 Rating		2 Rating		3 Rating		4 Rating	
A Family – Flexible Pavement	25	25	100%						
B Family – Rigid Pavement	4	4	100%						
C Family – Slope/Drain/Vegetation	61	57	93%	3	5%	1	2%		
D Family – Litter/Debris/Graffiti	26	26	100%						
E Family – Landscaping	40	35	88%	5	13%				
F Family – Environmental	6	6	100%						
H Family – Bridges	3	3	100%						
J Family – Other Structures	2	2	100%						
K Family – Electrical	3	3	100%						
M Family – Traffic Guidance	31	29	94%	2	6%				
R Family – Snow and Ice Removal	2	2	100%						
S Family – Storm Maintenance	5	5	100%						
<b>Total</b>	<b>208</b>	<b>197</b>	<b>95%</b>	<b>10</b>	<b>5%</b>	<b>1</b>	<b>0%</b>		

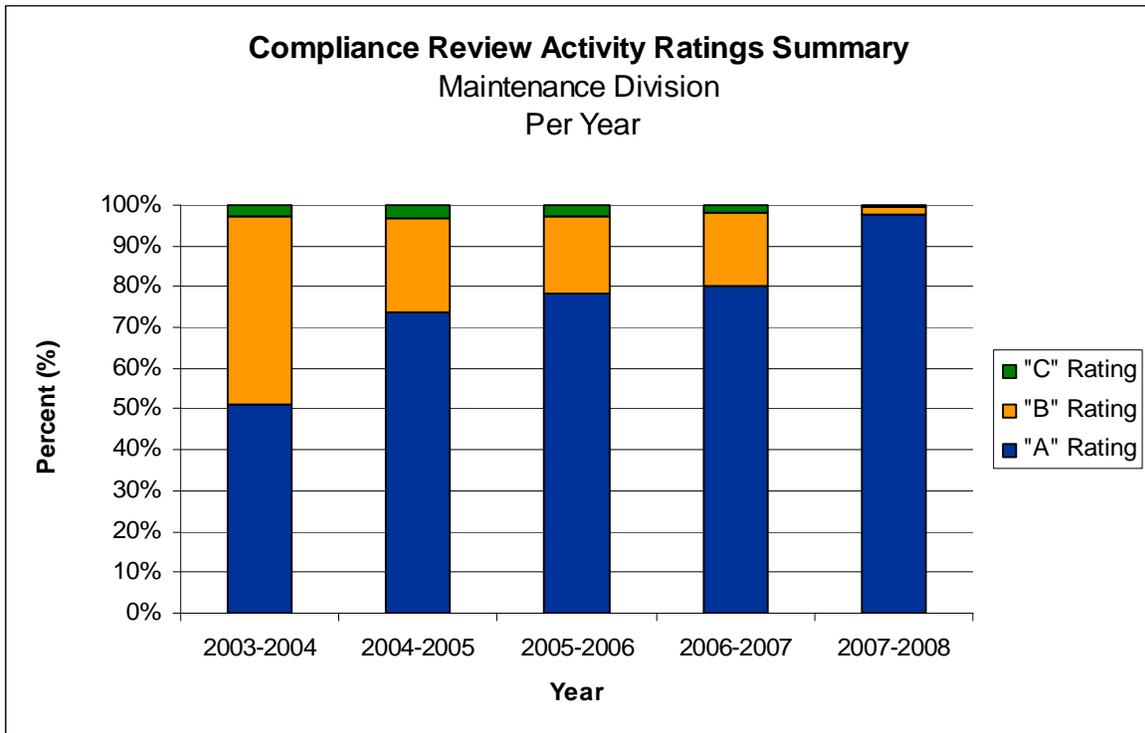
**Table 5-13: BMP Compliance Review Letter Ratings Summary – By Activity Family**

BMP Category	No. of Activities/ Family	Highly Effective		Moderately Effective		Ineffective	
		A Rating		B Rating		C Rating	
A Family – Flexible Pavement	25	25	100%				
B Family – Rigid Pavement	4	4	100%				
C Family – Slope/Drain/Vegetation	61	59	97%	1	2%	1	2%
D Family – Litter/Debris/Graffiti	26	26	100%				
E Family – Landscaping	40	38	95%	2	5%		
F Family – Environmental	6	6	100%				
H Family – Bridges	3	3	100%				
J Family – Other Structures	2	2	100%				
K Family – Electrical	3	3	100%				
M Family – Traffic Guidance	31	30	97%	1	3%		
R Family – Snow and Ice Removal	2	2	100%				
S Family – Storm Maintenance	5	5	100%				
<b>Total</b>	<b>208</b>	<b>203</b>	<b>98%</b>	<b>4</b>	<b>2%</b>	<b>1</b>	<b>0%</b>



**Figure 5-8: Compliance Review Activity Ratings Summary by District**

(See attached CD for color figure.)



**Figure 5-9: Compliance Review Activity Ratings Summary Compared with Previous Four Years**

(See attached CD for color figure.)

### III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 5 PROGRAM ACTIVITIES

To determine the effectiveness of the Maintenance program, an effectiveness assessment of the program data was conducted as a part of the Annual Report.

#### Program Goals

Several goals have been identified for the Maintenance Program. They include the following:

- The Division of Maintenance has an ongoing program to inspect roadside vegetated slopes for erosion. The division has a self-imposed goal to inspect approximately 20% of the slopes in each District annually depending on weather conditions and work load priorities.
- The enhanced storm drain inlet inspection and cleaning program has a goal to inspect 20% of the drain inlets in San Diego, Orange, Los Angeles, and Ventura Counties (Districts 11, 12 and 7, respectively).

- Caltrans has a self-imposed herbicide reduction goal of 80% by 2012 (baseline 1992-1993). The Maintenance Division continued to track total herbicide use to track progress towards this goal.
- The goal of the Maintenance compliance monitoring is to inspect 10 activities and 20% of the facilities statewide each year. In addition, each activity and facility should be inspected at least once during the permit term.

## Outcome Levels

Due to the types of data generated, the assessment primarily focused on Outcome Levels 1, 3 and 4 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

Outcome Level 3 answers the question:

- Can Caltrans demonstrate that the program resulted in significant behavior change?

Outcome Level 4 answers the question:

- Can Caltrans demonstrate that the program resulted in a significant decrease in the pollutant loading to the storm drain system?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
Roadside Vegetated Slope Inspections	1	<ul style="list-style-type: none"> <li>• Confirmation</li> </ul>
Drainage Facilities Inspection/ Cleaning Program	1	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Tabulation</li> </ul>
Illicit Connections/Illegal Discharges	1	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Tabulation</li> </ul>
Herbicide Usage	1 & 4	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Tabulation</li> </ul>
Maintenance BMPs	1, 3	<ul style="list-style-type: none"> <li>• Confirmation</li> <li>• Inspection</li> </ul>

The program effectiveness assessment addressed the following areas. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.).

The table below summarizes the effectiveness assessment that was conducted for Maintenance as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is shown below.

## Program Effectiveness Assessment Summary for Maintenance

Maintenance	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Roadside Vegetated Slope Inspections	C – % Slopes Inspected	N/A	N/A	N/A	N/A	N/A
Drain Inlet Cleaning and Inspection	C – # Inlets Inspected and Cleaned	N/A	N/A	A – # Material Removed from the Drain Inlets	N/A	N/A
Illicit Connections/ Illegal Discharges	C – # Incidents and Results	N/A	N/A	N/A	N/A	N/A
Herbicide Usage	C – Plans Completed	N	N	C – Materials Applied	N/A	N/A
Maintenance BMPs	C – Evaluation Completed	N	C – BMP Implementation & Compliance	N/A	N/A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

### Roadside Vegetated Slope Inspections

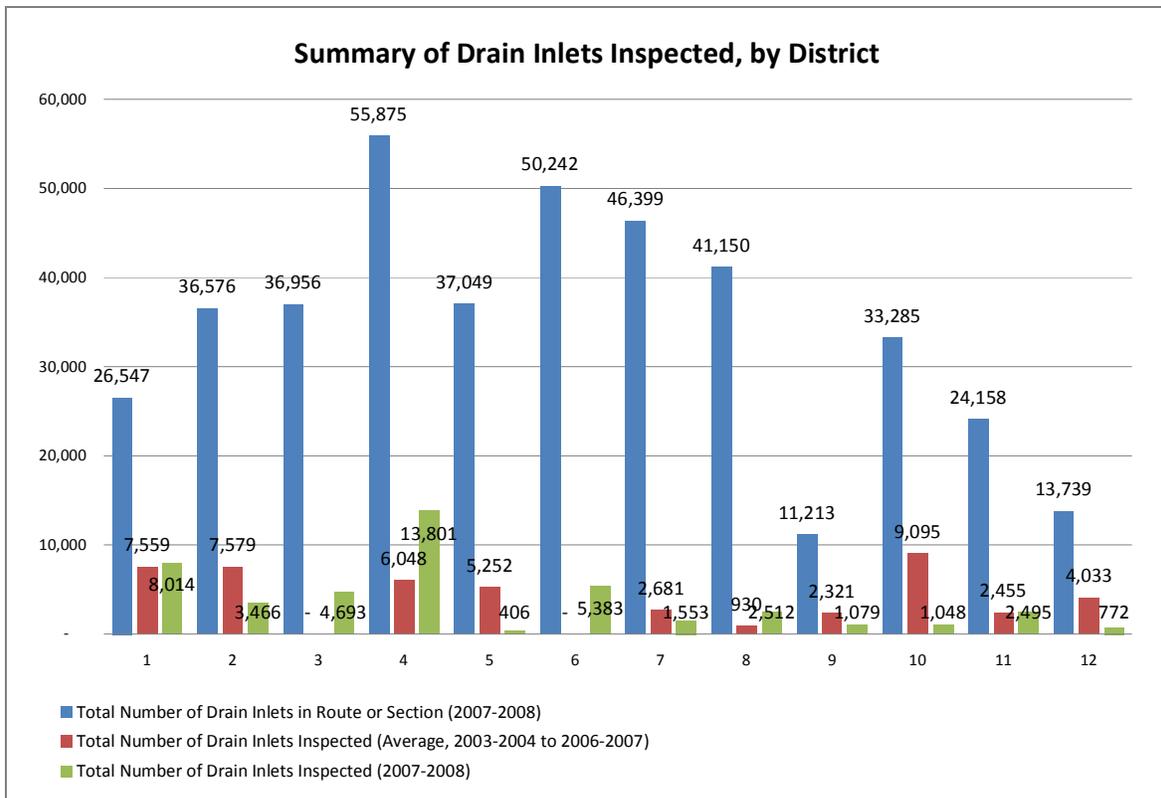
Caltrans' Division of Maintenance has an ongoing program to inspect roadside vegetated slopes for erosion. The inspections are conducted along all roadsides at least once during an established five-year schedule in accordance with the SWMP. The division has a self-imposed goal to inspect approximately 20% of the slopes in each District annually depending on weather conditions and work load priorities. The objective is to meet the SWMP requirement within the five-year period, even though there may be fluctuations in the actual percentage of inspections completed. Since the data is not all available, it is unclear if the program goal was met during the reporting period. **(L1)**

- One District (District 4) indicated that 20% or more of the total shoulder miles were inspected.
- Eight Districts indicated that less than 20% of the total shoulder miles were inspected.
- Of those slopes that had problems, the Districts repaired the problems by installing additional BMPs and/or soil stabilizers.

## Drainage Facilities Inspection/Cleaning Program

Caltrans implemented their baseline drainage facility inspection and cleaning program throughout the state. Statewide, over 45,000 inlets of the 413,189 drain inlets (11%) were inspected (Figure 5-10). (L1)

- Two Districts (Districts 1 and 4) indicated that at least 25% of the drain inlets were inspected.
- Five Districts (Districts 2, 3, 6, 9 and 11) indicated that about 10% of the drain inlets were inspected.
- Of the Districts that had related data, four Districts (Districts 1, 4, 8 and 11) exceeded their previous four-year average for the number of inlets that they inspected.



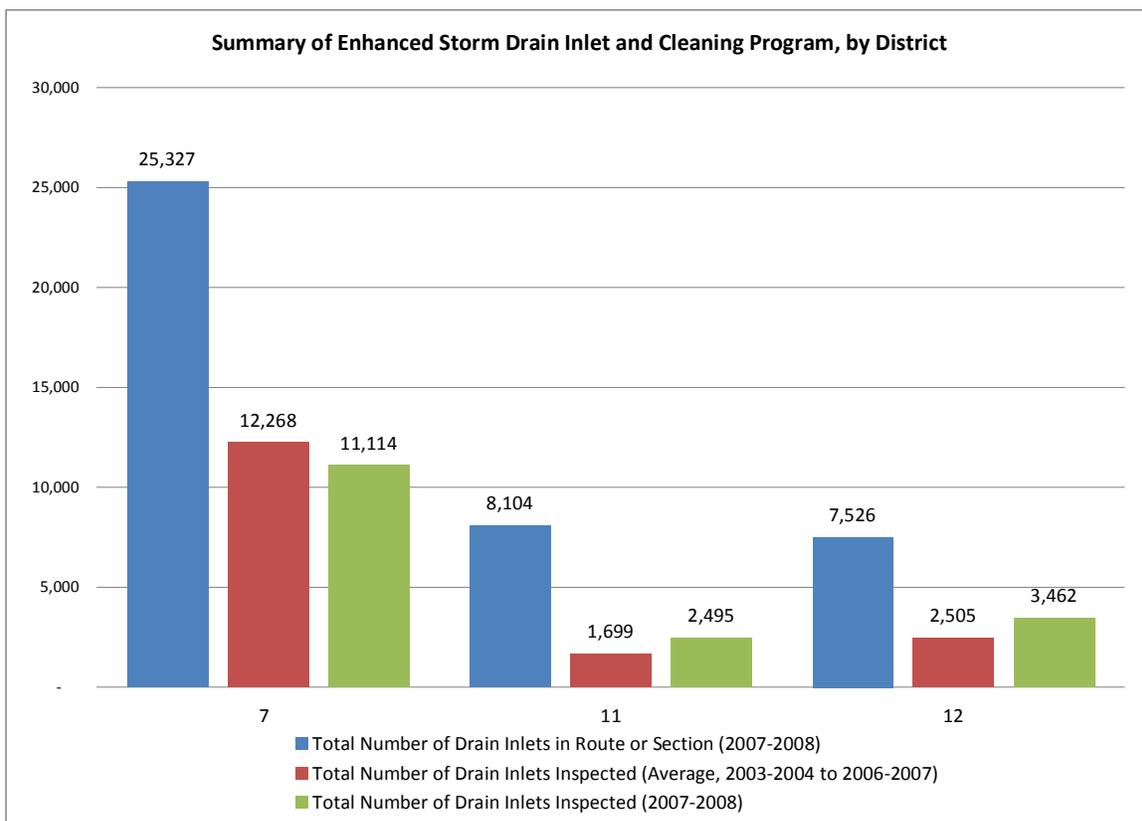
**Figure 5-10: Summary of Drain Inlets Inspected, by District**

(See attached CD for color figure.)

