SAN DIEGO RIVER WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT

San Diego River Watershed
San Diego County, California

Prepared For:

City of El Cajon, Lead Copermittee
City of La Mesa
City of San Diego
City of Santee
County of San Diego

Prepared By:

TRC
San Diego, California

January 2009

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EXECUTIVE SUMMARY

In accordance with the requirements of the 2007 Municipal Permit, this Watershed Urban Runoff Management Program (WURMP) Annual Report describes the activities performed by the San Diego River Watershed Copermittees in fiscal year 2007-08. The most significant collaborative activity during this time period was the comprehensive review and revision of the WURMP itself, which was completed in March 2008.

This Annual Report also reviews the available water quality and pollutant source information to assess whether any changes should be made to the WURMP. The amount of water quality data was limited for this fiscal year due to the alternating schedule of receiving water monitoring in the regional monitoring program. Based on a review of the available data from the dry weather monitoring and coastal storm drain monitoring programs, no changes were made to the list of high priority pollutants for the watershed. In addition, the San Diego River Watershed Copermittees believe the targeted land uses and the relative rankings of potential source categories within these land use types, as reported in the WURMP, remain valid priorities for the watershed.

Based on the limited monitoring conducted in fiscal year 2007-08 and the short time since the revision of the WURMP in March 2008, the San Diego River Copermittees are not making significant revisions to the current 5-year strategic plan in the WURMP. The San Diego River Watershed Copermittees do anticipate that changes may be necessary depending on the outcome of the ongoing CRWQCB-Copermittee dialogue prompted by the results of the CRWQCB/EPA audit of the Carlsbad and San Diego Bay Watersheds in 2008.

The San Diego River Watershed Copermittees are in the process of transitioning to new types of more collaborative activities for future years as described in the WURMP and this Annual Report. This transition is not reflected in the watershed activities being reported for fiscal year 2007-08 because these activities were selected prior to the WURMP revisions being completed (Appendix A). The San Diego River Copermittees will use the Strategic Goals described in the WURMP to guide selection of future activities, but will not have the benefit from a full year of planning under the new system until implementing activities scheduled for the 2009-10 fiscal year (Appendices B and C).

For fiscal year 2007-08, watershed activities were selected for implementation well in advance of the WURMP revisions and can not be reasonably evaluated in terms of the WURMP's Strategic Goals. However, similar to previous years, the San Diego River Watershed Copermittees have evaluated the 2007-08 watershed activities using the six hierarchical levels of targeted outcomes described in the Framework for Effectiveness Assessment Document. The effectiveness assessment continued to find evidence of effectiveness in levels 1 through 4, but faced similar difficulties as in the past when trying to assess effectiveness in levels 5 and 6.

Based on these results, the San Diego River Copermittees will continue to transition into watershed activities that are consistent with the revised WURMP. The Copermittees believe the adjustments being made in response to the revised WURMP

will improve watershed water quality. The two primary recommendations for fiscal year 2008-09 are:

- Conduct a Source Identification Study to Guide Future Activity Selection.
- Use the WURMP Strategic Goals to facilitate coordinated and collaborative activities across jurisdictional boundaries.

CITY OF EL CAJON

CITY MANAGER

March 24, 2009

San Diego River WURMP

CERTIFICATION

"I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

RT

Kathi Henry — 1.26.09

Signature — Date

Kathi Henry, City Manager — (619) 441-1780

Printed Name, Title — Phone Number

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STATEMENT OF CERTIFICATION

San Diego River Watershed Urban Runoff Management Plan (WURMP) FY 2007-2008 Annual Report

I certify, under penalty of law, that the County of San Diego's contributions to the **FY 2007-2008 San Diego River Watershed Urban Runoff Management Plan (WURMP) Annual Report** were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Chandra Wallar

CHANDRA L. WALLAR
Deputy Chief Administrative Officer
County of San Diego

1-21-09

Date

THE CITY OF SAN DIEGO

January 26, 2009

RE: Statement of Certification
San Diego River Watershed Urban Runoff Management Program
Fiscal Year 2008 Annual Report

I certify under penalty of law that the City of San Diego participated in the development of the Fiscal Year 2008 San Diego River Watershed Urban Runoff Management Program Annual Report. City staff assisting in the preparation of the document were under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, to the best of my knowledge and belief, is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kris McFadden
Deputy Director
Storm Water Department
City of San Diego

1/27/09
Date

DIVERSITY

Storm Water Department
9370 Chesapeake Drive, Suite 100, MS 1900 • San Diego, CA 92123
Hotline (619) 235-1000 Fax (858) 541-4350

