

LOS PEÑASQUITOS WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

FISCAL YEAR 2010 ANNUAL REPORT

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PREPARED AND SUBMITTED BY THE LOS PEÑASQUITOS
WATERSHED COPERMITTEES

CITY OF DEL MAR
CITY OF POWAY
CITY OF SAN DIEGO
COUNTY OF SAN DIEGO

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EXECUTIVE SUMMARY

Since January 2002, the County of San Diego and the Cities of Del Mar, Poway and San Diego (herein referred to as the “Los Peñasquitos WURMP Copermittees” or “Copermittees”) have been active in planning, developing and implementing watershed-based programs in the Los Peñasquitos Watershed Management Area (WMA). This Annual Report describes the actions taken by Los Peñasquitos WURMP Copermittees in Fiscal Year (FY) 2010 (July 1st, 2009 to June 30th, 2010) to implement and refine the 2008 Los Peñasquitos Watershed Urban Runoff Management Program (WURMP), and the progress made towards decreasing urban runoff and improving receiving water quality in the WMA.

The Copermittees collaborated on their efforts to address high priority surface water quality issues throughout the Los Peñasquitos WMA. This was coordinated through periodic meetings held throughout the reporting period. The meetings were held in order to effectively plan and implement the Los Peñasquitos WURMP, develop and prioritize water quality activities that address pollutants of concern in the WMA, exchange ideas on how to address High Priority Water Quality Problems (HPWQPs) in the WMA, evaluate the effectiveness of actions, and collaborate on development of required submittals. In order to complete the objectives, the group performed assessments and conducted activities to address the water quality problems. These assessments and activities include: (1) a water quality assessment; (2) a pollutant source assessment; (3) planning and implementation of watershed activities; and (4) an assessment of the Copermittees’ activities in the WMA.

A water quality assessment was performed that includes a summary of analysis of the urban runoff and receiving waters in the Los Peñasquitos WMA based on data collected and analyzed from July 2009 through June 2010. In order to assess the water quality of regional WMAs on an annual basis, Regional Copermittees completed the San Diego County Municipal Copermittees Urban Runoff Monitoring Report (Annual Monitoring Report) for FY 2010 in compliance with the San Diego Regional Water Quality Control Board Order No. R9-2007-0001. Based on the data and findings of this report, the Los Peñasquitos WURMP Copermittees have determined to focus their efforts on targeting the following HPWQPs for the Los Peñasquitos WMA: (1) Bacteria in both hydrologic areas (HAs); and (2) Sediment in the Miramar HA.

The Copermittees also completed an assessment of potential pollutant generating sources in each HA in the WMA. The purpose of this assessment was to identify the high priority pollutant sources in each HA based on the HPWQPs identified and each source’s likelihood of generating those pollutants. For example, an HA with bacteria as a HPWQP would typically have sources such as Food Establishments and Animal Facilities included as high priority sources (in addition to others) based on their potential for generating bacteria as a pollutant.

All WURMP activities required by Order R9-2007-0001 were conducted during the reporting period. Details of these activities are found in Section 4 and Appendix B of this Annual Report. For each WURMP activity a plan for implementation has been developed and updated, and each WURMP Activity is associated with at least one of the HPWQPs in each HA where the activity is to be implemented. Collectively, the Copermittees conducted eight (8) WURMP Watershed Activities – six (6) Water Quality Activities and two (2) Water Quality Education Activities.

As required, Copermittees implemented activities in the WMA as part of their Jurisdictional Urban Runoff Management Programs (JURMP) and WURMP programs. In an effort to report on the Copermittees' actions to improve water quality in the WMA, the Copermittees began the process to collect and report on JURMP and WURMP activities performed on an HA basis. This information is not comprehensive and for some data sets, estimates were used to generate quantities of activities. The Copermittees believe that this is an important first step towards integrating the activities and reporting to best assess and plan for activities that address the identified HPWQPs on an HA basis.

The Copermittees also performed an Effectiveness Assessment to determine the overall effectiveness of the Los Peñasquitos WURMP and the activities conducted by the Copermittees. The assessment includes activity-specific assessments as well as a comprehensive summary of the effectiveness of the WURMP activities implemented during the reporting period. This is the second year in which the Copermittees have included their JURMP activities as they were performed in each HA; however, the JURMP activities reported are limited in type due to the infancy of this type of reporting. The Copermittees are committed to continue this process and further develop the reporting and assessment of all activities conducted on an HA basis.