Statewide, of those inspected, 40,168 or 89% inlets with accumulated sediment were cleaned. It should be noted that some of the drain inlets might have been cleaned more than once during the reporting period. (L1)

Caltrans implemented their enhanced annual storm drain inlet inspection and cleaning program in the San Diego (District 11), Orange County (District 12), Los Angeles, and Ventura (District 7) counties. The goal was to inspect 20% of the storm drain inlets in

these counties each year. Overall, the enhanced program resulted in over 50% of the storm drain inlets being inspected and about 25% being cleaned. (L1) In addition, two of the three Districts implementing the enhanced drain inlet program exceeded the four-year average for the number of inlets that were inspected (Figure 5-11).



**Figure 5-11: Summary of Enhanced Storm Drain Inlet and cleaning Program, by District**

(See attached CD for color figure.)

## Illicit Connections/Illegal Discharges

Caltrans continued to implement the illicit connections and illegal discharges (IC/ID) program. Illegal connections and illegal dumping were documented and notification letters were sent to the responsible parties. (L1)

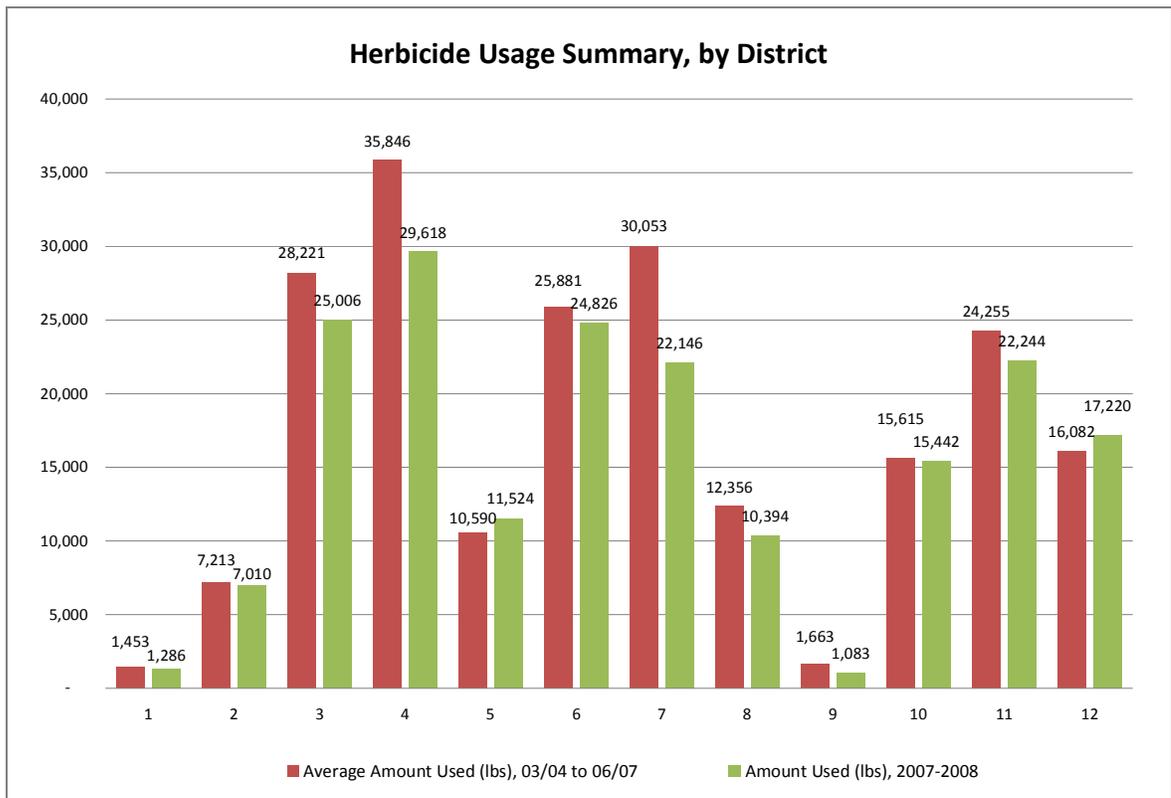
- During the reporting period, 38 of the 80 illegal connections/illicit discharges were resolved (48%) and 21 were resolved from prior years. The issues included dewatering flows from adjacent properties, sediment discharges, surface flows, and various illegal connections.
- Six incidents are in the process of being resolved. The unresolved incidents are being researched, improvements are in progress, or further monitoring is required to indicate that the discharge has been eliminated.
- Fifteen incidents were referred to other agencies that had jurisdiction.

## Landscaping

Each year the Division of Maintenance prepares Vegetation Control Plans for each District. These plans designate which methods are to be used in which right-of-way areas. In addition, chemical usage is reported monthly to the California Department of Pesticide Regulation (DPR). (L1)

The Landscaping Program resulted in a decrease of potential pollutant loadings to the storm drain system and local waterways (Figure 5-12). (L4)

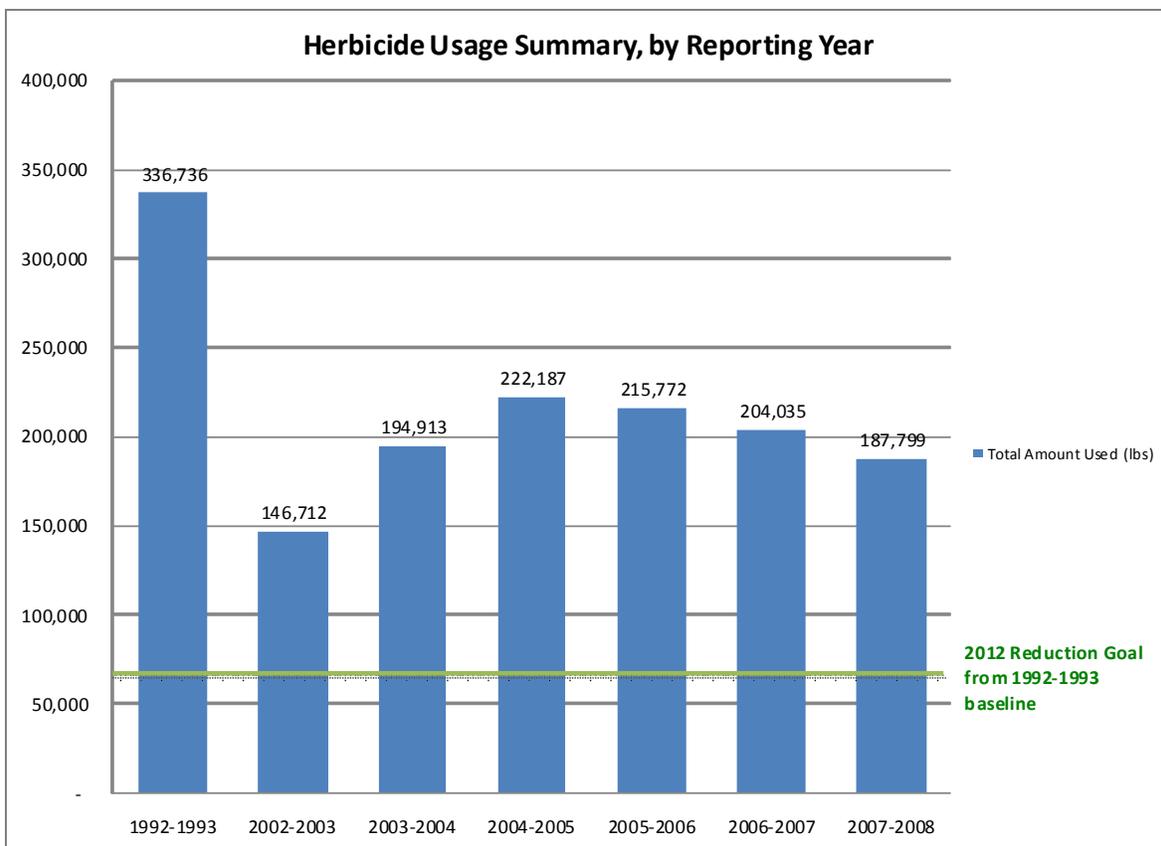
- During 2007-2008, Caltrans applied approximately 187,799 pounds of herbicide active ingredient to about 59,429 total acres.
- During 2007-2008, ten of the twelve Districts applied less herbicide active ingredient than during the previous four years. Districts 5 and 12 applied more herbicide during 2007-2008 primarily due to an increase in shoulder miles, requests from local fire marshals for fire suppression, and requests from local cities and counties.



**Figure 5-12: Herbicide Usage Summary, by District**

(See attached CD for color figure.)

- Caltrans has a self-imposed herbicide reduction goal of 80% by 2012 (baseline 1992-1993). The Maintenance Division continued to track total herbicide use to track progress towards this goal.
  - Districts achieved a 9% reduction in herbicide usage from 2006-2007. Overall, the Districts applied:
    - 187,799 pounds in 2007-2008
    - 204,035 pounds in 2006-2007
    - 215,771 pounds in 2005-2006
    - 222,187 pounds in 2004-2005
  - Caltrans has reduced the total amount of herbicides applied by about 44% since 1992-1993. This is reflected in the fact that, overall, the Districts applied 187,799 pounds in 2007-2008 and 336,736 pounds in 1992-1993 (Figure 5-13).



**Figure 5-13: Herbicide Usage Summary, by Reporting Year**

(See attached CD for color figure.)

## Maintenance BMPs

The Division of Maintenance developed maintenance activities for treatment BMPs not currently in the Maintenance Staff Guide. The following maintenance sections were added: multi-chambered treatment trains, Delaware sand filters, Austin sand filters, gross solids removal devices, and wet basins. In addition, the vegetated treatment systems section was updated to include recommended maintenance indicators, frequencies, and activities based on observations and lessons learned as a part of the RVTS study. **(L1)**

Caltrans developed a self-audit program. This program serves as a quality assurance mechanism to ensure effective implementation of the Stormwater Pollution Prevention Program. **(L1)**. The results of the compliance inspections are as follows.

- Caltrans conducted inspections for 24% of the facilities in each District, totaling 74 facilities statewide.
- Caltrans met their goal for the maintenance BMPs, improving the implementation of the BMPs over time.

The inspections generally indicated that staff at the facilities was aware of the BMPs that were necessary onsite and were implementing them appropriately. **(L3)**

- The inspections indicated that 96% (71 facilities) complied with Caltrans' Maintenance Staff Guide, which resulted in favorable or high ratings (ratings of 1-2). This indicates that the staffs are aware of how they are supposed to conduct their activities to ensure they comply with the program and their behavior reflects that awareness.
- Of the remaining 4% (3 facilities), major deficiencies were observed in the implementation of BMPs (rating of 3), but no critical deficiencies were observed (rating of 4). The facilities receiving a rating of 3 were re-inspected within three days and received a favorable rating.
- The letter facility rating data indicate that of the 74 facilities inspected, 41% (30 facilities) were rated A (overall implementation of the BMPs was highly effective) and 54% (40 facilities) were rated B (BMP implementation is moderately effective). Four facilities were rated C (BMPs were ineffective). All facilities receiving a rating of C were re-inspected within a two-week timeframe. All these facilities then achieved favorable ratings.
- Since 2002-2003, the number of facilities receiving a C rating has decreased.
- Although slight fluctuations in the "A" rating and "B" rating categories have been reported during the last three fiscal years, the number of facilities in the "A" and "B" rating categories remains high. The slight variation between the reporting years is the result of snapshot inspections, but the facilities remain in compliance.
- Maintenance personnel had an increased awareness regarding the water pollution control requirements and proper BMP implementation. This was due, in part, to continued formal and informal training.

Compliance inspections were conducted for BMPs that are applied for maintenance activities (over 50 are identified within the Maintenance Staff Guide). Over 17 individual maintenance activities in each District were inspected for 208 inspections. **(L1)**

The inspections generally indicated that staff in the field was aware of the BMPs that were necessary and were implementing them appropriately. **(L3)**

- 207 activities (99%) received a rating of 1 or 2 (no or minor deficiencies)
- One activity (1%) received a rating of 3 (major deficiencies)
- No activities received a rating of 4 (critical deficiencies)

The letter rating system also indicated that staff in the field was aware of the BMPs that were necessary and were implementing them appropriately. **(L3)**

- 203 activities (98%) received a rating of A – highly effective
- Four activities (2%) received a rating of B – moderately effective
- One activity (1%) received a rating of C – ineffective. Crew members are informed of the correct BMPs to implement immediately and a special tailgate BMP training meeting is held within a week when any field activity inspection results in a C rating.

Since 2003-2004, the number of activities receiving a C rating has decreased, and the number of activities receiving an A rating has increased. Although slight fluctuations in the “A” rating and “B” rating categories have been reported during the last three fiscal years, the number of activities in the “A” and “B” rating categories remains high. The slight variation between the reporting years is the result of snapshot inspections.

### **Program Modifications**

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## 6.0 TRAINING AND PUBLIC EDUCATION PROGRAM

### I. SWMP SECTION 6 REPORTING INFORMATION

1999 Permit Provision Number*	Description	2003 SWMP Section
J.1.b	Employee Training	6.2
J.2.b	Contractor Training	6.3
-	Notify RWQCBs of Pre-Construction Meetings	6.3.1
J.3.c	Public Education Progress Report	6.4

\* Reporting requirements with no 1999 Permit Provision Number are requirements identified in the 2003 SWMP only.

### II. SWMP SECTION 6 ACTIVITIES

This section describes specific projects and activities conducted during the 2007-2008 reporting period pertaining to training of Caltrans employees and the courses offered during the fiscal year. It also discusses the public education and outreach activities that each District engaged in.

#### SWMP Section 6.2 Employee Training Program

##### Employee Training

Caltrans stormwater staff members are routinely trained so they have the knowledge to properly perform their duties. The targeted goal is to train 20% of Caltrans staff during each fiscal year, with entire staff trained over a five-year term. The training program distributes information on a variety of stormwater topics. The following is a summary of the existing training courses that Caltrans offers and/or supports as well as the training activities that occurred during the reporting period. It also includes those courses that were under development during the reporting period.

##### *Division of Planning and Design Employee Training*

The Office of Stormwater Management – Design focused on continuing the training effort for District Staff based on the PPDG during the 2007-2008 reporting period. The total number of employees within this division is estimated at 2,000. A four-hour version of the PPDG training was developed to put more of a focus on expectations of the Stormwater Data Report (SWDR). Specifically, more emphasis was placed on the narrative and various checklists to document stormwater decisions for a given project. This training course was called the Stormwater Data Report Workshop. The revised course tailored stormwater training to appropriate functional areas in each District covering topics such as:

- Stormwater overview (Permit requirements, functional area responsibilities, documentation, information sources, etc.);
- Consideration, selection, and design of stormwater controls in the project planning and design phases;
- BMP-specific evaluation siting and design criteria; and
- Documentation requirements (SWDR).