CITY OF
LA MESA
JEWEL of the HILLS

SANDRA L. KERL
CITY MANAGER

CERTIFICATION

"I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Sandra L. Kerl — 1/14/08

Signature — Date

Sandra L. Kerl, City Manager — 619-667-1105
City of La Mesa

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January 19, 2009

San Diego River WURMP Annual Report Fiscal Year 2007-2008

CERTIFICATION

"I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

James B O'Grady 1.22.09

Signature Date

James O'Grady,
Interim Director of Development Services/Deputy City Manager

1.0 INTRODUCTION

The National Pollutant Discharge Elimination System (NPDES) Municipal Storm Water Permit for San Diego Copermittees (Order No. R9-2007-0001, NPDES No. CAS 0108758, hereafter referred to as "Municipal Permit") requires that the Copermittees within the San Diego River Watershed collaborate in the development of a watershed-based program that addresses surface water quality and storm water pollution prevention (California Regional Water Quality Control Board [CRWQCB], 2007). In accordance with these requirements, the San Diego River Watershed Copermittees developed and submitted a revised Watershed Urban Runoff Management Plan (WURMP) in March 2008 (City of El Cajon et al., 2008). This report provides an annual reporting of Copermittee progress in implementing the revised WURMP and meeting other Municipal Permit watershed-level requirements for fiscal year 2007-08.

1.1 COPERMITTEE COLLABORATION

The administration of the San Diego River Watershed Activities is handled both jurisdictionally and collaboratively. The jurisdictions act collaboratively to review and understand the water quality monitoring data and define the water quality issues and priority water quality pollutants. The Copermittees use this information to develop and implement jurisdictional short- and long-term activities that address the priority pollutants and sources. The Copermittees also work together as much as possible to more effectively use limited resources and achieve greater results by coordinating their activities across jurisdictional boundaries when reasonably possible. The Copermittees have developed close working relationships on watershed issues that have a direct impact across jurisdictional boundaries. For example, staff in Santee and El Cajon have worked extensively on the migration of trash in the San Diego River from El Cajon to Santee and the identification and removal of bacterial sources in Forester Creek.

Between July 2007 and June 2008, the San Diego River Watershed Copermittees formally met seven times to develop and implement the San Diego River WURMP in accordance with the Municipal Permit. During the reporting period, all Copermittees took an active role in the development and implementation of the WURMP. In addition, the workgroup used email and phone calls to facilitate collaboration on the development of watershed activities and the Annual Report. The following table presents a summary of the meetings held by the San Diego River WURMP workgroup during the reporting period, including an outline of the principal agenda items.

Summary of Watershed Workgroup Meetings

Meeting Date	Topics Covered
07/26/07	WURMP Update and Annual Report Discussion Third Party Monitoring Data to include in Draft Permit Update Review GIS Maps, monitoring data and ideas for watershed activities San Diego River Park Foundation Workplan discussion San Diego River Day Lagoons Monitoring Order – Famosa Slough

Meeting Date	Topics Covered
08/16/07	LID training prior to meeting Review Status of Activity Summaries for Previous Year Analyze Pollutant Source Data using Watershed Maps Review TWAS locations Review Activities Planned for this Fiscal Year Discuss Potential Use of UCSD Resources to Assist Copermittees
09/27/07	MOU Pertaining to Watershed Group WURMP schedule and content Summary of Watershed Collaboration Meeting Review Analysis of Monitoring Data Discuss Bacteria Conceptual Model and Activities
11/1/07	MOU Pertaining to Watershed Group Discuss Letter from CRWQCB regarding WURMP Annual Report 2005-06 Discussion of Activity Strategies Discussion of Proposed Watershed Implementation BMPs WURMP Draft Review Timeline
11/14/07	Discussion of Workplan for Next Year's Watershed Activities Cost Share Agreement Discussion of WURMP document Annual WURMP Report
3/6/08	Discussion of Updated WURMP Document Discussion of Bacteria TMDL – How to Prepare
5/8/08	Discussion with Weston regarding Improvements to Regional Monitoring Report (Dave Renfrew) Workplan (Scope of Work) for San Diego River Watershed Develop schedule for meetings in 2008

The San Diego River Watershed Copermittees will continue to meet on a regular basis to plan and facilitate implementation of the San Diego River WURMP.

1.2 WATERSHED MAP UPDATES

As requested by the CRWQCB, the watershed map for the San Diego River watershed has been increased in size and scale to be more legible. Additional maps and data describing the watershed are included in the Weston monitoring report (Weston, 2009).

2.0 WATER QUALITY AND POLLUTANT SOURCE ASSESSMENT

This section is intended to provide an updated assessment and analysis of the watershed's water quality and pollutant sources. Due to changes in the regional monitoring program in compliance with the revised Municipal Permit, regional receiving water monitoring was not performed in the southern watersheds, including the San Diego River Watershed, during the 2007-08 fiscal year. However, Copermittee dry weather monitoring and some local or third party monitoring were conducted. A summary and analysis of the monitoring conducted during fiscal year 2007-08 is documented in Section 9 of the *San Diego County Copermittees 2007-2008 Urban Runoff Monitoring Report*, January 2009, prepared by Weston Solutions (Weston, 2009).

Assessments in the Weston Monitoring Report were conducted using data from multiple monitoring programs and the results were applied to the relevant core management questions described in Section I.B of the Receiving Waters and Urban Runoff Monitoring Program using a weight-of-evidence approach. The results of this assessment are summarized in the table below.