Activities selected and conducted by the Los Peñasquitos WURMP Copermittees during the reporting period address the overall goal of the WURMP and the Permit by focusing on the HPWQPs within the WMA. The effectiveness of the individual activities is variable; however, collectively the Copermittees' program actions are having positive effects on water quality.

The Los Peñasquitos WURMP Copermittees will continue to refine and augment the Los Peñasquitos WURMP as they improve their understanding of the complex issues affecting the WMA in a continued effort to improve its effectiveness in protecting and improving water quality in the region. Such refinement and augmentation are supported by the iterative process used to develop and implement the Los Peñasquitos WURMP, which establishes mechanisms for stakeholders to evaluate priorities, improve coordination, assess program goals, and allocate finite resources in a cost-effective manner.

In short, the FY 2010 Los Peñasquitos WURMP Annual Report presents an update on the Los Peñasquitos WURMP Copermittees' successful long-term efforts to protect and enhance the water quality of the WMA using a comprehensive watershed-based approach.

1 INTRODUCTION

The San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2007-0001 (Municipal Permit) requires Copermittees within the Los Peñasquitos Watershed Management Area (WMA) to collaborate and implement a Watershed Urban Runoff Management Program (WURMP). The WURMP consists of the Copermittees’ combined efforts to address and identify High Priority Water Quality Problems (HPWQPs) in the WMA; develop and implement activities that address pollutant load reduction and pollutant source abatement in Watershed Water Quality Activities and Watershed Education Activities; and participate in collaborative land use planning efforts. The reporting period for this Annual Report is from July 1st, 2009, through June 30th, 2010 (FY 2010).

1.1 COPERMITTEE COLLABORATION

1.1.1 LOS PEÑASQUITOS WURMP MEETINGS

The Los Peñasquitos Watershed Copermittees met nine (9) times during FY 2010 to implement the Los Peñasquitos WURMP. The Copermittees collaborated to develop, prioritize and implement watershed activities that address HPWQPs and sources in the WMA and the development of the Annual Report. They exchanged ideas on how to address HPWQPs in the WMA and evaluated the effectiveness of the watershed activities. **Table 1-1** is a summary of Los Peñasquitos WURMP meetings and an outline of agenda items discussed at these meetings.

Table 1-1 WURMP Meeting Dates and Agenda Items Discussed

Date	Agenda Items Discussed
8/13/2009	Permit WURMP Language Revisions; Annual Reporting Database; Alternative Reporting; Quality of Life Funding Strategy
10/8/2009	WURMP Annual Report – Database and Alternative Reporting; Permit WURMP Language Revisions; Quality of Life Funding Strategy; Cost Share Agreement; 303(d) Listings
11/12/2009	WURMP Annual Report –Alternative Reporting; Quality of Life Funding Strategy; Cost Share Agreement
1/14/2010	WURMP Annual Report – Certifications and Scheduling; Quality of Life Funding Strategy; Cost Share Agreement; Public Outreach Coordination
2/11/2010	WURMP Activities; Follow-up to Annual Reporting; Quality of Life Funding Strategy; Outreach Coordination – Fiesta de Los Peñasquitos 2010; Bacteria TMDL
3/11/2010	WURMP Activities; Quality of Life Funding Strategy; Outreach Coordination – Fiesta de Los Peñasquitos 2010; Bacteria TMDL
4/15/2010	WURMP Activities – Sediment Basins, Source ID Studies; Quality of Life Funding Strategy; Fiesta de Los Peñasquitos 2010; Bacteria TMDL; Unfunded Mandate Test Claim
5/13/2010	WURMP Activities – Source ID Studies; WURMP Calendar; Quality of Life Funding; Fiesta de Los Peñasquitos; Bacteria TMDL; TWAS Locations; Hodges Basin Natural Treatment System
6/17/2010	WURMP Calendar; Quality of Life Funding Strategy; TWAS Locations; TMDLs – Bacteria, Los Peñasquitos Lagoon; WURMP Activities – Source ID Studies

The general watershed meetings of the Los Peñasquitos WURMP Workgroup were led by the City of Poway, the WURMP lead Copermittee. A cost-share agreement was executed by the Copermittees to cover the cost of technical assistance for the watershed program. Activities and tasks were then carried out by the Copermittees, each within the structure of their

jurisdictional organization. Task completion was tracked and assessed at the Workgroup meetings and reported in the Annual Report.