The classes and number of employees trained are presented in Table 6-1.

**Table 6-1: Division of Planning and Design Employee Training Activities**

<b>Course Title</b>	<b>Course Length in Hours</b>	<b>Number of Staff Trained</b>
Construction Site BMP Training for Design	8	10
Project Planning and Design Guidance Training	8	150
Stormwater Data Report Workshop	4	369
Stormwater Introduction	4	12
Roadside Management BMPs	2.5	49
SR 125 Case Study	1	50
	<b>Total</b>	<b>640</b>

640 employees (32%) were trained during 2007-2008 and all courses were offered to external partners (local agencies and consultants).

***Division of Construction Employee Training***

Construction Division staff were trained during the fiscal year on construction field applications, inspection procedures, Water Pollution Control Program contract administration, and the elements of a Stormwater Pollution Prevention Plan. The total number of employees within this division is estimated at 3,000. Table 6-2 summarizes the training attended by staff during the reporting period.

**Table 6-2: Division of Construction Employee Training Activities**

<b>Course Title</b>	<b>Course Length in Hours</b>	<b>Number of Staff Trained</b>
Introduction to Construction Stormwater Pollution Prevention Program (Module 1), LMS Course Number 100806	8	154
Advanced Construction Site BMPs and Field Applications (Module 2), LMS Course Number 100656	16	259
Water Pollution Control Contract Administration, Inspection and Maintenance on Construction Sites (Module 3), LMS Course Number 100808	8	235
Management of Construction Site Dewatering Operations (Module 4), LMS Course Number 100653	6	212
Water Quality Sampling and Analysis on Construction Sites (Module 5), LMS Course Number 100655	4	181
How to Review a Stormwater Pollution Prevention Plan and Water Pollution Control Program (Module 6), LMS Course Number 100654	8	323
	<b>Total</b>	<b>1,364</b>

1,364 construction staff members (45%) were trained during the 2007-2008 fiscal year.

***Division of Maintenance Employee Training***

Maintenance Division staff were trained during the fiscal year on the implementation of BMPs while maintaining highway and other Caltrans facilities. The total number of employees within this division is estimated at 6,300. Table 6-3 summarizes courses taken by Maintenance Division staff during the reporting period.

**Table 6-3: Maintenance Employee Training Activities**

<b>Course Title</b>	<b>Course Length in Hours</b>	<b>Number of Staff Trained</b>
Stormwater Refresher Training	4	1,274
New Maintenance Employee Training	4	200
	<b>Total</b>	<b>1,474</b>

1,474 maintenance staff members (23%) were trained during the 2007-2008 fiscal year.

## **New Training Courses**

Several new stormwater courses were under development during the 2007-2008 reporting period. In the Environmental Water Quality Unit, an “Introduction to Stormwater” course remains under development, as well as a course for Water Quality Fundamentals. In the Landscape Architecture Unit, courses under development include New Concepts to Sustainable Erosion Control and Advanced Sustainable Erosion Control. In the Encroachment Unit, Stormwater Guidance for Encroachment Permit Writers is being developed. These courses are anticipated to be finalized over the next two years. Planning and Design developed a 4-hour version of the PPDG training that focuses more on expectations of the SWDR. The revised training course tailored stormwater training to appropriate functional areas within each District.

## **SWMP Section 6.3 Outreach to Construction Contractors**

Caltrans has coordinated with the Associated General Contractors of California (AGC California) and the Engineering and Utility Contractors Association (EUCA), who work with other organizations outside of Caltrans to train construction contractors.

Currently, Caltrans has audited and approved six vendors that meet Caltrans’ stormwater training requirements for contractors. Other organizations offering stormwater training, such as the International Erosion Control Association and National Conservation Training Center, and other college and university programs are also accepted subsequent to curriculum review.

The Division of Construction’s website has a link to these classes with information about the location, date, and time of each class. Caltrans is working with the training companies to create a database of class attendees.

Available on the Division of Construction’s educational website ([www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm](http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm)) are documents for use on Caltrans construction projects and detailed information about the Construction Stormwater Management Program for the public, Caltrans staff, and contractors. It includes free downloadable versions of Caltrans Division of Construction manuals.

## **SWMP Section 6.3.1 Informational Exchange Sessions**

Each of the twelve Districts notifies the RWQCBs of pre-construction meetings for discussion of stormwater quality protection with the Registered Engineer and contractor. The number of pre-construction meetings attended by RWQCB staff is summarized in Section 4 (Table 4-4).

## **SWMP Section 6.4 Public Education Program**

The primary goal of the “Don’t Trash California” campaign is to raise public awareness of stormwater pollution and its prevention on California’s freeways and highways. The campaign takes a comprehensive, multicultural approach that fosters public participation in pollution prevention. The campaign uses proven strategies such as distributing promotional materials; participating in and/or hosting local community events; forming partnerships

with private sector and government organizations, community groups, and the public; and deploying paid advertising media such as TV, radio, and billboard spots. The term “added value” is used throughout Chapter 6 and is defined by Wikipedia.com as “the difference between a particular product’s final selling price and the direct and indirect input used in making that particular product.” ([http://en.wikipedia.org/wiki/Added Value](http://en.wikipedia.org/wiki/Added_Value))

### **Distribution of Promotional Items (Collateral)**

A variety of “Don’t Trash California” promotional materials were distributed by Caltrans staff during the reporting period. Examples of these items included key rings, shirts, magnetic bumper stickers, tip cards, coloring books, air fresheners, and trash bags. All materials displayed the “Don’t Trash California” logo. In April, a new logo was integrated which included the familiar Caltrans crest, as well as the “Don’t Trash California” website address. All promotional items were reviewed for effectiveness, practicality, and popularity at regular scheduled meetings between management and staff.

In addition to distribution at public/community events, numerous promotional items were distributed as a response to phone and e-mail inquiries and requests received by the Caltrans Office of Water Quality in Sacramento. Many of these inquiries came from public and private organizations wanting to collaborate with Caltrans. Examples of these include but are not limited to the City of San Clemente, The California Coastal Commission, Horizon Schools, De Anza College, City of Escondido, and Mammoth Mountain Resort.

### **Augmented Focus – Public Education Outreach in Los Angeles County Region (Caltrans District 7)**

In addition to its statewide public outreach effort, Caltrans marketed the “Don’t Trash California” campaign on a regional level. District 7 brought its focus to the Los Angeles region to address total maximum daily loads (TMDLs) within the Ballona Creek and Los Angeles River watersheds. Campaign milestones in the Los Angeles region for fiscal year 2007-2008 include:

#### **Paid Media**

The paid media campaign underwent a creative upgrade from its outdated 2001 material. The update included a paid media schedule developed to leverage the available budget and reach the target audience (over 18,000 English and Spanish-speaking) with maximum reach and impact. To accomplish this, a combination of the following vehicles was used:

#### **30-second Radio Public Service Announcements**

To make the greatest number of impressions on the target audience, radio public service announcements (PSAs) ran on eight stations in the Los Angeles region. The 30-second spots ran throughout the day several times per week to ensure a strong reach to the target audience from June to August. Radio PSAs garnered 44,619,500 gross impressions and an added value of \$13,000 or 3% above the paid PSA schedule.

## **Radio**

To supplement the radio PSAs, 10-second traffic tags/traffic report sponsorships also ran during the morning and evening commute hours, when exposure to drivers was the greatest. The tags ran on 81 stations on alternating weeks beginning January through April then weekly until July followed by two additional weeks in August. Overall, gross impressions were 42,685,900 and an added value of \$158,020 was secured.

Table 6-4 lists stations that ran the spot and/or traffic radio:

**Table 6-4: Radio Announcements**

<b>Type of Radio</b>	<b>Area Covered</b>	<b>Number of PSAs</b>
Spot Radio	Los Angeles	8
Traffic Radio	Los Angeles	50
Traffic Radio	Oxnard Radio	8
Traffic Radio	Riverside Radio	2
Traffic Radio	Victor Valley	15
Traffic Radio	Riverside	21
Traffic Radio	Lancaster	2
Traffic Radio	Oxnard	4

Many of these channels have a broadcast range well beyond Los Angeles County (Caltrans District 7), enabling the message to reach the populations of Orange County (Caltrans District 12) and San Bernardino County (Caltrans District 8), which also fall within the broadcasting range of some of these stations.

One or more of these stations can be easily received in the following watersheds for which a TMDL applies:

Ballona Creek: Culver City, Beverly Hills, West Hollywood, Santa Monica, Inglewood, City of Los Angeles, Los Angeles County (various unincorporated areas).

Legg Lake: Los Angeles County (various unincorporated areas), El Monte, South El Monte.

Los Angeles River: Alhambra, Arcadia, Bell, Bell Gardens, Bradbury, Burbank, Calabasas, Carson, Commerce, Compton, Cudahy, Downey, Duarte, El Monte, Glendale, Hidden Hills, Huntington Park, Irwindale, La Canada Flintridge, Long Beach, City of Los Angeles, Los Angeles County (various unincorporated areas), Lynwood, Maywood, Monrovia, Montebello, Monterey Park, Paramount, Pasadena, Pico Rivera, Rosemead, San Fernando, San Gabriel, San Marino, Santa Clarita, Sierra Madre, Signal Hill, Simi Valley, South El Monte, South Gate, South Pasadena, Temple City, Vernon.

Machado Lake: Carson, Lomita, City of Los Angeles, Los Angeles County (various unincorporated areas), Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, and Rolling Hills.

Malibu Creek: Agoura Hills, Calabasas, Hidden Hills, Los Angeles County (various unincorporated areas), Malibu, Thousand Oaks, Ventura County (various unincorporated areas), Westlake Village.

Revlon Slough: Camarillo, Oxnard, Ventura County.

Ventura River Estuary: City of Ventura, Ventura County (various unincorporated areas).

Cities for which no TMDL applies:

Maywood, Monrovia, Montebello, Monterey Park, Paramount, Pasadena, Pico Rivera, Rosemead, San Fernando, San Gabriel, San Marino, Santa Clarita, Sierra Madre, Signal Hill, Simi Valley, South El Monte, South Gate, South Pasadena, Temple City, Vernon.

### **Outdoor Advertising**

Outdoor message placement (billboards and bulletins) is a key element in advertising media. Billboards, bulletin boards, poster boards, and gas station toppers all were used in the campaign. In this reporting year, outdoor advertising ran through September 2008.

### **Billboards**

432 billboards (12 ft x 6 ft) were placed along heavily traveled freeways and roadways in Los Angeles. In addition, gas station advertising was used to help reach motorists in their cars and on the roads. Pump toppers were placed at 140 gas stations commencing in May 2008.

Total impressions for billboard advertising in Los Angeles were more than 643 million with an added value of \$162,971. Gas station advertising generated more than 81 million impressions and an added value of \$46,560.

Below are some of the billboard images that were used.





## **Bulletin Boards**

Caltrans placed bulletin boards (48 ft x 14 ft) throughout Los Angeles County. The bulletin boards reached 94% of the population at the rate of 80 billboards per month, plus two weeks' bonus and 366,115,226 gross impressions.



## **Posterboards**

Posterboards (24 ft x 6 ft) reached 81% of the population at the rate of 352 poster boards per month, plus four weeks' bonus and 196,367,080 gross impressions.

One or more of these poster board locations are in the following watersheds for which a TMDL applies:

Ballona Creek: West Hollywood, Santa Monica, Inglewood, City of Los Angeles, Los Angeles County (various unincorporated areas).

Legg Lake: Los Angeles County (various unincorporated areas).

Los Angeles River: Bell, Bell Gardens, Burbank, Carson, Compton, El Monte, Irwindale, Long Beach, City of Los Angeles, Los Angeles County (various unincorporated areas), Lynwood, Montebello, Paramount, Pasadena, Pico Rivera, Rosemead, Santa Clarita, Sierra Madre, South Gate, Vernon.

Machado Lake: Carson, City of Los Angeles, Los Angeles County (various unincorporated areas).

Malibu Creek: Los Angeles County (various unincorporated areas).

Revlon Slough: Camarillo, Oxnard, Ventura County.

Cities for which no TMDL applies:

Maywood, Monrovia, Montebello, Monterey Park, Paramount, Pasadena, Pico Rivera, Rosemead, San Fernando, San Gabriel, San Marino, Santa Clarita, Sierra Madre, Signal Hill, Simi Valley, South El Monte, South Gate, South Pasadena, Temple City, Vernon.

### **Service Station Pump Toppers**

Pump toppers are framed screen prints/posters/signage that are placed on top of gas pumps to promote sales and special promotions to customers who come to the service station to refuel their cars. Caltrans placed various sizes of pump toppers at 155 gas stations throughout Los Angeles County April through August 2008.



Altogether, 853 pump topper facings were installed, generating 81,568,000 gross impressions. One or more of these gas pump toppers are located in watersheds for which a TMDL applies:

Ballona Creek: City of Culver City, Inglewood, City of Los Angeles, Los Angeles County (various unincorporated areas).

Legg Lake: Los Angeles County (various unincorporated areas), El Monte.

Los Angeles River: Alhambra, Arcadia, Bell, Burbank, Carson, Commerce, Compton, Downey, El Monte, Huntington Park, Long Beach, City of Los Angeles, Los Angeles County (various unincorporated areas), Lynwood, Maywood, Montebello, Monterey Park, Pasadena, Pico Rivera, San Fernando, South El Monte, South Gate, South Pasadena, Temple City.

Machado Lake: Carson, City of Los Angeles, Los Angeles County (various unincorporated areas).

Malibu Creek: Los Angeles County (various unincorporated areas).

One or more gas pump toppers are also located in cities for which no TMDL applies:

Maywood, Monrovia, Montebello, Monterey Park, Paramount, Pasadena, Pico Rivera, Rosemead, San Fernando, San Gabriel, San Marino, Santa Clarita, Sierra Madre, Signal Hill, Simi Valley, South El Monte, South Gate, South Pasadena, Temple City, Vernon.

### **2008 Ford Mustang Promotional Event**

As a value added component of Caltrans' "Don't Trash California" advertising effort, a promotional partnership was established with a radio station and a service center chain to give away a Ford Mustang convertible. Participants were encouraged to visit a participating service station, pick up a code branded "Don't Trash California" trash bag dispenser, and enter the code on the promotional website for a chance to win the vehicle. The final giveaway took place at a service station and included Caltrans District 7 Director Doug Failing. Additional discussion of this event will be covered in next year's 2008-2009 Annual Report.