Summary of WMA Assessment Findings

WMA	Monitoring Program Elements	Assessment	Summary of Findings	Core Questions Addressed
San Diego River WMA	Receiving Water Monitoring Program	Ambient Receiving Water Assessment	▪ Constituents of concern[1]: – High frequency of occurrence (TDS and enterococci). – Low frequency of occurrence (dissolved oxygen, total coliform, and fecal coliform).	1, 2
		Wet Weather Receiving Water Assessment	▪ Constituents of concern[1]: – High frequency of occurrence (turbidity and fecal coliform) – Low frequency of occurrence (enterococci, TDS, and total coliform) ▪ No persistent toxicity was observed.	
		Rapid Stream Bioassessment	▪ Altered benthic macroinvertebrate communities (Very Poor IBI ratings) were observed.	
	Urban Runoff Monitoring	Ambient Urban Runoff Areas Assessment (CSDM and DWM)	▪ Constituents of concern[1]: – Low frequency of occurrence (total coliform and fecal coliform)	3, 4
		Wet Weather Urban Runoff Areas Assessment (MS4)	▪ No data analyzed from this program to date.	
	WMA Assessment	Receiving Water Trend Assessment	▪ Significant increasing trends were observed for turbidity and TSS. ▪ Significant decreasing trends were observed for nitrate, dissolved copper, and dissolved arsenic.	5
		2001–2006 Baseline Long-Term Effectiveness Assessment Ratings	▪ WMA high frequency of occurrence rating for TDS, fecal coliform, and enterococci are consistent with the 2001–2006 BLTEA ratings.	

[1] Constituents of concern are determined by a rating system that evaluates the frequency and magnitude of a constituent above its relevant criteria. Low, medium, and high frequency of occurrence describe the relative ranking of those constituents. The ranking methodology is described in Appendix B of the Weston Monitoring Report (Weston 2009).

2.1 WATER QUALITY ASSESSMENT

The Water Quality Assessment provided in the Weston monitoring report and summarized in the table above is consistent with the previous year's assessments reported in the Weston Monitoring Report for fiscal year 2006-07 as well as the baseline watershed evaluation (BWE) presented in the March 2008 WURMP. Based on a review of the current Weston monitoring report and available monitoring data from dry weather monitoring, jurisdictional wet weather monitoring and third party monitoring data, the San Diego River Watershed Copermittees concluded that the high priority pollutants for the watershed remain the same ones identified in the WURMP:

- Bacteria Indicators
- Phosphorus
- Total Dissolved Solids (TDS)
- Low Dissolved Oxygen (DO)
- Turbidity

In addition, bioassessment data continue to show benthic alterations as a concern in this watershed, but these impacts may be due to physical impacts, not chemical impacts. Note that a biological assessment performed after completion of the Forester Creek Improvement project, indicates that the area downstream of the project was "unimpaired," very rare for an urban waterbody (Weston; July 2008). It is anticipated that this and other restoration projects (such as the Woodglen Vista Creek project) will assist in improving the condition of the biological community within the San Diego River.

Weston's recommendations for this watershed are to continue monitoring at the MLS to determine long-term trends, to continue monitoring for toxic and benthic impacts, and to identify upstream sources of COCs. The addition of TWAS locations within the Lower San Diego HA during the 2009–2010 Monitoring Season will provide information regarding conditions in other areas of the WMA. Furthermore, conducting ambient weather monitoring at the MLS and future TWAS locations will provide temporal information regarding the conditions in the receiving water.

2.2 POLLUTANT SOURCE ASSESSMENT

The Weston monitoring report evaluates pollutant sources in terms of the core management questions 3 and 4. The observed results in the dry weather monitoring and coastal storm drain monitoring programs as reported in the Weston Monitoring Report are generally consistent with previous year's data and appear to indicate that the conclusions in the Baseline Long Term Effectiveness Assessment (BLTEA) and the March 2008 WURMP regarding pollutant sources remain valid (Weston Solutions et al., 2005; City of El Cajon et al., 2008). More specifically, the San Diego River Watershed Copermittees believe the targeted land uses and the relative rankings of potential source categories within these land use types, as reported in the WURMP, remain valid priorities for the watershed.

The Weston Monitoring Report recommends continued development and implementation of the MS4 Outfall Monitoring and Source Identification Monitoring program to provide additional information regarding urban runoff during wet weather conditions. The San Diego River Watershed Copermittees concur with this recommendation.

3.0 IMPLEMENTATION OF WATER QUALITY ACTIVITIES

This section summarizes the activities identified in the WURMP and implemented by the San Diego River Watershed Copermittees during the 2007-08 reporting period. Although not a qualifying watershed activity under the permit, the most significant activity during fiscal year 2007-08 was the comprehensive review and revision of the WURMP itself (City of El Cajon et al., 2008b). The San Diego River Watershed Copermittees used the collective Watershed Strategy developed at the regional level to evaluate conditions in the watershed and the priorities for the San Diego River Watershed Copermittees. This evaluation culminated in a five-year strategic plan to guide the selection of watershed activities during the current permit cycle.