Lagoon TMDL Investigative Order

The Los Peñasquitos WURMP Copermittees are assisting the RWQCB in the development of a sediment TMDL in the Los Peñasquitos WMA. The TMDL specifically addresses the issue of sedimentation/siltation within the lagoon. In FY 2007, the RWQCB issued Investigative Order R9 2006-76 for monitoring associated with Lagoon TMDL modeling. The Lagoon TMDL Investigative Order has resulted in the collection of a significant amount of hydrologic, hydraulic and water quality data for the lagoon and the associated WMA. Through monitoring during FY 2008, a significant amount of data was collected in order to calibrate and validate the TMDL models for pollutant load allocation. During FY 2009, the Copermittees as well as other dischargers and interested parties began meeting with RWQCB staff to begin developing the TMDL. In FY 2010, the Copermittees continued to work with the RWQCB to complete modeling for the TMDL development and develop the draft TMDL for scientific peer review.

1.2 WATERSHED MAP UPDATE

The Los Peñasquitos WMA is located within west–central San Diego County. The WMA has two hydrologic areas (HAs) and extends from the foothills east of the City of Poway to the coastal plain where the watershed drains into Los Peñasquitos Lagoon before flowing into the Pacific Ocean through a narrow mouth at Torrey Pines State Beach. The Los Peñasquitos WMA is 60,419 acres and encompasses the drainage areas of Los Peñasquitos Creek, Carmel Creek, and Carroll Canyon Creek (Soledad Canyon), with the remaining 1,107 acres comprising the lagoon and coastal drainages. Land use within the overall Los Peñasquitos WMA is classified primarily as open space / parks and recreation (31%), residential (22%), vacant and undeveloped land (14%), and transportation (13%). However, there are several notable differences in land use composition among the three creek drainage areas and between the two HAs that make up the watershed. The Los Peñasquitos WMA is mostly within City of San Diego jurisdiction (71%), with the remaining areas in City of Poway (25%), County of San Diego (3%), and City of Del Mar (0.2%) jurisdiction. Over 60% of the watershed is privately owned land.

No updates have been made to the previously submitted Watershed Map. See the Los Peñasquitos WURMP Annual Report submitted in January 2009 for the most recent Watershed Map.

2 WATER QUALITY ASSESSMENT

This section provides an assessment of the 2009–2010 monitoring programs conducted in the Los Peñasquitos WMA. A complete presentation of the monitoring efforts conducted during the reporting period is located in the *2009-2010 San Diego County Municipal Copermittees Urban Runoff Monitoring Report* (Urban Runoff Monitoring Report) (Weston, January 2011).

2.1 MONITORING PROGRAMS

Monitoring activities conducted in the WMA to comply with Order R9-2007-0001 are provided in **Table 2-1**. A map showing the locations of the MLS, TWA and the HSAs is provided on the following page as **Figure 2-1**.

Table 2-1 2009-2010 Monitoring Program Activities

Program Data Set	Constituents Assessed
Receiving Water Monitoring	
Ambient Monitoring	Water chemistry and toxicity
Rapid Stream Bioassessments	Benthic macroinvertebrates, periphyton, and physical habitat
Wet Weather Monitoring	Water chemistry, bacteria, toxicity, and trash
Post-Storm Sediment Pyrethroid Monitoring	Grain size, synthetic pyrethroid pesticides, and TOC
Urban Runoff Monitoring	
Jurisdictional Dry Weather Monitoring	Field and analytical chemistry, trash
MS4 Outfall Random Dry Weather Monitoring	Chemistry and bacteria
MS4 Outfall Random Wet Weather Monitoring	Chemistry and bacteria
MS4 Outfall Targeted Dry Monitoring	Chemistry, metals, and bacteria
MS4 Outfall Targeted Wet Monitoring	Chemistry, metals, pesticides, and bacteria
Regional Source Identification Monitoring	Chemistry, metals, pesticides, and bacteria
Coastal Storm Drain Monitoring (CSDM) Program	Fecal indicator bacteria