The "Don't Trash California" message was attached to all promotions including radio announcements, gas station messaging, direct mail and website promotions. This promotional campaign carried an added value of \$1,814,517.

### **Partnerships and Outreach Efforts within the Los Angeles County Region**

In addition to the outreach efforts discussed above, District 7 worked diligently in partnership with Los Angeles County to promote the "Don't Trash California" campaign message. Those efforts include the following:

#### ***Airports***

Caltrans obtained commitments from Los Angeles International Airport (LAX) and Bob Hope International (Burbank) Airport to post "Don't Trash California" PSA posters in the coming months.

Eight boards valued at \$80,000 were produced and posted at LAX for approximately six weeks, generating approximately 422,000 impressions. Two boards valued at nearly \$18,000 were placed at Bob Hope Airport for three months, generating approximately 1,200,000 impressions.



### ***California Restaurant Association***

As a program partner, the California Restaurant Association (CRA) implemented a variety of activities to help spread the “Don’t Trash California” message to the public via CRA member restaurants in the Los Angeles County region. Partnership components included:

- “Don’t Trash California” information with a link to the <http://www.donttrashcalifornia.info> website was included in CRA’s e-newsletter, *Quick Bites*. Distribution reached 10,500 e-mail addresses 13 times over the course of the partnership.
- Web banner ads, with hyperlinks to the <http://www.donttrashcalifornia.info> website were placed on the Los Angeles County Chapter section of the CRA website from November 2007 – September 2008.
- Co-branded “Don’t Trash California” window decals were distributed to Los Angeles County members of the CRA along with other “Don’t Trash California” materials including pens, posters, stickers, and activity books. Through this outreach effort, 27 restaurants requested more than 13,500 program materials.
- A “Don’t Trash California” half page print advertisement was placed in the August issue of *The Restaurant Standard*, a CRA publication that reaches more than 20,000 restaurant and foodservice establishments.
- A “Don’t Trash California” campaign tip card was distributed at the CRA booth during the annual Western Hospitality and Food Service Expo (August 23-25 in Los Angeles). At this event, 2,300 program materials were distributed including 800 tip cards, 100 posters, 400 litterbags, and 1,000 stickers.

Overall, the Caltrans-CRA partnership distributed 15,800 “Don’t Trash California” program materials and returned an added value of \$9,500.

### ***Neighborhood Association Outreach***

Homeowner and neighborhood associations in Los Angeles County were targeted to help disseminate the campaign message through trusted community members, particularly in the target watershed cities. During January through April, sixteen homeowner associations participated in various activities including: placing web banner ads, running a “Don’t Trash California” newsletter article in their publications, sending e-mail blasts with program facts and distributing more than 12,600 promotional materials including children activity books, tip cards, litterbags, and pens to members. Targeted Los Angeles County associations included South Carthay Neighborhood Association, Montecito Heights Improvement Association, Whittier Historic Neighborhood Association, Sunset Junction Neighborhood Alliance, Van Buren Place Community Restoration Association, Pico del Mar Neighborhood Association, Long Beach Neighborhood Resource Center, Argyle Civic Association, Beachwood Canyon Neighborhood Association, City of Artesia, PicFair Village Community Association, Harbor Gateway North Neighborhood Council, Harbor Gateway South Neighborhood Council, California Heights Historic District Neighborhood Association, Los Angeles Gardens Neighborhood Association, and the Watts Labor Community Action Committee.

### ***Cable Access Channels***

Beginning March 2008, Caltrans reached agreement with 14 cable access channels to air the “Don’t Trash California” TV PSA, including Beverly Hills BHN 10, Compton Channel 28, Compton Channel 36, Commerce City of Commerce, Glendale GTV6, Monrovia KGEMTV, Pasadena 55 KPAS, Pasadena Community Access Corporation, Pico Rivera CTV3, San Marino Cable Channel 19, Santa Clarita SCV TV, Santa Monica City TV 16, Sierra Madre SMTV3, and Whittier City TV 6. All stations will air an English PSA. Compton stations have also agreed to run a Spanish PSA.

Also included were the California Association of Independent Grocers and Convenience Stores and Neighborhood Market Association (NMA). Caltrans reached an agreement with the California Association of Independent Grocers and Convenience Stores (CAIGCS) to distribute 630 “Don’t Trash California” campaign materials to their Los Angeles County members, including custom, co-branded window decals to all 91 members in Los Angeles County during April 2008. Each member received a co-branded window decal and a fax-back participation form.

### ***Landfills***

Landfills served as logical venues to distribute the “Don’t Trash California” message, reminding motorists to properly secure their truckloads when visiting a landfill. A mailing was delivered to 14 landfills in Los Angeles County during March, including samples of litterbags, tip cards, and posters to place throughout the landfills. In total, partner landfills distributed 3,200 program materials. Three landfills participated, including Sunshine Canyon Landfill (Sylmar), Calabasas (Agoura), and Scholl Canyon (Glendale).

### ***Local Events***

In addition to the statewide District activity stated previously, from October 2007–June 2008, Caltrans’ “Don’t Trash California” program had a presence at seven additional events throughout the Los Angeles area. Events included cultural community festivals, sporting events, and environment-focused beach clean-ups. Materials distributed at the events included English/Spanish and English/Korean tip cards, car litter bags, bumper stickers, pens, children’s activity books (in English and Spanish), car air fresheners, license plate frames, posters and temporary tattoos – all branded with “Don’t Trash California”.

The following Los Angeles region events served as venues to engage with the public in one-on-one dialog and distribute additional program materials to the target audience:

Santa Monica’s Lei-Out Beach Tournament January 19–21, 2008; Los Angeles’ Golden Dragon Parade & Festival February 9–10, 2008; the San Gabriel Valley Lunar New Year Parade & Festivals February 16, 2008; the Los Angeles Marathon Quality of Life Expo February 29–March 1, 2008; the Los Angeles City Marathon March 2, 2008; Earth Day Fair at San Pedro’s Cabrillo Marine Aquarium April 21, 2008; the Los Angeles River Bicycle Ride June 8, 2008 in Long Beach, with “Don’t Trash California” trash bins at all six stops along the bike ride; and two staffed booths at Hollydale Park in South Gate and Griffith Park in Los Angeles.

## **Additional Advertising Media**

Caltrans has consistently renewed the “Don’t Trash California” website for five years, effective June 2008 (<http://www.donttrashcalifornia.info>).

Results summary at these events: 2,909 collateral items were distributed to interested parties, 9,540 collateral items were produced for use by Caltrans, and 12,449 items total were distributed.

**Table 6-5: Summary of “Don’t Trash California” Campaign Results**

<b>Additional Advertising Media</b>	
<b>Venue</b>	<b>Number of Impressions</b>
Television	5.4 million
Gas Station Marketing	2 million

## **Public Education Efforts by District**

In a coordinated effort with Headquarters, the District offices have hosted and/or collaborated in a series of stormwater pollution prevention events at the local level throughout the state. Table 6-6 summarizes the public education efforts by the Districts during this fiscal year. Detailed information about each of these events is contained in the Appendix on the CD.

**Table 6-6: Summary of Districts’ Public Education Efforts for 2007-2008**

<b>District</b>	<b>Anti-Litter Campaigns</b>		<b>Advertising Materials/ Opportunities</b>		<b>Additional Opportunities</b>			
	<b>“Don’t Trash California”</b>	<b>Adopt-A-Highway Volunteer Program</b>	<b>Television &amp; Radio</b>	<b>Print Advertising (Newspapers, Magazines)</b>	<b>School Presentations</b>	<b>County Fairs</b>	<b>School Events, Activities, Festivals</b>	<b>Cleanup Days</b>
1	X	X			X	X	X	X
2	X	X			X	X	X	X
3	X	X						X
4	X	X	X		X		X	X
5	X	X	X		X	X	X	X
6	X	X	X	X	X		X	
7	X	X	X	X	X	X	X	X
8	X	X	X	X	X		X	X
9	X	X	X	X		X		X
10	X	X			X		X	X
11	X	X	X		X	X	X	
12	X	X			X		X	

## ***Adopt-A-Highway Program***

The Adopt-A-Highway program is a stormwater management tool that continues to effectively remove litter from highways, giving local groups and citizens an opportunity to demonstrate their appreciation for public property. In addition, each year Caltrans honors the dedicated individuals and organizations that volunteer their time to keep their local highways clean. Table 6-7 summarizes the Adopt-A-Highway program by District.

**Table 6-7: Adopt-A-Highway Program Summary for Fiscal Year 2007-2008**

District	Total Shoulder Miles	Total Adoptable Shoulder Miles in the Adopt-A-Highway Program	Miles Currently in the Adopt-A-Highway Program	Percentage of Miles Adopted	Total Groups Participating in the Program	Amount of Material Removed (Cubic Yards)	Amount of Material Removed (# Bags)
1	2,156	1,165	1,083	93%	336	670	4,690
2	3,497	2,035	1,431	70%	316	139	973
3	2,870	1,684	1,048	62%	317	3,522	24,654
4	2,839	1,734	1,390	80%	591	4,433	31,031
5	2,432	1,092	899	82%	277	1,784	12,488
6	3,549	3,099	1,025	33%	367	1,091	7,637
7	2,107	1,670	1,052	63%	339	3,712	25,984
8	3,645	2,295	1,159	51%	443	6,223	43,561
9	1,981	1,225	1,091	89%	275	468	3,276
10	2,667	1,989	1,197	60%	292	2,632	18,424
11	1,975	1,417	836	59%	295	2,297	16,079
12	581	410	371	91%	327	3,272	22,904
<b>Total</b>	<b>30,300</b>	<b>19,815</b>	<b>12,584</b>	<b>64%</b>	<b>4,175</b>	<b>30,243</b>	<b>211,701</b>

**SWMP Section 6.4.6 Storm Drain Stenciling**

Caltrans stencils educational messages at highway facility storm drain inlets, including park-and-ride lots, rest stops, and vista points. The messages are intended to educate the public about pollution caused by stormwater runoff. Storm drain stenciling has been implemented at or near communities with a population of 10,000 or greater, or in communities with a population of less than 10,000 if the area is covered by an MS4 permit.

Caltrans completed the stenciling program for all targeted storm drains by January 1, 2005. Since achieving the original Permit requirement for retrofitting stenciling into urban areas, park-and-ride lots and rest areas, storm drain stenciling has been incorporated into the project delivery process to ensure all new storm drain inlets are stenciled in these areas. Therefore, storm drain stenciling has become a routine part of the project delivery process.

Table 6-8 summarizes the information from the storm drain stenciling data located in the Appendix on the CD.

**Table 6-8: Storm Drain Stenciling Summary for Fiscal Year 2007-2008**

District	Total Number of Storm Drains	Number of New Storm Drains Requiring Stenciling	Number of Stencils Replaced/ Re-Stenciled	Comment
1			7	Repair/replace/install 5 NO DUMPING and 2 SWEEP IT UP stencils at drain sites in Manchester Yard, Ft. Bragg Yard and Vista Points and Rest Stops in between.
1			2	Repair/replace 2 NO DUMPING stencils at drain sites in Vista Point.

**Table 6-8: Storm Drain Stenciling Summary for Fiscal Year 2007-2008**

District	Total Number of Storm Drains	Number of New Storm Drains Requiring Stenciling	Number of Stencils Replaced/ Re-Stenciled	Comment
1			10	Repair/replace/install 5 NO DUMPING and 5 SWEEP IT UP stencils at drain sites in Willits Yard, Moss Cove Rest Area, Irvine Rest Area and Empire Rest Area and Legget Yard.
1			4	Repair/replace/install 1 NO DUMPING and 3 SWEEP IT UP stencils at drain sites in Boonville Yard.
1			6	4 SWEEP IT UP stencils and 2 DON'T DUMP DOWN DRAINS.
1			2	2 NO DUMPING stencils.
1			9	Refresh drain stencils in Ukiah yard – 4 SWEEP IT UP stencils and 5 NO DUMPING stencils.
2		5	20	
3	N/A	146	25	
4	1,080	New drains are stenciled during construction	19	District 4 Maintenance will continue to inspect and review its drainage facilities. As needed, drainage facilities will be re-stenciled.
5		All storm drains have been stenciled- construction projects are replacing them as necessary	99	99 stencils were replaced by construction projects in the 2007-2008 fiscal year.
6	53,528		10	Storm drain stenciling was completed, with follow up as needed.
7	433		37	Stencils replaced on Route 1.
8		5	N/A	Each Maintenance supervisor in the District is responsible for replacement/re-stenciling.
9	1,128	5	5	All necessary stenciling was completed.
10		All storm drains have been stenciled		Storm drain stenciling was completed, with follow up as needed.
11	8,104		4	Replacement stencils were installed at park and ride locations and maintenance stations.
12			323	
<b>Total</b>			<b>562</b>	

### III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 6 ACTIVITIES

To determine the effectiveness of the Training and Public Education program, an effectiveness assessment of the program data was conducted as a part of the Annual Report.

#### Program Goals

Several goals have been identified for the Training and Public Education program. They include the following:

- The goal is to train 20% of the Caltrans staff during each fiscal year, with the entire staff trained over a five-year term. Both goals have been met. During the reporting period, 23% of the Maintenance staff, 32% of the Design staff, and 45% of the Construction staff were trained. Since 2003-2004, all of the staff in the divisions has been trained, some multiple times.

#### Outcome Levels

Due to the types of data generated, the assessment is primarily focused on Outcome Levels 1 and 4 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

Outcome Level 4 answers the question:

- Can Caltrans demonstrate that the program resulted in a significant decrease in the pollutant loading to the storm drain system?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
Employee Training	1	<ul style="list-style-type: none"><li>• Confirmation</li><li>• Tabulation</li></ul>
Contractor Training	1	<ul style="list-style-type: none"><li>• Confirmation</li><li>• Tabulation</li></ul>
Public Education	1 & 4	<ul style="list-style-type: none"><li>• Confirmation</li><li>• Tabulation</li></ul>

The program effectiveness assessment addressed the following areas. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.).

The table below summarizes the effectiveness assessment that was conducted for Training and Public Education as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is shown below.