Since this comprehensive reevaluation of the watershed program spanned almost the entire fiscal year and watershed activites are planned and budgeted well in advance, the watershed activities conducted during fiscal year 2007-08 are generally consistent with the activity selection process under the previous permit, not the current WURMP. The San Diego River Watershed Copermittees are in the process of transitioning to new types of more collaborative activities as described in the WURMP and Section 3.5 below, but this transition is not reflected in the watershed activities being reported in this section for 2007-08 because of this timing issue.

3.1 WATERSHED WATER QUALITY ACTIVITIES

The San Diego River Watershed Copermittees implemented numerous water quality activities focused on the San Diego River Watershed priority pollutants of concern during fiscal year 2007-08. These activities are summarized in the Watershed Activities Matrix and activity summary sheets included in Appendix A, which contain descriptions of each activity's impact on the watershed and the pollutants of concern. Some of the highlighted activities include:

- River Restoration projects, including land acquisitions,
- Trash removal and river cleanup events,
- Structural BMP projects,
- Removal of homeless encampments and cleanups, and
- Setting-up additional "doggie bag" dispensers.

3.2 WATERSHED EDUCATION ACTIVITIES

The San Diego River Watershed Copermittees continue to value education activities as a means of reducing pollutants at the source. The watershed education activities conducted in fiscal year 2007-08 are summarized in the Watershed Activities Matrix and activity summary sheets included in Appendix A, which contain descriptions of each activity's impact on the watershed and the pollutants of concern.

3.3 PUBLIC PARTICIPATION ACTIVITIES

The San Diego River Watershed Copermittees continue to rely on the Project Clean Water website as a tool to facilitate outreach to the public. In addition, a number of the activities, both education and water quality, are specifically designed to foster public participation. For

example, the cleanup events sponsored by the jurisdictions are typically conducted by or augmented by volunteers and are often associated with appreciation events for specific parks or the river itself. This direct public participation is intended to foster a sense of community awareness and responsibility for our waterways. A number of jurisdictions make a point of addressing the volunteers to educate them about watersheds in order to strengthen the link between upland human activities and water quality.

3.4 COLLABORATIVE LAND-USE PLANNING EFFORTS

This section describes collaborative land use planning efforts within the San Diego River Watershed during fiscal year 2007-08. The San Diego River Watershed Copermittees have identified enhanced education and cross-jurisdictional communication as key elements in lessening the potential watershed impacts resulting from jurisdictional land use decisions. Efforts are ongoing to further integrate watershed priorities into jurisdictional land use planning processes and to search for innovative opportunities to enhance collaboration at the watershed scale. JURMP annual reports contain information on individual Copermittee efforts to integrate watershed and water quality principles into local general plans and ordinances.

Education:

The San Diego River Watershed Copermittees have embraced the potential of Low Impact Development (LID) approaches to effectively address the impact of pollutants and discharge volumes resulting from new and significant re-development. In addition to the education and training that is provided to the development community and municipal staff as part of baseline JURMP compliance, targeted LID efforts during this reporting period included the County of San Diego's development of a LID and Watershed Planning Education Activity. This activity is intended to educate local planning and sponsor groups on LID and watershed planning principles, practices, and requirements. The recommendations of local planning and sponsor groups have influence over whether, and under what conditions, development projects within the unincorporated County are approved. This education activity is intended to aid these advisory bodies in making informed recommendations on aspects of development projects that could affect watershed water quality. During the FY 07/08 reporting period, County of San Diego staff began conducting presentations to planning and sponsor groups with the first presentation made to the Hidden Meadows Community Sponsor group in the Carlsbad Watershed on June 26, 2008. Within the San Diego River Watershed 9 additional educational presentations are targeted for 7 Community Planning Groups, 1 Community Sponsor group and 1 local community group in the North Mountain Planning Area during FY 08/09.

Cross-Jurisdictional Communication:

The primary means of collaborative land use planning is the clear and timely communication of pending land use decisions among the San Diego River Watershed Copermittees. One way this is accomplished is through notification of the availability of environmental documents and public hearings pursuant to the California Environmental Quality Act (CEQA). To improve awareness of pending projects beyond CEQA requirements, the Copermittees adopted a Memorandum of Understanding in 1991 that establishes guidelines for the notification of land use and development actions approved by Copermittee agencies. Notification triggers are based on considerations of project size, location, and type as specified in the MOU. Each jurisdiction typically provides

neighboring jurisdictions with the opportunity to review and comment on discretionary projects located near jurisdictional borders. Through this process, the San Diego River Watershed Copermittees have the ability to participate in and comment on land use planning efforts outside of their jurisdiction. By working together and creating partnerships, Copermittees provide an opportunity to 'catch' potential watershed issues from adjacent jurisdictions. Through enhanced communication and strong relationships, the Copermittees are able to better address watershed needs as a whole.