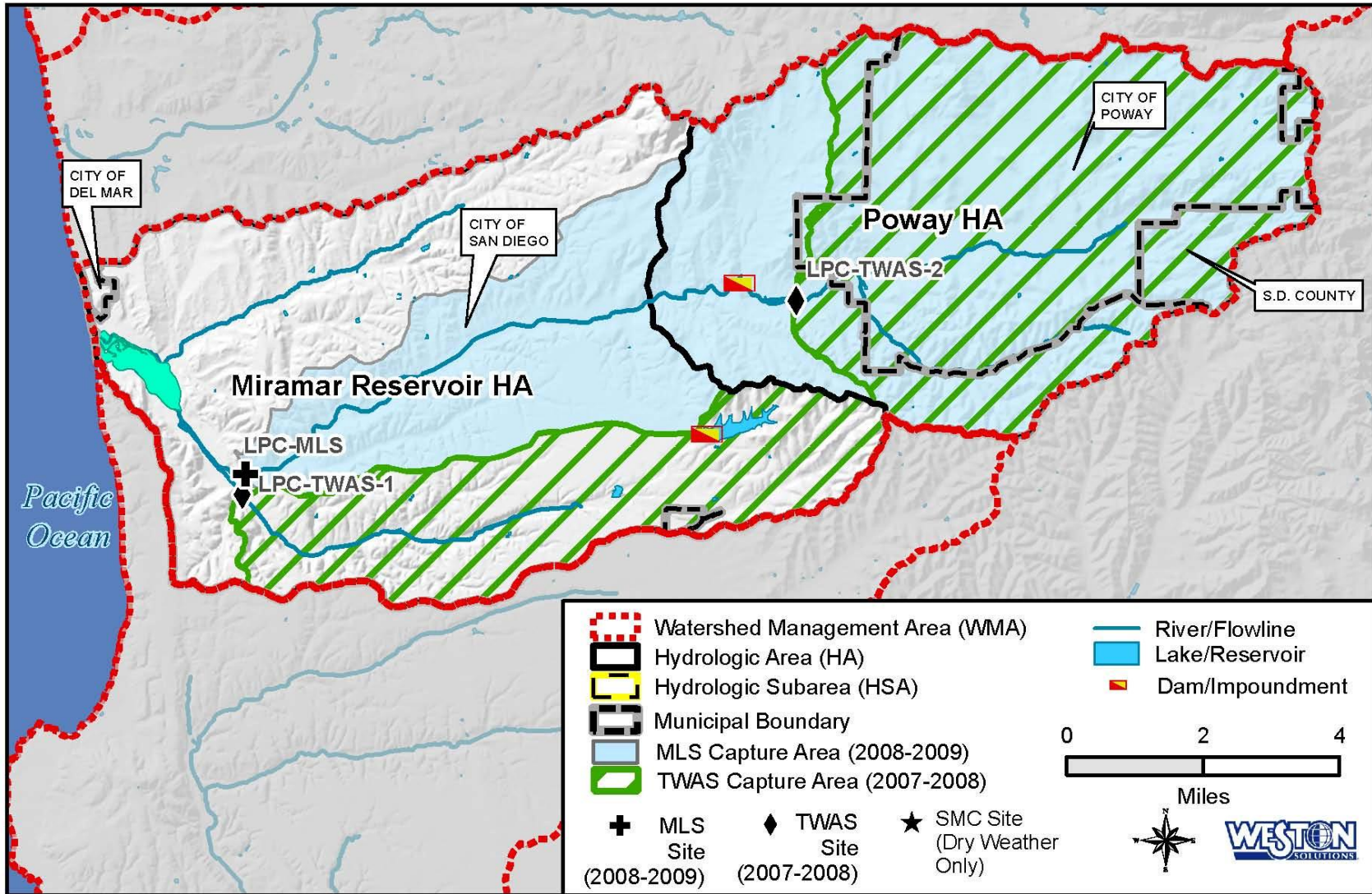
2.2 303(d) LISTINGS

Within this WMA, contaminants identified on the 2006 State Water Resources Control Board (SWRCB) Section 303(d) list are provided in **Table 2-2** with relevant total maximum daily load (TMDL) status. However, several changes are currently proposed in the 2008 Draft 303(d) list currently under development.