## Program Effectiveness Assessment Summary for Training and Public Education

Training and Public Education	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Employee Training	C – # Training Courses Held and # Attendees	A – Awareness of Key Issues	A – Reported Behavior	N/A	N/A	N/A
Contractor Training	C – Coordination with External Associations and Approval of Training Requirements	A – Awareness of Key Issues	A – Reported Behavior	N/A	N/A	N/A
Public Education	C – Outreach Conducted and Impressions Made	A – Awareness of Key Issues	A – Reported Behavior	C – Materials Removed, Adopt-A-Highway Program	N/A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

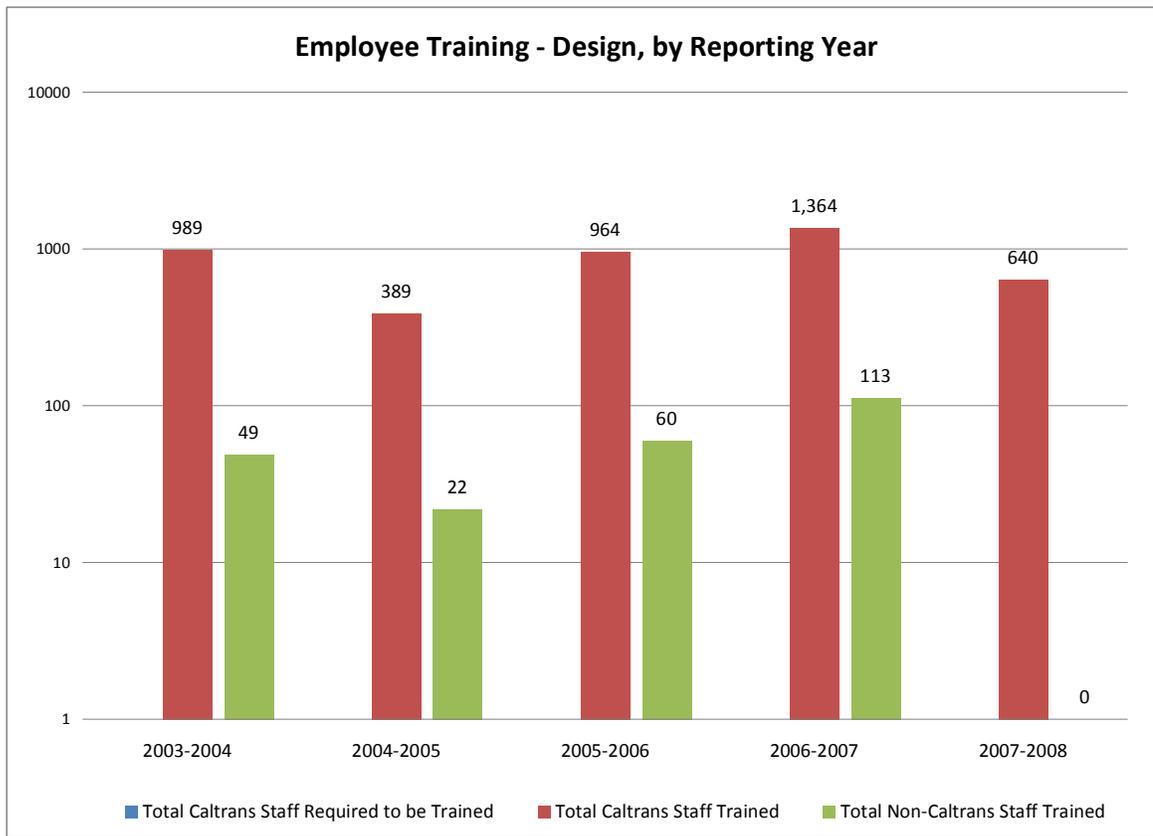
N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

### Employee Training

Caltrans has developed and is implementing an employee-training program with key stormwater messages for the planning and design, construction and maintenance functional groups. The staff members are regularly trained with the knowledge to properly perform their duties. The efforts include the following (**L1**):

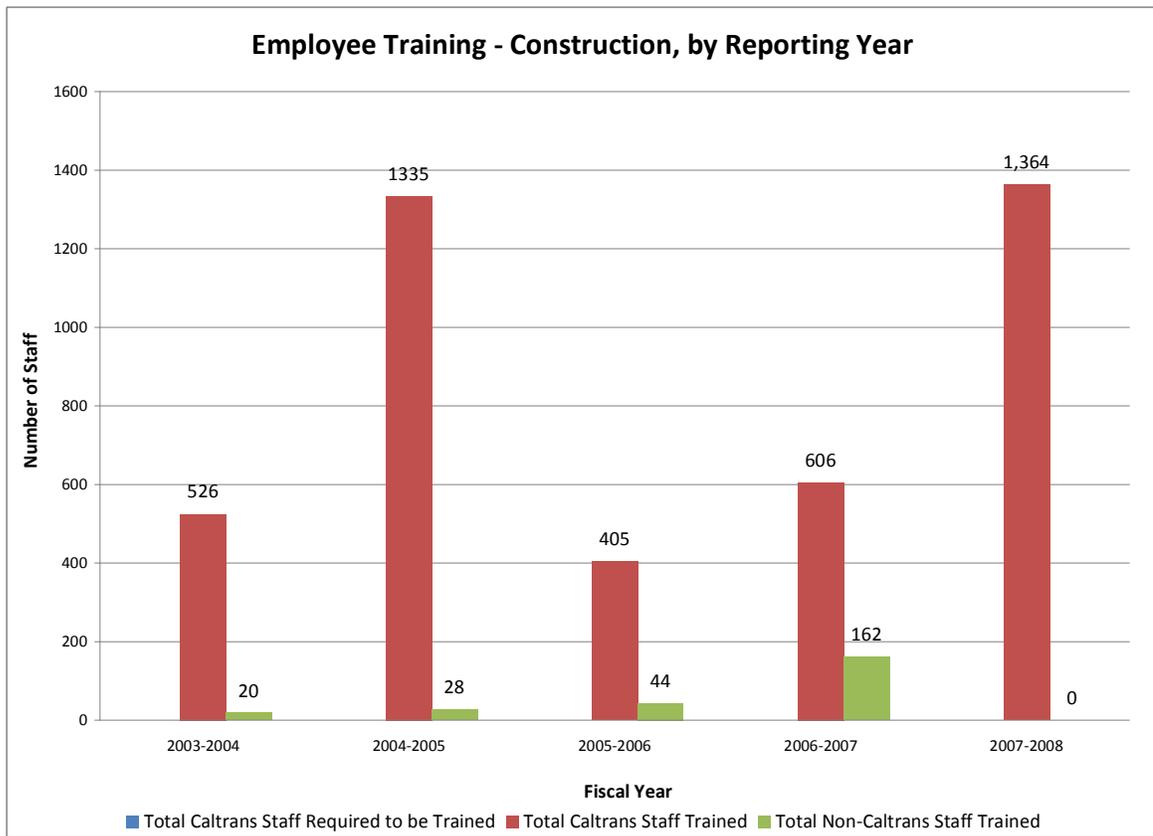
- Division of Planning and Design – Six training courses were given to 640 employees (32% of staff). In addition, the courses were also offered to external local agencies and consultants. The focus of the courses included stormwater overview; consideration, selection, and design of stormwater controls; BMP-specific evaluation siting and design criteria; and documentation requirements. Since 2003-2004, 4,346 staff members have been trained (some multiple times) (Figure 6-1).



**Figure 6-1: Employee Training – Design, by Reporting Year**

(See attached CD for color figure.)

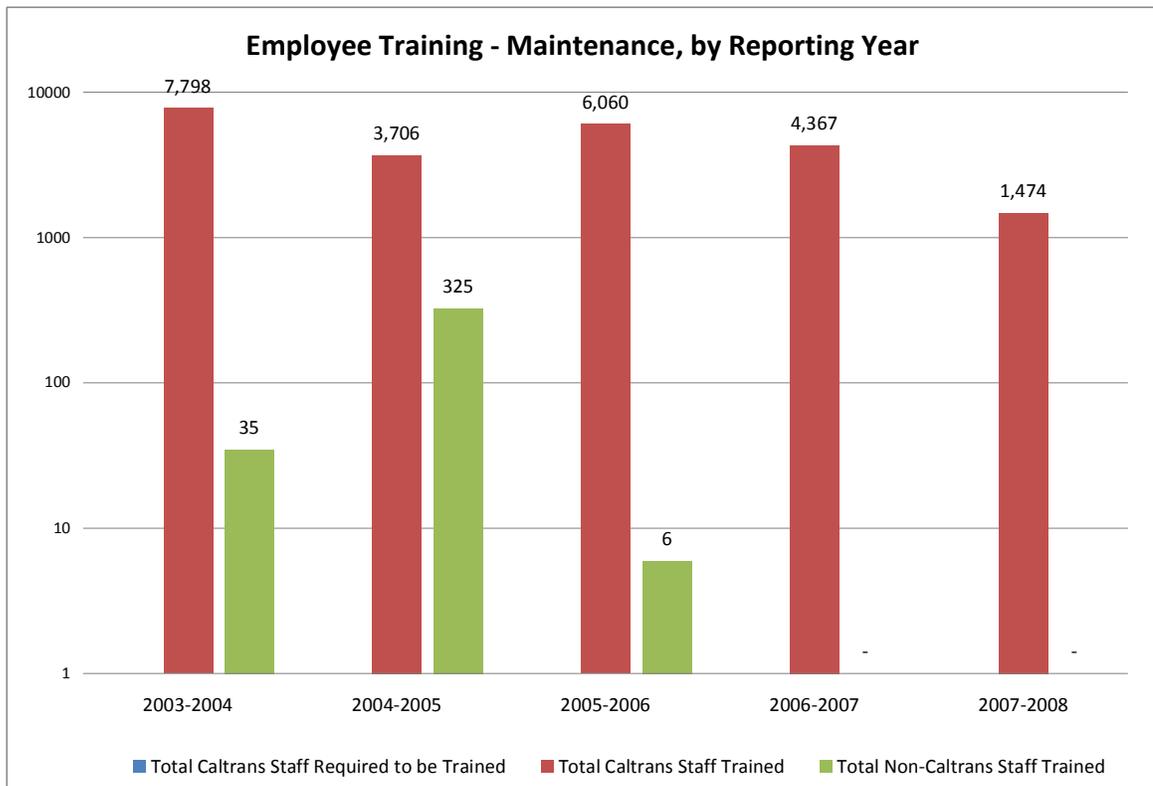
Division of Construction – Six training courses were given to 1,364 employees (45% of staff). The focus of the courses included field applications, inspection procedures, and elements of the SWPPP. Since 2003-2004, 4,236 staff members have been trained (some multiple times) (Figure 6-2).



**Figure 6-2: Employee Training – Construction, by Reporting Year**

(See attached CD for color figure.)

- Division of Maintenance – Two training courses were given to 1,474 employees (23% of staff). The focus of the courses included implementation of BMPs and maintaining highways and other facilities. In addition, several courses are currently under development that will be taught in the future. Since 2003-2004, 23,405 staff members have been trained (some multiple times) (Figure 6-3).



**Figure 6-3: Employee Training – Maintenance, by Reporting Year**

(See attached CD for color figure.)

## Public Education

Caltrans has developed and is implementing an effective public education and outreach program that promulgates key stormwater messages. The efforts include the following: **(L1)**

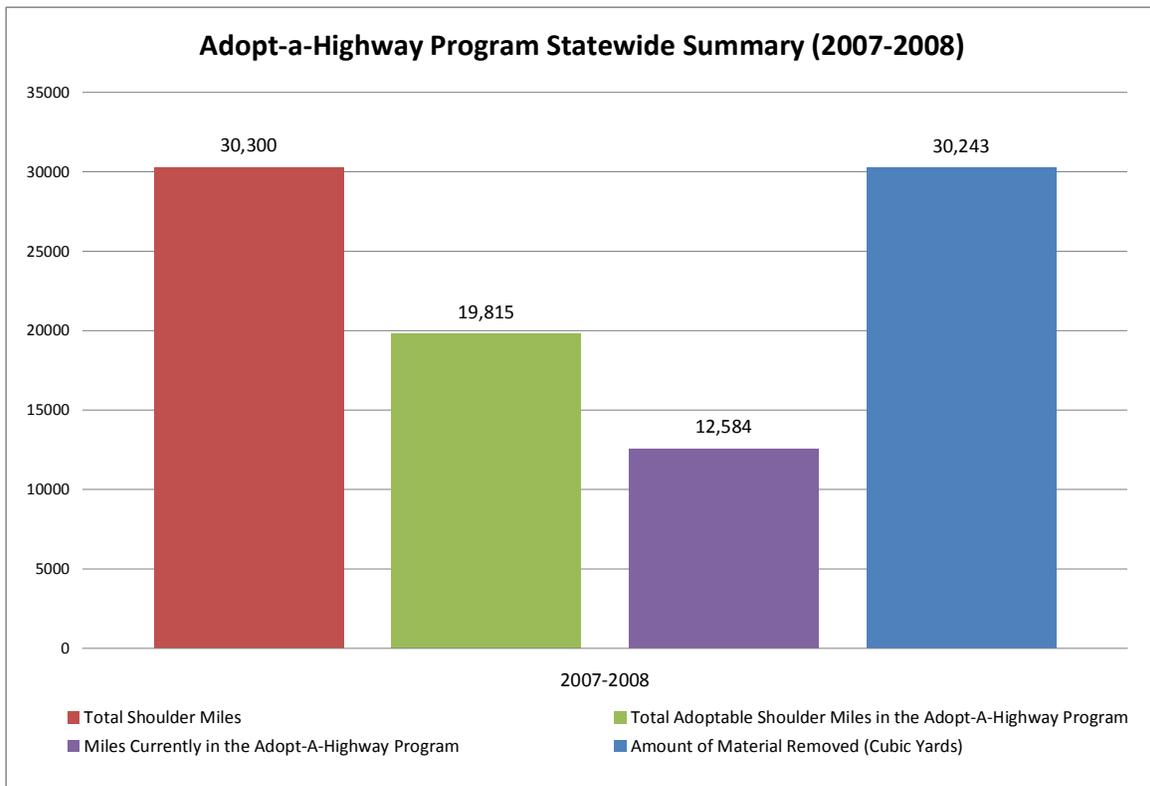
- Since July 2003, Caltrans has implemented the “Don’t Trash California” stormwater public education program. The primary goal of the campaign is to raise public awareness of stormwater pollution and its prevention on California’s freeways and highways. The campaign takes a comprehensive, multicultural approach that fosters public participation and uses proven strategies such as distributing promotional materials; participating and/or hosting local community events; forming partnerships with private sector and government organizations, community groups, and the public; and deploying paid advertising media.
- Caltrans coordinated the public education/information outreach efforts with the Districts as well as other state, federal, county, city, and local agency programs and provided a regional focus in the Los Angeles area to address the trash TMDLs within the Ballona Creek and Los Angeles River watersheds.

- Key highlights from the campaign, which made over 7.4 million impressions included the following:
  - A variety of promotional materials were distributed, including key rings, shirts, bumper stickers, tip cards, coloring books, air fresheners, and trash bags.
  - The media campaign included 30-second radio PSAs on eight stations in the Los Angeles region; 10-second traffic tags/traffic report sponsorships on 81 stations; outdoor advertising including billboards, bulletin boards, posterboards, and service station pump toppers at 155 gas stations.
  - Caltrans partnered with several agencies/organizations to promote the campaign including: the Los Angeles International Airport and the Burbank Airport, the California Restaurant Association, neighborhood associations, cable access channels, landfills, and local events.