In order to encourage collaborative, watershed-based land use planning, the San Diego River Copermittees will have at least one watershed meeting per year that will be dedicated to discussing and addressing land use planning issues. For fiscal year 2007-08, this collaboration primarily addressed the incorporation of LID into land use and development, and particularly the LID manual produced by the County. The County presented the manual and LID concepts to planners from other San Diego River Copermittees prior to the regular WURMP group meeting in August 2007 (Cities of El Cajon, Santee and San Diego) and at jurisdictional offices in November 2007 (La Mesa). Planners from San Diego River Copermittees also attended other cross-jurisdictional LID training events in February 2008. It is anticipated that these ongoing discussions will enable San Diego River Copermittees to establish some consistency in how they integrate watershed principles into their plans and to evaluate the potential need for watershed specific land use requirements. The results of future meetings, including any follow up meetings, will be reported in the WURMP annual reports.

3.5 UPDATED 5-YEAR STRATEGIC PLAN

The comprehensive review and revision of the WURMP resulted in the San Diego River Watershed Copermittees developing a set of Strategic Goals for the watershed based on the regionally developed Collective Watershed Strategy (City of El Cajon et al., 2008). These Strategic Goals are described in the WURMP and are being used as narrative objectives to facilitate activity selection, implementation and effectiveness measurement.

3.5.1 New Watershed Activities

The table below outlines the planned timeframe for implementing activities associated with each Strategic Goal, which are based on the priority pollutants and targeted sources identified in the WURMP. The specific activities selected for implementation in a given year will, to the extent reasonable, support the identified Strategic Goals both individually and collectively. However, individual jurisdictions may find it more appropriate in some cases to perform different activities that still support one of the Watershed Strategic Goals. For example, the timing of funding sources, differences between drainage areas and differences in organizational structure may cause an individual jurisdiction to select different activities that year.

Goal	Strategic Goal	Implementation Schedule by Fiscal Year				
		Fiscal Year 2009	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012	Fiscal Year 2013
1	Dry Weather Flow Reduction	P/I/A	P/I/A	P/I/A	I[1]/A	A
2	Muncipal/Park Source Reduction	I	A		P[1]	I[1]
3	Commercial/Industrial Source Reduction	P	I	A		
4	Residential Source Reduction		P	I	A	A
5	Bacteria Source Reduction	P/I/A	P/I/A	P/I/A	P/I/A	P/I/A

Notes: I = Implementation; P = Planning; A = Assessment
[1] Activities supporting this Strategic Goal may be eliminated and shifted toward other Strategic Goals if judged appropriate.

Because this strategy was developed in the first year of the new Municipal Permit, use of this strategy to guide selection of activities will not begin until fiscal year 2008-09. Thus, the San Diego River Copermittees will not have the benefit from a full year of planning until implementing activities scheduled for the 2009-10 fiscal year. Initially, the Strategic Goals and supporting activities will address multiple pollutants while focusing on specific types of land uses (e.g. Goals 2 through 4). As Copermittee understanding of sources increases over time, it is possible that the strategic goals may become more specific. For example, goals may be focused on specific pollutants or groups of pollutants at various land use types (e.g. Strategic Goal 5), or by targeting more specific sources within a land use.

More detailed descriptions of how the San Diego River Copermittees will implement these Strategic Goals in the form of Watershed Water Quality and Education Activities are provided in Appendices B and C. These plans will be updated at least annually to reflect our changing understanding of water quality in the watershed or lessons learned from other sources, including previous implementation activities.

3.5.2 Updated 5-Year Strategic Plan

Based on the limited monitoring conducted in fiscal year 2007-08 and the short time since the revision of the WURMP in March 2008, the San Diego River Copermittees are not making significant revisions to the current 5-year strategic plan. However, in April 2008, the CRWQCB and the EPA's consultant, PG Environmental, conducted an audit of the WURMP programs in the Carlsbad and San Diego Bay Watersheds that will likely require some changes. The final audit report was delivered to the San Diego Regional Copermittees in September 2008. The audit report included overall comments on the watershed programs, assessments of individual watershed activities, and an analysis of the efficacy of the Permit's WURMP requirements as currently written. It also

recommended that a dialogue be initiated between RWQCB staff and the Copermittees to amend permit language where necessary so that Copermittees may better meet the program's goals. The San Diego Regional Copermittees, through the Regional WURMP Workgroup, initiated dialogue with RWQCB staff on these issues in November 2008. The San Diego River Copermittees are committed to continue their involvement in this process during the 2008/2009 reporting period. It is anticipated that some changes to the Five-Year Strategic Plan may be necessary based on the outcome of the ongoing discussions between the Copermittees and the RWQCB.