Table 2-2 Los Peñasquitos WMA SWRCB 303(d) Listed Waterbodies and TMDL Status

Waterbody Name	Pollutant/Stressor on 2006 SWRCB 303(d) List	TMDL Status
Los Peñasquitos Lagoon	Sediment/siltation	In development
Los Peñasquitos Creek	Phosphate and TDS	Proposed for completion - 2019
Soledad Canyon	Sediment toxicity	

Figure 2-1 Location of MLS, TWAS, and HSA – Los Peñasquitos Creek WMA



2.3 ASSESSMENT

Receiving water monitoring was not conducted during the 2009-2010 reporting period in the Los Peñasquitos Creek WMA due to the rotational nature of the Permit: the South County received the MLS and TWAS monitoring. Annual receiving water monitoring is conducted on a rotating schedule between the north and south portions of San Diego County as described in Table 1 of the Permit, with the exception of Chollas Creek which is monitored each year. Ambient and wet weather receiving water monitoring will be conducted during the 2010–2011 Monitoring Season.

Assessments were conducted using data from multiple current and historical monitoring programs, and the results derived using a weight-of-evidence approach. Each HA in the Los Peñasquitos WMA was assessed individually and summarized for the entire WMA by program element in **Table 2-3**.

Table 2-3. Summary of WMA Assessment Findings

WMA	Monitoring Program Elements	Assessment	Summary of Findings
Los Peñasquitos WMA	Receiving Water Monitoring	Ambient Receiving Water Assessment	<p>Ambient weather receiving water monitoring was not conducted during the FY2010 Monitoring Season in the Los Peñasquitos WMA. The results from the FY2009 Monitoring Season are outlined below.</p> <ul style="list-style-type: none"> ▪ Constituents of concern: <ul style="list-style-type: none"> - High frequency of occurrence (TDS, chloride, sulfate, and Enterococci). - Low frequency of occurrence (total nitrogen). ▪ No constituents had magnitudes of exceedance greater than five times their benchmark. ▪ Toxicity was observed for the <i>Ceriodaphnia dubia</i> reproductive endpoint, 96-hour survival, and 7-day survival at one random SMC site (Site SMC-01158). ▪ There is evidence of persistent toxicity.
		Wet Weather Receiving Water Assessment	<p>Wet weather receiving water monitoring was not conducted during the FY2010 Monitoring Season in the Los Peñasquitos WMA. The results from the FY2009 Monitoring Season are outlined below.</p> <ul style="list-style-type: none"> ▪ Constituents of concern: <ul style="list-style-type: none"> - High frequency of occurrence (TDS, fecal coliform, and Bifenthrin from historical data). - Low frequency of occurrence (TSS, turbidity and Enterococci). ▪ Fecal coliform was the only constituent with a magnitude of exceedance of more than five times the benchmark. ▪ Neither toxicity nor pesticides were detected during 2008-2009 wet weather monitoring at the MLS. ▪ Pyrethroid concentrations were below detection limits in all sediment samples.
		Rapid Stream Bioassessment	<p>Results from the FY2009 Monitoring Season are outlined below.</p> <ul style="list-style-type: none"> ▪ Altered benthic macroinvertebrate communities (Very Poor IBI ratings) were observed.
Los Peñasquitos WMA	Urban Runoff Monitoring	Ambient Urban Runoff Areas Assessment (Jurisdictional, MS4, CSDM)	<ul style="list-style-type: none"> ▪ Constituents of concern: <ul style="list-style-type: none"> - High frequency of occurrence (TDS, total nitrogen, total phosphorus, Enterococci). - Medium frequency of occurrence (fecal coliform, dissolved copper; Jurisdictional: conductivity, turbidity, total coliform, fecal coliform, and Enterococci). ▪ Trash assessments indicated portions of the lower watershed (906.1) had the highest occurrence of observed trash. No human health or aquatic health threats were identified.
		Wet Weather Urban Runoff Areas Assessment (MS4)	<ul style="list-style-type: none"> ▪ Constituents of concern: <ul style="list-style-type: none"> - High frequency of occurrence (fecal coliform). - Medium frequency of occurrence (fecal coliform, pH, TSS, TDS).
		Source Identification Program	<ul style="list-style-type: none"> ▪ Results suggest that single family residential land uses are likely contributors of the following constituents during wet weather events: <ul style="list-style-type: none"> - TSS, turbidity, dissolved copper (site specific), bifenthrin, cyfluthrin, l-cyhalothrin, permethrin, fecal coliforms. ▪ In the Del Mar study area (906.1), fecal coliform, TSS, turbidity, dissolved copper (site specific), bifenthrin, cyfluthrin, and L-cyhalothrin were identified as high priority constituents.
Los Peñasquitos WMA	WMA Assessment	Receiving Water Trend Assessment	<p>No sampling during 2009-2010 (South County Rotation). 2008-2009 Monitoring Season Results:</p> <ul style="list-style-type: none"> ▪ Significantly increasing trends were observed for fecal coliform. ▪ Significantly decreasing trends were observed for total lead.
		2001–2006 Baseline Long-Term Effectiveness Assessment Ratings	<ul style="list-style-type: none"> ▪ WMA high frequency of occurrence rating for TDS, sulfate, chloride, and fecal coliform, together with the benthic alterations, are consistent with the 2001–2006 BLTEA ratings. ▪ The presence of Bifenthrin is not consistent with the 2001–2006 BLTEA ratings.