The Districts supplemented the statewide efforts and implemented the program at the local level. **(L1)**

- Every District assisted in implementing the anti-litter campaigns, including the “Don’t Trash California” campaign and/or the Adopt-A-Highway program.
- Most Districts assisted with the advertising materials and opportunities, including running local/regional television and radio spots and/or print advertising.
- Every District conducted other outreach on a local level, including outreach to schools, participation in fairs, and/or participation in clean up days.

Almost every District participated in the Adopt-A-Highway program, which includes 4,175 groups and covers 12,584 shoulder miles (64% of adoptable shoulder miles statewide) (See Figure 6-4). **(L1)** The Adopt-A-Highway program removed 211,701 bags and 30,243 cubic yards of materials that might otherwise have ended up in the storm drains and/or receiving waters. **(L4)** Future Annual Reports will begin to assess the relationship between the implementation of the public education and outreach program and the Adopt-A-Highway program to help determine if the “Don’t Trash California” campaign is resulting in positive behavior change.



**Figure 6-4: Adopt-A-Highway Program Statewide Summary**

(See attached CD for color figure.)

Caltrans stencils educational messages at highway facility storm drain inlets, including park-and-ride lots, rest stops, and vista points. The stenciling program was completed for all targeted storm drains by January 2005. Storm drain stenciling is now a routine part of the project delivery process. In total, 562 stencils were replaced or reapplied. **(L1)**

### Program Modifications

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## 7.0 MONITORING AND RESEARCH PROGRAM (APPLIED STUDIES)

### I. SWMP SECTION 7 REPORTING INFORMATION

1999 Permit Provision Number	Description	2003 SWMP Section
K.1	Characterization of Discharges	7.4
K.2	Receiving Water Monitoring Update	7.4
K.2.a	Stormwater Monitoring and Reporting Program	7.4

### II. SWMP SECTION 7 ACTIVITIES

Through its Monitoring and Research Program (Applied Studies), Caltrans gathers information on the performance of stormwater controls and the characterization of discharges from its operations, facilities, and storm drain systems.

#### SWMP Section 7.4 Reporting

During the 2007-2008 fiscal year, Caltrans conducted monitoring and applied studies to address specific needs. Caltrans evaluates monitoring and applied studies needs to assist in improving the Stormwater Management Program. The activities associated with the reporting requirements noted in SWMP Section 7.4 are summarized below.

#### Characterization of Discharges

Provision K.1 of the 1999 Permit required a one-time submittal of a Plan for Characterization Studies and that the characterization studies identified in the plan be completed by 2003. Caltrans has continued monitoring in some areas of the state, and these studies will be used to update the characterization database as the data is collected.

#### Receiving Water Monitoring

Ongoing efforts include independently funded projects, as well as collaborative efforts with other stakeholders such as municipalities, the SWRCB, RWQCBs, and stormwater quality researchers. Caltrans has participated in multiple monitoring partnerships that monitor receiving water, including:

- The Santa Monica Bay Bacteria TMDL Groups Coordinated Shoreline Monitoring;
- The Los Angeles River Metals TMDL Monitoring;
- The Marina del Rey Harbor Bacteria TMDL Monitoring;
- The Marina del Rey Harbor Sediment Characterization Study;

- The Lake Elsinore/Canyon Lake TMDL Task Force; and
- The Regional Monitoring Program with the San Francisco Estuary Institute.

**Monitoring and Strategy Report Update**

Caltrans is developing a Stormwater Management Program strategic plan, which will include the monitoring and applied studies strategies. In anticipation of the new statewide permit and increasing TMDL commitments, Caltrans will be reevaluating needs in the upcoming year.

**Other Collaborative Efforts**

Caltrans was an active participant in other collaborative monitoring efforts as discussed in Chapter 2, SWMP Section 2.3 of this Annual Report.

**III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 7 PROGRAM ACTIVITIES**

To determine the effectiveness of the Monitoring and Research Program (Applied Studies), an effectiveness assessment of the program data was conducted as part of the Annual Report.

**Outcome Levels**

Due to the types of data generated, the assessment primarily focused on Outcome Level 1 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
Characterization of Discharges	1	• Confirmation
Receiving Water Monitoring Update	1	• Confirmation

The program effectiveness assessment addressed the following areas. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.).

The table below summarizes the effectiveness assessment that was conducted for Monitoring and Research (Applied Studies), as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is given below.

## Program Effectiveness Assessment Summary for Monitoring and Research (Applied Studies)

Monitoring and Research (Applied Studies)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Characterization of Discharges	C – Conducted/ Participated in Studies	N	N/A	A	A	N/A
Receiving Water Monitoring Update	C – Conducted Monitoring	N	N/A	A	A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

Through the Monitoring and Research Program (Applied Studies), Caltrans collects information on the performance of stormwater controls and the characterization of discharges from Caltrans' operations, facilities, and storm drain systems. The information is analyzed to refine the program, assess the effectiveness of the SWMP, and establish the need for new and/or improved BMPs. During the reporting period, technical reports were completed for the monitoring and research program (applied studies).

### Characterization of Discharges

Caltrans completed the one-time submittal of a Plan for Characterization Studies. This plan described how Caltrans would identify and describe the existing major discharges to surface water bodies, and was submitted with the 1999 Annual Report. **(L1)**

- Caltrans has continued monitoring in some areas of the state. These studies will be used to update the characterization database as the data is collected. **(L1)**

### Receiving Water Monitoring

- Caltrans has implemented the monitoring and reporting program. This program assesses the impacts of highway activities on receiving waters. These efforts include independently funded projects as well as collaborative efforts with other stakeholders. Caltrans has participated in multiple monitoring partnerships. **(L1)**

### Program Modifications

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## 8.0 PROGRAM EVALUATION

### I. SWMP SECTION 8 REPORTING INFORMATION

1999 Permit Provision Number*	Description	2003 SWMP Section	Annual Report Chapter
K.3 (b)**	Self-Audit (Construction Compliance Evaluation)	8.4.1	4
K.3 (c)**	Self-Audit (Maintenance Compliance Evaluation)	8.4.2	5
-**	Self-Audit (Design Compliance Monitoring)	8.4.3	4
K.3 (d)	Overall Program Effectiveness	8.5	1
-	Summary of Caltrans Communications and Plans for Program Improvement	8.5.2	2, 8

\* Reporting requirements with no 1999 Permit Provision Number are requirements identified in the 2003 SWMP only.

\*\* Although these reporting requirements appear in Section 8 of the 2003 SWMP, to maintain subject matter consistency and avoid duplication, they have been placed in the relevant sections of the Annual Report. The construction and design compliance evaluations are discussed in Section 4, and the maintenance compliance evaluation is discussed in Section 5.

### II. SWMP SECTION 8 ACTIVITIES

Refer to the table in Part I, “SWMP Section 8 Reporting Information” to locate where the activities of Chapter 8 are reported within the Annual Report.

### III. EFFECTIVENESS ASSESSMENT OF THE STORMWATER PROGRAM

To determine the effectiveness of the overall Stormwater Management Program, an effectiveness assessment was conducted as a part of each chapter of the Annual Report. The table below summarizes the effectiveness assessment that was conducted for each chapter of the Annual Report and the effectiveness of the overall Stormwater Management Program. Additional detail for each component of the assessment is provided within Part III of the corresponding chapter.

#### Overall Program Assessment

Although improvements will be made in future Annual Reports, Caltrans has been able to incorporate effectiveness assessments into the program elements and conduct assessments of the applicable outcome level except for outcome levels 5 and 6 (see additional detail below).

This Annual Report demonstrates that Caltrans has completed the following:

- Implements their program effectively;
- An increase in the awareness of the program requirements has resulted in positive behavior change; and
- A decrease in pollutant loadings has occurred because of their program.

### Program Effectiveness Assessment Summary for the Overall Stormwater Management Program

Annual Report Chapter	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Pollutant Loads	Runoff Quality	Receiving Water Quality
Program Management (Chapter 2)	C	A	N/A	N/A	N/A	N/A
BMP Identification and Implementation (Chapter 3)	C	N	A	N/A	N/A	N/A
Project Delivery (Chapter 4)	C	C	C	C	N/A	N/A
Maintenance (Chapter 5)	C	N	C	C	N/A	N/A
Training and Public Education (Chapter 6)	C	A	A	C	N/A	N/A
Monitoring and Research (Applied Studies) (Chapter 7)	C	N	N/A	A	A	N/A
Location Specific Requirements (Chapter 10)	C	N	N	C	N/A	A*

C: An effectiveness assessment was conducted during fiscal year 2007-2008.

A: It is anticipated that an effectiveness assessment may be conducted in future Annual Reports.

N: An effectiveness assessment is not anticipated.

N/A: This outcome level is not applicable to this program element.

\* This outcome level may only be assessed using Caltrans' data in conjunction with other available stakeholder datasets.

### Goals

Caltrans developed goals for the Maintenance, Training, and Public Education Programs. Additional goals will likely be established for other aspects of the program when the SWMP is revised. Over the reporting period, Caltrans met three of the goals and made progress towards meeting the other two goals that were established.

- The Division of Maintenance has an ongoing program to inspect roadside vegetated slopes for erosion. The Division has a self-imposed goal to inspect approximately 20% of the slopes in each District annually depending on weather conditions and work load priorities. It was unclear if the Districts met the program goal during the reporting period.
- The enhanced storm drain inlet inspection and cleaning program has a goal to inspect 20% of the drain inlets in San Diego, Orange, Los Angeles, and Ventura Counties (Districts 11, 12 and 7, respectively). The Districts with the enhanced storm drain inlet inspection and cleaning program met the established goal, as the enhanced program resulted in over 50% of the storm drain inlets being inspected and over 25% being cleaned.
- Caltrans has a self-imposed herbicide reduction goal of 80% by 2012 (baseline 1992-1993). The Maintenance Division continued to track total herbicide use to determine progress towards this goal. Although the reduction goal was not met yet, the Districts are progressing towards meeting this goal and achieved a 9% reduction in their usage of herbicides statewide (determined by total weight of active ingredients) this year compared to last year. In addition, eight of the twelve Districts applied less herbicide than during the previous four years. In some cases, additional herbicide use is necessary to address fire suppression requirements of the California Department of Forestry and Fire Protection.
- The goal of the Maintenance Division compliance monitoring is to inspect 10 activities and 20% of the facilities statewide each year. In addition, each activity and facility should be inspected at least once during the permit term. Caltrans met the goal for implementing maintenance BMPs at facilities and for conducting activities this fiscal year, and has improved the implementation of the BMPs over time.
- The training program goal is to train 20% of the Caltrans staff involved in stormwater during each fiscal year, with the entire staff trained over a five-year term. Both goals have been met. During the reporting period, 23% of the Maintenance staff, 32% of the Design staff, and 45% of the Construction staff were trained. Since 2003-2004, all of the staff in the divisions has been trained, some multiple times.

### **Outcome Level 1 Assessments (Program Implementation)**

Caltrans conducted outcome level 1 assessments for each major program element. This assisted in determining that Caltrans successfully implemented the various components of the SWMP. Some of the key findings include:

- The Districts reported completion of 84% of the activities identified within the District Work Plans. The remaining activities are ongoing and will be completed in upcoming years.

- Caltrans evaluates for permanent BMPs for all projects and documents that process in the SWDR. During the reporting period, 396 treatment BMPs were incorporated into 47 projects. The treatment BMPs that were incorporated included biofiltration swales (37%), biofiltration strips (29%), and gross solid removal devices (11%).
- Caltrans implemented the baseline drainage facility inspection and cleaning program throughout the state. Statewide, over 45,000 inlets of the 413,189 drain inlets (11%) were inspected. Of those inspected 89% were cleaned.
- Caltrans has developed and is implementing an employee training program that provides overall and task-level training for the planning and design, construction, and maintenance functional groups. Over 2,400 employees were trained.
- The public education campaign “Don’t Trash California” has made over 7.4 million impressions. “Impressions” are defined as “views,” which is any time an ad is displayed to a TV viewer, newspaper reader, Internet site visitor, or public affair visitor.
- The Districts are actively participating in 25 TMDLs that are currently being developed as well as the implementation of 37 TMDLs. Over the reporting period, the Districts completed various TMDL-related activities such as water quality studies, collaboration with other stakeholders, inspections, and implementation projects.

## **Outcome Level 2 Assessments (Knowledge and Awareness)**

Caltrans conducted an outcome level 2 assessment for one major program element (Project Delivery) and noted that this assessment may be conducted for two additional major program elements in future Annual Reports. Key findings include:

- Caltrans construction staff is aware of the requirements of the construction program and developed the appropriate plans, such as the SWPPPs and WPCPs. During the reporting period, 100% of the required SWPPPs and WPCPs were developed.

Although outcome level 2 assessments were not conducted for every major program element, outcome level 3 assessments (changes in behavior) are dependent upon outcome level 2 results (changes in awareness). Thus, the outcome level 3 assessments also give insight into the awareness of target audiences.

## **Outcome Level 3 Assessments (Behavior Change)**

Caltrans conducted outcome level 3 assessments for two major program elements (Project Delivery and Maintenance). This assessment could be conducted for an additional major program element in future Annual Reports. This assessment determined that several of the programs resulted in significant behavior change (e.g., increased implementation of BMPs, decrease in number of problems reported, etc.). Some key findings:

- 270 construction compliance inspections were conducted during the non-rainy season. The results indicated that 92% of the construction sites had minor deficiencies; 6% indicated major deficiencies; and 2% indicated critical deficiencies.
- 204 construction compliance inspections were conducted during the rainy season. The results indicated that 89% of the construction inspections indicated minor deficiencies; 5% indicated major deficiencies; and 6% indicated critical deficiencies.

Although results show minor variations from year to year, the overall direction of stormwater management compliance and BMP implementation remains positive. Since 1997-1998, Caltrans has effectively decreased the number of sites that have major or critical deficiencies during both dry and wet seasons, which indicates increased awareness and behavior change.

### **Outcome Level 4 Assessments (Load Reduction)**

Caltrans conducted outcome level 4 assessments for four major program elements. This assisted in determining that the program resulted in a significant decrease in the pollutant loadings to the storm drain system. Some of the key findings include:

- Caltrans conducted applied studies on the treatment BMPs that were incorporated into highway and roadway projects, and identified the pollutant removal efficiencies for total copper and zinc. By implementing these BMPs, the total load of pollutants of concern will be reduced.
- The landscaping program has resulted in a decrease of potential pollutant loadings to the storm drain system and the local waterways. During 2007-2008, Caltrans applied approximately 187,799 pounds of herbicide active ingredient. Overall, the Districts achieved a 9% reduction in herbicide usage from the previous reporting year. Caltrans has reduced the total amount of herbicides applied by about 56% since 1992-1993.
- Participants in the Adopt-A-Highway program removed 211,701 bags and 30,243 cubic yards of materials from the highways that might otherwise have ended up in the storm drains and/or receiving waters.
- Caltrans has established BMPs for the application of traction sand and deicing salt. The use of these BMPs has caused the amount of these materials applied to decrease and has reduced the amount of material that could potentially end up in the storm drain system and/or the local waterways.