4.0 EFFECTIVENESS ASSESSMENT

4.1 ASSESSMENT OF OVERALL WURMP EFFECTIVENESS

One of the most important components of a successful program is the development and implementation of a comprehensive program evaluation. In order to facilitate this assessment of WURMP effectiveness, the March 2008 WURMP has translated the results of the Copermittees water quality and pollutant source assessments into more specific Strategic Goals that will facilitate the selection of collaborative and measurable activities. Since the selection of Strategic Goals was based on a comprehensive assessment of water quality and potential pollutant sources in the watershed, measurable progress toward achieving these Strategic Goals is considered to be measurable progress toward the larger goal of positively affecting water quality. The specific activities selected by the San Diego River Copermittees will be developed, implemented and measured for effectiveness against these Strategic Goals.

For fiscal year 2007-08, activities were selected for implementation well in advance of the WURMP revisions and can not be reasonably evaluated in terms of the Strategic Goals. However, even with the use of the Strategic Goals, the San Diego River Watershed Copermittees intend to continue evaluating watershed activities using the six hierarchical levels of targeted outcomes described in the Framework for Effectiveness Assessment Document, which can still be used for the fiscal year 2007-08 activities. The six levels are as follows:

Level 1: Compliance with activity-based permit requirements
Level 2: Changes in knowledge / awareness
Level 3: Behavioral change / BMP implementation
Level 4: Load reductions
Level 5: Changes in discharge quality
Level 6: Changes in receiving water quality

Documentation of Levels 1-3 is fairly straightforward, whereas documentation of Levels 4-6 requires the development and implementation of scientific studies designed specifically to document and track water quality trends in discharges and in the receiving water. Moreover, the detection of changes in discharge quality and, in particular, changes in receiving water quality requires the collection of data over several years to detect and verify changes in water quality. Although the Copermittees have very few data sets that span several years, we are working to collect this information and improve the process. In addition, due to the enormous number of factors affecting water quality in both storm drain discharges and in receiving waters, it is difficult to isolate the effects of a storm water program's efforts. Conclusions from existing data will be conducted when possible, but long-term, consistent improvements in water quality throughout the San Diego River Watershed cannot yet be determined.

Levels 1, 2, and 3 assess implementation of BMPs with prevention of pollution entering the storm drain system as the primary objective. Assessment Levels 4, 5, and 6 focus on reducing pollutants loads and assessing water quality improvement. The two groups of Assessment Levels have two different objectives, although they are connected by water quality. A connection between the two assessment groups is not possible when pollutant load information has been obtained at only a few mass loading stations, generally found in the

lower watershed, near the discharge point to the ocean. Even if jurisdictions take the Effectiveness Assessment through to Level 4 by estimating pollutants prevented from entering the receiving water, there still is no path for connecting this information to water quality in any meaningful way. These and other obstacles to assessing effectiveness will be tasked to the Effectiveness Assessment Workgroup as well as the Watershed Copermittees, who will work together to identify solutions to these obstacles.

4.1.1 Level 1 Effectiveness: Compliance with Activity-Based Permit Requirements

The San Diego River Watershed Copermittees have fulfilled several of the requirements of the Municipal Storm Water Permit. The table below outlines Level 1 Compliance with the Municipal Permit by relating San Diego River Watershed Copermittee activities to one of the four objectives and the requirements specified in the Municipal Permit.

Level 1 targeted outcomes

Permit Requirements (E.2)	Activities	Status
(a) Lead Watershed Permittee Identification	• San Diego River Watershed Urban Runoff Management Plan	Completed
(b) An accurate map of the watershed	• San Diego River Watershed Urban Runoff Management Plan	Completed
(b) Annual assessment of receiving water quality	• Weston 2007-2008 Urban Runoff Monitoring Report	Complete for 2007-2008
(d) Mechanism to facilitate collaborative "watershed based" land use planning	• County General Plan Update	Ongoing
	• City of San Diego General Plan Update	Completed (proceeding with GP elements)
	• San Diego River Watershed Urban Runoff Management Plan	Complete for 2007-2008
	• San Diego River WURMP Workgroup	Complete for 2007-2008
	• MOU; CEQA; Public Hearings; MSCP – descriptions included in the Common Activities	Complete for 2007-2008
	• Impervious Cover Coefficients Study	Complete for 2007-2008
(e) Develop and implement collective watershed strategy	• San Diego River Watershed Urban Runoff Management Plan • Weston 2007-2008 Urban Runoff Monitoring Report	Complete for 2007-2008
(f) Identify and implement Watershed Activities	• See Section 3	Complete for 2007-2008
(g) Copermittee collaboration	• See Sections 1 and 3	Complete for 2007-2008
(h) Mechanism for public participation	• Copermittee and Stakeholder Collaboration /Public Participation (meetings, e-mail and web)	Ongoing
	• Direct Interaction	Ongoing

Permit Requirements (E.2)	Activities	Status
	• Project Clean Water	Ongoing (website is updated as new information warrants)
	• San Diego River Coalition Meetings	Complete for 2007-2008
	• San Diego River Watershed Urban Runoff Management Plan	Complete for 2007-2008 - Implementation ongoing
(i) Annual WURMP review	• WURMP Annual Report	Complete for 2007-2008

4.1.2 Level 2 Effectiveness: Changes in Knowledge and Awareness

The following programs implemented by the San Diego River Watershed Copermittees may have contributed to an increase in knowledge and/or awareness of program participants.