## **Outcome Level 5 (Runoff Quality) and Outcome Level 6 Assessments (Receiving Water Quality)**

Outcome level 5 and 6 assessments are difficult to conduct and demonstrate since Caltrans' linear right-of-way is typically a small fraction of the watershed draining to a receiving water body. However, these assessments may be conducted for two major program elements (Monitoring and Research/Applied Studies and Location Specific Requirements) in future Annual Reports.

### **Program Modifications**

Caltrans evaluates the results of the program effectiveness assessments as well as the experience staff has had in implementing the program and determines if any program modifications are necessary. Caltrans developed a revised 2007 SWMP that contained over 100 Measurable Objectives, and has begun to implement a few of the Measurable Objectives associated with managing the program. Per the letter dated August 31, 2007 from the SWRCB to Caltrans in response to Caltrans' submittal of the revised 2007 SWMP, the 2003 SWMP will remain in effect, and Caltrans must ensure that all 2003 SWMP requirements and commitments are met. Therefore, Caltrans cannot report on Measurable Objectives for each chapter within the Annual Report until a new permit and SWMP have been approved.

## 9.0 REPORTING

### I. SWMP SECTION 9 REPORTING INFORMATION

1999 Permit Provision Number	2003 SWMP Section*	Description	Annual Report Chapter
E.2	9.2	Regional Work Plans	2
B.9	9.2.2	Non-Stormwater Report (Update)	5
L.10 (b)	9.3	Deice Effectiveness Monitoring	10
C.2.3	9.4	Discharges in exceedances of WQ standards – Iterative Approach-Construction	4
L.8 (b)	9.6	Lahontan (Lake Tahoe Unit) – Submit SWPPP or WPCP at least 30 days before Construction	10
L.8 (a)	9.6	Solicit Consultation with RB at 50% Design Review for Lake Tahoe, Mammoth, and Truckee HU in Lahontan Region	10

\*Although these reporting requirements appear in Section 9 of the 2003 SWMP, to maintain subject matter consistency and avoid duplication, they have been placed in the relevant section in the Annual Report.

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## 10.0 LOCATION-SPECIFIC REQUIREMENTS

### I. SWMP SECTION 10 REPORTING INFORMATION

1999 Permit Provision Number	Description	2003 SWMP Section
11	TMDL coordination efforts	10.1
L.8 (b)	Lahontan (Lake Tahoe Unit) – Submit SWPPP or WPCP at least 30 days before Construction	10.2
L.8 (a)	Solicit Consultation with RB at 50% Design Review for Lake Tahoe, Mammoth, and Truckee HU in Lahontan Region	10.2
L.10 (b)	Deicer Effectiveness Monitoring	10.2

### II. SWMP SECTION 10 ACTIVITIES

This section describes specific projects and activities conducted during the reporting period pertaining to the types of procedures and practices Caltrans is engaged in at statewide, regional, and local levels to achieve stormwater treatment control measures and fulfill SWRCB and RWQCB mandates. It discusses the activities conducted by Caltrans facilities with discharge points near certain ASBS, and how each District addressed TMDLs for water bodies near their facilities.

#### SWMP Section 10.1 Overview

This section corresponds to *Section 10 – Location-Specific Requirements* of the SWMP and addresses regional exceptions and additions to the standard procedures and practices. Regional differences in climate, terrain, local hydrology, sensitive receiving waters, basin plan requirements, and District organization often results in special conditions that require special procedures and practices. The location specific requirements that are addressed include:

- Areas of Special Biological Significance;
- District 7 Requirements;
- TMDL Coordination Efforts;
- The Tahoe Basin Deicer Report and Effectiveness Monitoring; and
- RWQCB Consultation in the Lake Tahoe, Mammoth, and Truckee Hydrologic Units (Lahontan Region)

#### Areas of Special Biological Significance (ASBS) – Statewide

Caltrans applied for a conditional exception on February 1, 2005, and received notice of their completed application, granting exception coverage on April 23, 2007. In anticipation of the SWRCB’s approval of the Special Protections, Caltrans reviewed treatment options, such as LID methods upstream of outfalls to reduce runoff, devices such as biofiltration strips and biofiltration swales along highway shoulders, and treatment BMPs. In addition, Caltrans participated with other ASBS stakeholders in developing regional monitoring programs in Northern, Central, and Southern California.

## **District 7**

To comply with the January 17, 2008 revised Court Order in the case of Natural Resource Defense Council (NRDC) vs. California Department of Transportation (US District Court, Central District of California, Case No. CV 93-6073-ER), Caltrans District 7 shall implement the provisions of the Order, as follows:

1. Defendant will prepare Stormwater Management Studies on its District 7 drainage system, situated in Los Angeles and Ventura Counties and consistent with the jurisdiction of the LA RWQCB encompassing 610 centerline miles of freeway and 356 centerline miles of highways.
2. On April of each year, the Defendant shall provide the Plaintiffs, for review and comment an Annual Report documenting the completion of the corridor Stormwater Management Studies.
3. The Southern Corridor Stormwater Management Study for Interstate 5 from the Orange County Line to Interstate 5/710 Interchange (PM 0.0/14.9) was submitted and is under review. The primary objectives of this report were to evaluate potential locations for infiltration devices, media filters, detention devices and biofiltration strips and swales on the I-5 north corridor from post mile 26.7 to 45.9.

## **Total Maximum Daily Load Coordination Efforts**

Caltrans participates with numerous local and state agencies on specific TMDL elements in the Los Angeles, San Diego, Lahontan, San Francisco Bay, North Coast, Santa Ana, Central Coast, Central Valley, and Colorado River Basin Regions. Elements of participation include the following:

1. Stakeholder coordination meetings and workshops;
2. Developing and implementing monitoring programs;
3. BMP implementation; and
4. Developing and implementing the TMDL Implementation Plan.

District NPDES staff continues to track established or developing TMDLs that may include load allocations for Caltrans' rights-of-way and facilities. Caltrans is involved in over 60 TMDLs statewide. Of these TMDLs, over 30 are in the implementation phase. Table 10-1 shows a summary of the statewide TMDLs being addressed by Caltrans. Table 10-2 is a short summary of activities each District undertook to implement TMDLs, details of which are contained in the implementation documents submitted to each RWQCB.

**Table 10-1: Caltrans Statewide TMDLs Summary**

District	Total # of Pending and Adopted TMDLs	Total # of TMDLs the District is Actively Participating in (TMDL Pending)	Total # of TMDLs Implemented by District (TMDL Adopted) <sup>1</sup>
1	25	2	3
2	4	1	2
3	3	2	0
4	3	2	1
5	2	2	0
6	0	0	0
7	22	3	19
8	5	2	3
9	0	0	0
10	0	0	0
11	5	3	2
12	3	3	0
<b>Total</b>	<b>72</b>	<b>25</b>	<b>37</b>

<sup>1</sup> The number of TMDLs that are in the implementation phase (the implementation plan is underway).

**Table 10-2: TMDL Activities**

District	TMDL Name	Effective Date	Reporting Period Activities
1	Garcia River Sediment TMDL	1/3/02	None
2	Shasta River Low Dissolved Oxygen/Temperature TMDL	1/9/07	Water quality study conducted.
3	Blackwood Creek Sediments TMDL	4/11/08	Collaborated with stakeholders on implementation strategy.
3	Lake Tahoe Clarity TMDL	Pending	Collaborated with Lake Tahoe stakeholders on implementation strategy.
3	Middle Truckee River Sediments TMDL	5/14/08	Collaborated with stakeholders on implementation strategy.
4	San Francisco Mercury TMDL	2/11/08	Began preparation of a work plan for TMDL implementation.
4	San Francisco PCBs TMDL	Pending	Next step is to prepare a work plan for TMDL implementation.
4	Napa Sediment/Sedimentation TMDL	Pending	Next step is to prepare a work plan for TMDL implementation.
5	Morro Bay Sediment TMDL	12/3/03	District coordinated with local MS4 entities to facilitate a watershed approach for meeting the requirements of this TMDL.
5	San Lorenzo River Sediment TMDL	12/22/03	District Slope Inventory was used to prioritize projects for slope stabilization. Ongoing Maintenance Operations. All new construction projects were evaluated for treatment BMPs.

<b>District</b>	<b>TMDL Name</b>	<b>Effective Date</b>	<b>Reporting Period Activities</b>
7	Calleguas Creek Nitrogen TMDL	7/16/03	Worked with responsible agencies and parties.
7	Ballona Creek Trash TMDL	8/28/02	Completed implementation strategy. Goal was met by implementation of Gross Solids Removal Devices throughout the watershed and public education.
7	Santa Monica Bay Beaches Bacteria Dry Weather TMDL	7/15/03	Coordinated with other responsible agencies to implement projects, performed dry weather inspections, and conducted water quality monitoring.
7	Santa Monica Bay Beaches Bacteria Wet Weather TMDL	7/15/03	District reviewed draft implementation plan and provided comments. Coordinated with other responsible agencies to implement projects, performed dry weather inspections, and conducted water quality monitoring.
7	Marina del Rey Harbor Bacteria TMDL	3/18/04	Revised monitoring plan was submitted. Continued monitoring water quality and implementation activities with responsible agencies.
7	Ballona Creek Metals TMDL	1/11/06	Coordinated compliance with responsible agencies.
7	Ballona Creek Toxics TMDL	1/11/06	Coordinated compliance with responsible agencies.
7	Los Angeles Metals TMDL	1/11/06	Draft coordinated monitoring plan was reviewed. Coordinated with responsible parties.
7	Malibu Creek Bacteria TMDL	1/24/06	Draft coordinated monitoring plan was reviewed. Coordinated with responsible parties.
7	Marina del Rey Toxics TMDL	3/22/06	Draft coordinated monitoring plan was reviewed. Coordinated with responsible parties.
7	Calleguas Creek OC Pesticides TMDL	3/24/06	Worked with responsible agencies and parties to enter into an agreement for sharing monitoring costs.
7	Calleguas Creek Toxicity TMDL	3/24/06	Coordinated with responsible agencies.
7	Ballona Creek Bacteria TMDL	2/20/07	Reviewed draft water quality monitoring plan.
7	Calleguas Creek Metals TMDL	3/26/07	Worked with other responsible agencies to complete monitoring plan. A combined Multiple TMDL Monitoring Plan was submitted to the RWQCB on 9/24/06 and approved on 10/15/07.
7	Los Angeles Trash TMDL	9/23/08	Continued implementation projects including the installation of Gross Solids Removal Devices and public education.

District	TMDL Name	Effective Date	Reporting Period Activities
7	Revolon Slough and Beardsley Wash in Calleguas Creek Watershed Trash TMDL	3/6/08	Worked with responsible agencies to compile Trash Monitoring and Reporting Program. Plan was submitted.
7	Legg Lake Trash TMDL	3/6/08	Worked with responsible agencies to compile Trash Monitoring and Reporting Program. Submitted to RWQCB.
7	Ventura River Estuary Trash TMDL	3/6/08	Worked with responsible agencies to compile Trash Monitoring and Reporting Program to submit to RWQCB no later than 9/6/08.
7	Machado Lake in the Dominguez Channel Watershed Trash TMDL	3/6/08	Worked with responsible agencies to compile Trash Monitoring and Reporting Program. Submitted to RWQCB.
7	Malibu Creek Trash TMDL	Pending	Early coordination on trash monitoring and reporting plan.
1 and 3	Cache Creek Mercury TMDL	2/7/07	In compliance with requirements.
1	Clear Lake Nutrient TMDL	9/27/07	A proposed compliance monitoring plan was developed and District 1 staff will present it to the Central Valley RWQCB in October 2008.
8 and 11	Coachella Valley Stormwater Channel Bacteria TMDL	pending	Conducted dry weather investigations to locate and eliminate sources of dry weather discharge from Caltrans right-of-way.
8	Lake Elsinore/Canyon Lake Nutrient TMDL	10/2/05	Participating in the task force group that is monitoring nutrient loads as specified in the plan and implementing TMDL compliance actions.
8	Big Bear Lake Nutrient TMDL	8/21/07	District 8 worked with the Big Bear Lake Nutrient TMDL Task Force to develop the monitoring programs. The group submitted a revised program report on 4/10/08.
12	San Diego Creek/Upper and Lower Newport Bay Organochlorine Compounds TMDL	pending	Formed a Toxics Reduction Implementation Program (TRIP) to investigate sources of toxicity and implement work plan.
11	Chollas Creek Diazinon TMDL	9/11/03	District is coordinating efforts with the City of San Diego who is the lead and has been implementing the TMDL.

District	TMDL Name	Effective Date	Reporting Period Activities
8 and 11	Rainbow Creek Nutrient TMDL	3/22/06	Caltrans has investigated potential BMPs to implement within the Rainbow Creek watershed and will be implementing a monitoring program in the region.  District 11 met with the RWQCB, discussed possibility that the goal will not be met, and discussed various treatment options to handle constituents.  Districts looked at various opportunities for treatment BMPs.
11	Chollas Creek Metals TMDL	Pending	Investigated treatment BMP opportunities. Working with municipalities and other stakeholders in the watershed for coordination and implementation of the TMDL.
11 and 12	Impaired Waters TMDL Project I for Beaches and Creeks	Pending	Investigations indicated that Caltrans' discharge is less than 1% of load and the waste load allocation was set equal to the existing discharge.

## **SWMP Section 10.2 California Department of Transportation District 3 (Marysville)**

### **Tahoe Basin Deicer Report and Effectiveness Monitoring**

Provision L.10.b of the NPDES Permit, Order No. 99-06-DWQ, requires submittal of an annual Deicer Report for the Tahoe Basin that describes the results of the abrasive and deicing materials analyses. The Permit requires the *Deicer Report* to be submitted with the Annual Report. However, April 1 of each year is too early for Caltrans to report the deicing activities during the reporting period. The Lahontan RWQCB has agreed to accept the report by October 1 of each year. The report also summarizes Caltrans' portion of the Capital Improvement Program (CIP) activities within the Tahoe Basin. In April 2001, the Tahoe Regional Planning Agency (TRPA) adopted the Environmental Improvement Program (EIP). The intent of the EIP is to achieve the environmental goals for the Lake Tahoe Basin. The CIP has since been absorbed by the EIP. The following is an overview of the information required in the Deicer Report:

- Report on the amounts of abrasive and deicing materials used within the Lake Tahoe Hydrologic Unit;
- Evaluate BMP effectiveness in recovering abrasive and deicing materials;

- Traction Sand Sampling Analysis;
- Chemical Analysis for Deicing Salt; and
- List current/ongoing EIP projects.

**RWOCB Consultation in Lake Tahoe, Mammoth, and Truckee Hydrologic Units (Lahontan Region)**

At or before 50% design review, District 3 solicits consultations with the Lahontan RWQCB for all of its projects within the Lake Tahoe, Mammoth, and Truckee Hydrologic Units. This notification and consultation is a routine part of the District 3 project delivery process.

**III. EFFECTIVENESS ASSESSMENT OF SWMP SECTION 10 PROGRAM ACTIVITIES**

To determine the effectiveness for the Location-Specific Requirements section of the SWMP, an effectiveness assessment of the program data was conducted as a part of the Annual Report.

**Outcome Levels**

Due to the types of data generated, the assessment primarily focused on Outcome Levels 1 and 4 as indicated in the table below.

Outcome Level 1 answers the question:

- Did Caltrans implement the components of the SWMP?

Outcome Level 4 answers the question:

- Can Caltrans demonstrate that the program resulted in a significant decrease in the pollutant loadings to the storm drain system?

The results of the assessment were then used to identify any modifications that may be necessary.

Element	Outcome Level	Method of Measurement
Areas of Special Biological Significance	1	• Confirmation
District 7	1	• Confirmation
TMDL Coordination	1	• Confirmation • Tabulation
District 3	1 & 4	• Confirmation • Tabulation

The program effectiveness assessment addressed the following areas. The Outcome Level assessed is designated by the following (**L1** – Outcome Level 1, **L2** – Outcome Level 2, etc.).

The table below summarizes the effectiveness assessment that was conducted for Location-Specific Requirements as well as potential assessments that may be conducted in future Annual Reports. Additional detail for each component of the assessment is provided below.

### Program Effectiveness Assessment Summary for Location Specific Requirements

Location Specific Requirements	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Areas of Special Biological Significance	C – Completed Necessary Actions and Participated in Process	N	N	A – Treatment BMP Studies/ Implementation	N/A	N/A
District 7	C – Activities Completed	N	N	N/A	N/A	N/A
TMDL Coordination	C – Participation in the Development and Implementation of TMDLs	N	N	N/A	N/A	*A – Results From TMDL Monitoring Programs
District 3	C – Studies Completed	N	N	C – Materials Removed	N/A	N/A

C – An effectiveness assessment was conducted during fiscal year 2007-2008

A – It is anticipated that an effectiveness assessment may be conducted in future Annual Reports

N – An effectiveness assessment is not currently anticipated

N/A – This outcome level is not applicable

\* This outcome level may only be assessed using Caltrans’ data in conjunction with other available stakeholder datasets

### Areas of Special Biological Significance

Caltrans complied with requests from the SWRCB regarding discharges to ASBS. Caltrans applied for a conditional exception (February 2005) and received notice of the completed application granting the exception (April 2007). In anticipation of the approval of the Special Protections, Caltrans is reviewing various treatment options for facilities in ASBS areas. Caltrans is also participating with other ASBS stakeholders in regional monitoring programs that are under development throughout the state. (**L1**)

## District 7

Caltrans complied with the January 2008 revised Court Order and implemented the necessary provisions. (L1)

- The I-5 North Corridor Stormwater Quality Master Plan was completed in June 2007. The Interstate 405 Widening Project Stormwater Quality Master Plan was completed in April 2008. The Corridor Stormwater Management Study for Interstate 5 was completed.

## TMDL Coordination

Caltrans has and continues to participate in numerous stakeholder coordination and workshop meetings with local and state agencies on specific elements of many TMDLs throughout the state. Elements of participation include developing and implementing monitoring programs, BMP implementation, and developing and implementing TMDL Implementation Plans. (L1)

- The Districts are actively participating in 25 TMDLs that are currently being developed as well as the implementation of 37 TMDLs. Over the reporting period, the Districts completed various TMDL related activities such as water quality studies, collaboration with other stakeholders, inspections, and implementation projects.

## District 3

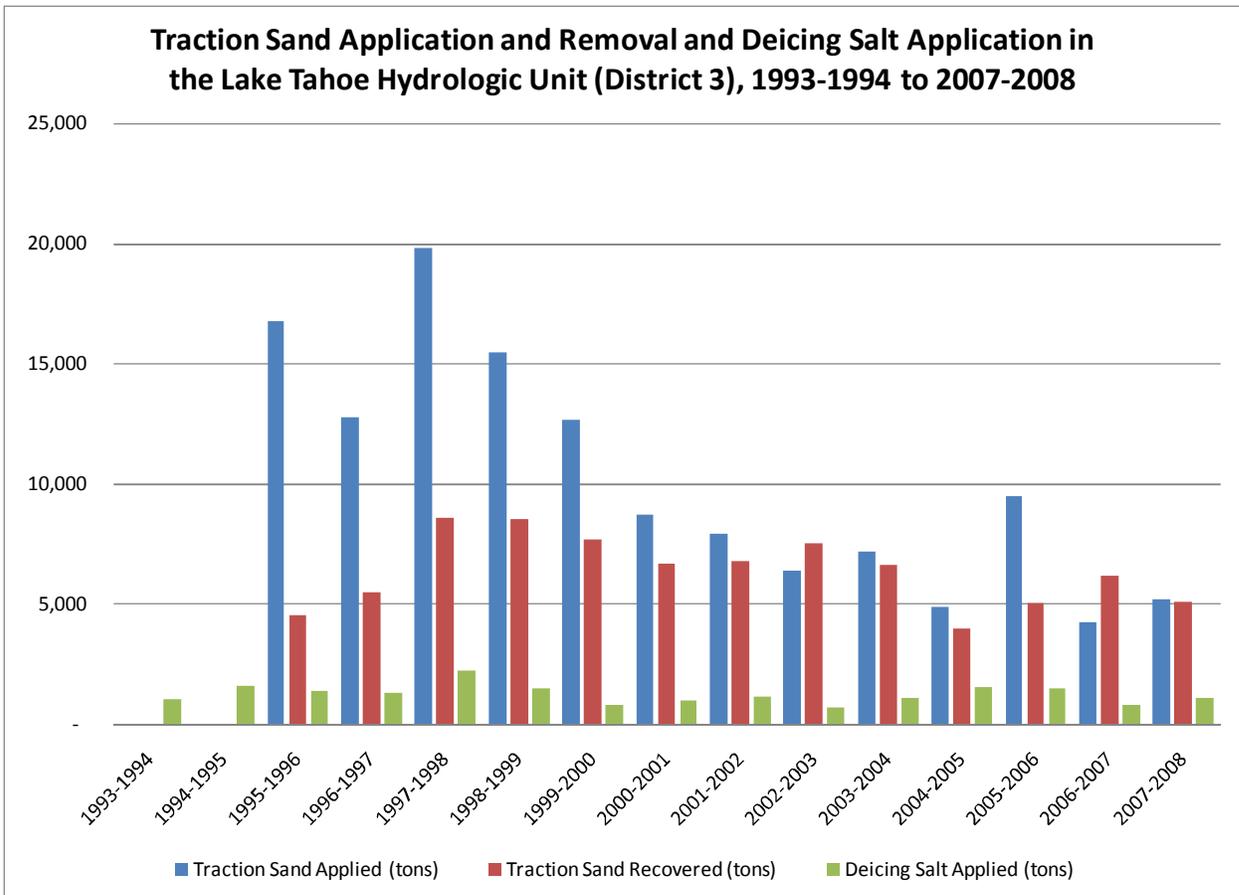
Caltrans submitted the annual *Deicer Report* for the Tahoe Basin that describes the results of the abrasive and deicing materials analyses. This report was submitted on September 2008. (L1)

Caltrans has established BMPs for the application of traction sand and deicing salt. The use of these BMPs has resulted in a decrease in the amount of traction sand and deicing salt applied and reduced the amount of material that could potentially end up in the storm drain inlets and/or local waterways. (Figure 10-1) (L4)

- In the Lake Tahoe hydrologic unit, 5,261 tons of traction sand was applied during the 2007-2008 snow season. However, 5,124 tons of traction sand was recovered. This represents a recapture rate of 97%. Several reasons are noted within the *Deicer Report* that explain the high recovery rate.

Since 1995-1996, Caltrans has had an average recapture rate of about 75% for the traction sand every snow season. This has represented an upward trend every year, which indicates that the program has improved over time.

- During the 2007-2008 snow season 1,101 granular tons of sea salts were used. The amount of granular salt applied has generally been on a downward trend since 1993-1994.



**Figure 10-1: Traction San Application and Removal and Deicing Salt Application in Lake Tahoe H.U.**

(See attached CD for color figure.)

Caltrans solicits consultations with the Lahontan RWQCB at or before 50% design review for all of the projects within the Lake Tahoe, Mammoth, and Truckee Hydrologic Unit. This is a routine part of the project delivery process. **(L1)**

**Program Modifications**

Program modifications for the Stormwater Management Program are discussed in Part III of Chapter 8.

## GLOSSARY

A list of Acronyms is on page viii.

**Associated General Contractors (AGC).** National construction trade organization consisting of qualified construction contractors and industry-related companies providing a full range of construction services. For more information, visit the AGC website at <http://www.agc.org>.

**Best Management Practice (BMP).** Schedule of activities, prohibition of practices, maintenance procedure, and/or other management practice to prevent or reduce pollution.

**California Stormwater Quality Association (CASQA).** Association of people interested in Stormwater Management Programs in California; Members and participants include staff from regulatory agencies, municipalities, industries, consultants, and others. The CASQA meets regularly for information sharing. The CASQA also makes recommendations to the SWRCB regarding stormwater management.

**Caltrans.** California Department of Transportation. Website:  
<http://www.dot.ca.gov/hq/env/stormwater/>

**Code of Federal Regulations (CFR).** Document containing all rules of the executive departments and agencies of the federal government and divided into fifty title volumes. Title 40 of the CFR (40 CFR) lists environmental regulations and is available from bookstores operated by the Government Printing Office and on the CFR website at <http://www.epa.gov/epahome/rules.html#codified>.

**Construction Stormwater Advisory Team (C-SWAT).** Internal team composed of District and Headquarters representatives from Construction, Design, Environmental Analysis, Office of Landscape Architecture, Right-of-Way, and Traffic Operations.

**Environmental Protection Agency (EPA or USEPA).** The federal agency with primary or oversight responsibility for implementing the federal environmental statutes, including the CWA, Clean Air Act, Safe Drinking Water Act and Resource Conservation and Recovery Act. California is included within EPA Region IX, headquartered in San Francisco.

**EnviroScape®.** One or more interactive, hands-on educational and communication models, tools, and/or programs used by students, universities, soil and water conservation districts, city governments, utility companies, and civic and environmental groups to demonstrate and compare major environmental scenarios, including how water pollution occurs, how to clean it up, and how to prevent it. For more information, visit the EnviroScape® website at <http://www.enviroscapes.com>.

## GLOSSARY

A list of Acronyms is on page viii.

**Hazardous Waste.** Specific waste materials regulated by (and defined in) the federal Resource Conservation and Recovery Act (see regulations at 40 CFR 261) and the California Health and Safety Code (Section 25141).

**Headquarters (HQ).** California Department of Transportation (Caltrans) Headquarters.

**Herbicides.** Chemical compounds that are used to control weeds.

**IceSlicer®.** Homogenous deicing product made by Redmond Minerals, Inc. For more information, visit the IceSlicer® website at <http://www.iceslicer.com>.

**Illegal Discharge (ID).** Unauthorized discharges, including accidental spills, illegal connections, and illegal dumping.

**Illicit Connection (IC).** Any fabricated connections to Caltrans' storm sewer systems made by others without permission. Illegal connections are a subset of "Illicit Discharges."

**Lbs.** Pounds.

**Maintenance Facilities.** Facilities under Caltrans' ownership or control that contain such areas as fueling areas, waste storage or disposal facilities, wash racks, equipment or vehicle storage and materials storage areas.

**Municipal Separate Storm Sewer System (MS4).** Storm drain systems regulated by the federal Phase I and Phase II stormwater regulations. Municipal *combined* sewer systems are regulated separately. MS4s are defined in the federal regulations at 40 CFR 122.26(b)(8).

**Notice of Construction (NOC).** A formal notification submitted by Caltrans to the appropriate RWQCB at least 30 days prior to the start of a construction project that will result in the disturbance of one acre or more of soil area. Information on the tentative start date, tentative duration, location of construction, description of project, estimated number of affected acres and the name and phone number of the Resident Engineer is provided.

**Permit.** Refers to the NPDES Stormwater Permit (Order No. 99-06-DWQ) adopted by the SWRCB on July 15, 1999 or subsequent statewide permits issued to Caltrans.

## GLOSSARY

A list of Acronyms is on page viii.

**Project Design Stormwater Advisory Team (PD-SWAT).** Internal team composed of District and Headquarters representatives from Design, Construction, Environmental, Maintenance, and other related functional units that work together to design procedures and guidance to review, modify, and improve new Best Management Practices (BMPs).

**Regional Water Quality Control Board (RWQCB).** Any California Regional Water Quality Control Board for a Region as specified in Section 13200 of the California Water Code (CWC). Visit the RWQCBs' websites at <http://www.waterboards.ca.gov/regions.html>.

**State Water Resources Control Board (SWRCB).** As delegated by EPA, California agency that implements and enforces CWA Section 401(p) NPDES permit requirements. In conjunction with the RWQCBs, the SWRCB regulates Caltrans' stormwater discharges. Visit the SWRCB website at <http://www.waterboards.ca.gov>.

**Statewide Stormwater Management Plan (SWMP).** The SWMP mentioned in this Annual Report refers to the *Statewide Stormwater Management Plan* (CTSW-RT-02-008), May 2003, edition.

**Stormwater Advisory Team (SWAT).** Caltrans team responsible for supporting policy development and technology assessment as well as evaluating new or revised BMPs. Caltrans has five SWATs: Design, Construction/Encroachment Permits, Maintenance, and, as an umbrella SWAT, Water Quality.

**Stormwater Pollution Prevention Plan (SWPPP).** A plan for a specific construction site to control runoff. A general checklist for SWPPP preparation is included in the General Permit for Stormwater Discharges Associated with Construction Activity, Order No. 99-08-DWQ (NPDES CAS000002) at [http://www.waterboards.ca.gov/stormwtr/docs/const\\_swppp.doc](http://www.waterboards.ca.gov/stormwtr/docs/const_swppp.doc).

**Total Maximum Daily Load (TMDL).** A written, quantitative plan and analysis for attaining and maintaining water quality standards in all seasons for a specific water body and pollutant. Generally establishes an allocation of pollutant loading applicable to the discharge sources of the pollutant targeted by the TMDL. For more information, visit the SWRCB website at: <http://www.waterboards.ca.gov/tmdl>



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