- Project Clean Water
- Transit Shelter and Billboard Advertisements
- Think Blue Public Servic e Announcements
- Public Outreach & Media
- School Outreach: Water Quality and Watersheds
- Partners in Clean Water and Community Events

Many of the programs listed above address multiple program strategies (i.e., development of a monitoring program coupled with an educational outreach campaign). As such, these programs provided education on general watershed concepts, as well as information on specific priority pollutants within the San Diego River Watershed. However, the San Diego River Copermittees increasingly want to focus their attention on activities that result in load reductions. This may result in fewer activities targeting this level of effectiveness, depending on the methods used to achieve the load reduction, e.g. structural BMPs typically have no impact at this level.

4.1.3 Level 3 Effectiveness: Behavioral Change and BMP Implementation

It is likely that changes in behavior occurred through implementation of the programs or activities listed in Section 3 that involved stakeholder participation in activities and decision-making processes, as well as the implementation of BMPs to reduce the impacts of urban runoff. These programs also provided information on general watershed concepts, as well as information on specific priority pollutants within the San Diego River Watershed:

- Transit Shelter and Billboard Advertisements
- Think Blue Public Servic e Announcements
- San Diego River Watershed Restaurant Inspection Flyer Distribution
- Park Appreciation Days
- Intergenerational Games
- Outreach on Pet Waste Management
- Our Water, Our Responsibility Pamphet Distribution

Although no formal quantification was made during this fiscal year, it can be assumed that the Copermittees efforts changed behavior and, thus, had a positive effect on water quality.

4.1.4 Level 4 Effectiveness: Load Reductions

The implementation of BMPs is ultimately aimed at preventing pollutants from entering the storm drain system, which equates to load reduction. Targeting specific pollutants by implementing BMPs to address pollutant sources is an integral component of measuring Level 4 outcomes. Furthermore, quantifying the volume of pollutants that were prevented from entering the storm drain system or receiving water bodies can provide beneficial data that can be used to address broader water quality issues.

Some activities are more conducive to estimating load reductions than others. For example, street sweeping and storm drain cleaning are easily quantified in terms of loads reduced since material is physically removed from conveyances. However, Copermittees generally do not track most jurisdictional activities on a watershed basis. One of the opportunities for improvement identified in the Copermittees' BLTEA is to reconsider the way certain types of program data are tracked. This may involve becoming more geospatial in the way data is collected and presented. Some activities are extremely difficult to analyze in terms of load reductions. For example, the effect that education has on reducing pollutant loads would likely be based on conjecture and gross estimation.

Some of the FY2007-08 activities with quantifiable load reductions include the following:

- Approximately 100,776 dog waste bags were used, and it is estimated that this equates to the reduction of 20,155 pounds of dog waste collected at County of San Diego park facilities in the San Diego River Watershed.
- Approximately 4,200 dog waste bags were used, and it is estimated that this equates to the reduction of 840 pounds of dog waste collected at City of Santee park facilities in the San Diego River Watershed.
- Approximately 3,640 pounds of trash and debris were removed from 30 locations in the San Diego River Watershed on 12 dates during the Alpha Project Cleanup.
- Approximately 5 tons of trash and debris on Park Appreciation Day in La Mesa. Additional waste and debris was removed in La Mesa on Coastal Cleanup Day and by efforts throughout the year in the Adopt a Park program and by Canine Corners volunteers at Harry Griffen Park.
- An estimated 47.6 tons of trash were removed from various parks and Forester Creek during cleanup events in the City of Santee.
- An estimated 187 cubic yards of trash, debris and sediment removed from the trash barrier at Forrester Creek in the City of El Cajon.

4.1.5 Level 5 and 6 Effectiveness: Changes in Discharge Quality and Receiving Water Quality

Level 5 outcomes represent changes in the quality of discharges from Copermittee-owned storm drain systems into receiving waters. They differ from Level 4 outcomes in that they represent changes in the cumulative loadings from multiple sources rather than individual

sites or facilities. No measurements of changes to discharge quality were taken during FY2007-08.

Level 6 outcomes describe changes to receiving water quality that result from urban runoff management programs. It can be difficult to distinguish between the beneficial effect of urban runoff management activities and changes in water quality that are due to natural variability or other factors outside the scope of the WURMP. Nonetheless, collection of water quality data is critical to determining the effectiveness of management programs over time. Copermittees throughout the region are working together to collect water quality data and to measure improvement or degradation at the watershed scale. The BLTEA provided the first long-term assessment of changes to receiving water quality. It also incorporated pollutant-loading potentials for significant sources within the region and established threat-to-water quality (TTWQ) ratings for priority pollutants and sources within each hydrologic sub-watershed identified within the Basin Plan.

Quantifying water quality change requires an analysis of COCs in sampled runoff as well as an evaluation of existing information: 303(d) listings, beneficial uses, existing projects and studies, etc. In many cases, sufficient data may not be available from urban runoff monitoring programs to determine whether a water quality problem results in water body impairment. More difficult still is isolating the effect that urban runoff management activities have on observed changes. Stormwater data can vary significantly from storm to storm and it usually takes several years of data to determine whether improvements or degradation are occurring. All of these factors complicate annual water quality assessments. Water quality change is generally assessed on a long-term basis by evaluating trends; more water quality information pertaining to trend analysis is presented in the Weston Monitoring Report.

As a whole, the Copermittees are working to expand the focus of their assessments on demonstrating the watershed-level benefits of program implementation, and will continue to do so under order R9-2007-0001. However, annual watershed assessments do not attempt to address the relationship of WURMP implementation to changes in water quality; this analysis will be confined to the Long-term Effectiveness Assessment process. The Copermittees feel that their efforts demonstrated by Level 1, 2, 3, 4, 5 and 6 data likely had positive effects on water quality and help establish the effectiveness of their San Diego River watershed program. The process also allowed them to thoroughly evaluate the WURMP and make improvements, modifications, and changes to the program as needed.

4.2 ASSESSMENT OF TMDL BMP IMPLEMENTATION PLAN EFFECTIVENESS

At this time, there are no adopted TMDLs currently in effect within the San Diego River WMA. The Bacteria TMDL has been adopted by the CRWQCB, but has not yet been approved by the State Water Resources Control Board. Necessary changes to meet future TMDL specific requirements will be incorporated at that time. Current activities are being planned and implemented with the Bacteria TMDL requirements in mind.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

This Annual Report describes the efforts of the County of San Diego and the cities of El Cajon, La Mesa, San Diego, and Santee in improving the water quality within the watershed for the benefit of residents and wildlife alike.

Between July 2007 and June 2008, the San Diego River Watershed Copermittees conducted a comprehensive review and revision of the WURMP using the Collective Watershed Strategy developed at the regional level and in compliance with the reissued Municipal Permit. The revised WURMP continued and extended Copermittee efforts to more efficiently use limited resources by focusing resources on efforts that maximized water quality benefits. In particular, the San Diego River Watershed Copermittees developed a set of Strategic Goals for the watershed that will guide activity selection, implementation and evaluation during this permit cycle and will facilitate cross-jurisdictional cooperation. It is clear that continued integration between regional, watershed and jurisdictional programs are key to the development of quality programs that are cost-effective and responsive to the needs of the residents within the watershed.

In addition to WURMP program development, the San Diego River Watershed Copermittees continued to implement a number of Water Quality and Education activities designed to improve water quality and program effectiveness. As described in Section 3.5 of this Annual Report, the WURMP Workgroup is working diligently and across jurisdictional boundaries to develop and implement watershed activities that address the specific water quality problems of the San Diego River watershed. As the new WURMP process is implemented and refined, the planned collaborative efforts will help to raise the effectiveness of the Copermittee programs. The Copermittees will continue to refine and improve the San Diego River WURMP each year.

The San Diego River Watershed Copermittees will also cooperate with the other watersheds in the region to develop a coordinated dialogue with the CRWQCB in response to the CRWQCB's September 23, 2008 letter. As this dialogue continues and develops, the San Diego River Watershed Copermittees will make adjustments to the San Diego River WURMP as appropriate.

5.2 RECOMMENDATIONS

Based on these conclusions, the Copermittees present the following recommendations.

Conduct a Source Identification Study to Guide Future Activity Selection. The most important contribution the watershed programs can make towards protecting Beneficial Uses and improving water quality in the San Diego River Watershed (or any watershed) is to increase understanding of the water quality issues in the watershed (i.e., the sources and magnitude of the issues). This will enable the Copermittees, other entities, and interested members of the public (their watershed partners) to make more informed decisions and take effective action to reduce pollutant loads. This is particularly true for bacteria, which has complicated fate, transport and regrowth mechanisms that are not well understood. The Copermittees

are planning to conduct a Source Identification Study in fiscal year 2008-09 as described further in Appendix B. The Copermittees believe this study will improve their ability to select and implement watershed activities that will result in measurable load reductions.

Use the WURMP Strategic Goals to facilitate coordinated and collaborative activities across jurisdictional boundaries. The San Diego River Watershed Copermittees have committed to making the effort to coordinate their activities as much as reasonably possible. The Strategic Goals provide a common focal point and direction for the activity development process. Because it is a group process designed to coordinate our efforts, the development of activities, even with the Strategic Goals as guides, is a slower process than one in which each jurisdiction simply selects individual watershed activities. However, based on our experience so far in fiscal year 2008-09, the San Diego River Watershed Copermittees believe it will yield better results. Developing common inspection checklists for parks and a common purpose for the inspections that allows for some comparability of results across jurisdictions has been a difficult but valuable exercise.

6.0 REFERENCES

California Regional Water Quality Control Board, San Diego Region (CRWQCB). 2007, Order No. R9-2007-0001, NPDES Permit No. CAS0108758; Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District and the San Diego County Regional Airport Authority

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