2.4 INTEGRATED ASSESSMENT

Assessment of the WMA during both wet weather and ambient conditions is presented in an integrated manner to present managers with an overall assessment of the WMA and to provide answers to the core management questions as described in the regional monitoring program. The integrated assessment incorporates both the ambient weather and wet weather assessments and provides a summary of the overall findings for the Los Peñasquitos WMA. The integrated assessment also identifies which priority constituents overlap between receiving waters and urban runoff. It is anticipated that MS4 Outfall Program data and Source Identification Monitoring Program data will bolster the assessment process as the data become available in future years. Integrated watershed assessments results are presented in **Table 2-4**.

Table 2-4 Integrated Watershed Area Management Assessment

System Assessed	Annual Dry Weather Constituent Assessment ¹	Annual Wet Weather Constituent Assessment ¹
Receiving Water Monitoring (MLS, TWAS, and SMC)	<p>No Sampling During 2009-2010 Season</p> <p>2009 SMC Results</p> <ul style="list-style-type: none"> • Chemistry – TDS, Chloride, Sulfate • Bioassessment – Very Poor IBI • Toxicity – <i>C. dubia</i> acute (high TDS) 	<p>No Sampling During 2009-2010 Season</p> <p>2008-2009 Season Results</p> <ul style="list-style-type: none"> • Chemistry – TDS, TSS, Turbidity • Bacteria – Fecal Coliform, Enterococci • Toxicity – None detected • Synthetic Pyrethroids Assessment – Not Detected
Urban Runoff Monitoring (MS4 Outfall and DWM)	<ul style="list-style-type: none"> • Chemistry – TDS, Total Nitrogen, Total Phosphorus • Bacteria – Fecal Coliform, Enterococci 	<ul style="list-style-type: none"> • Chemistry – None above benchmarks • Bacteria – Fecal Coliform
MLS Trends*		
Increasing		Fecal Coliform
Decreasing		Total Lead

Regional Source Study: Results of the Regional Source Study for Residential Land Use in Los Peñasquitos Creek WMA (City of Del Mar) indicated that single-family residential land uses may be potential sources of TSS, turbidity, fecal coliforms, and synthetic pyrethroids (bifenthrin, cyfluthrin, L-cyhalothrin, and permethrin) in stormwater flows during wet weather events. Residences with architectural copper may also be a source of copper to wet weather storm flows.

*Trends based on available data. Due to the rotational nature of the monitoring program, some years may not have recorded data (based on 2008-2009 Monitoring Season).

1: High and medium priority constituents are determined following the Final Draft Annual Assessment Methodology developed during the 2009-2010 Monitoring Season.

DWM - dry weather monitoring
 IBI - Index of Biotic Integrity
 Med - Medium Priority Constituent
 MLS - Mass Loading Station

MS4 - Municipal Separate Storm Sewer System
 SMC - Stormwater Monitoring Coalition
 TDS - total dissolved solids
 TSS - total suspended solids

2.4.1 HIGH PRIORITY WATER QUALITY PROBLEMS

Based on the assessments above and the available water quality data, the Los Peñasquitos WURMP Copermittees have determined that the HPWQPs in the Los Peñasquitos WMA are:

1. Bacteria in both HAs (under both ambient and wet weather conditions)
2. Sediment in the Miramar HA

It should be noted that the HPWQPs have not changed from previous assessments or the Los Peñasquitos WURMP.

3 POLLUTANT SOURCE ASSESSMENT

This section identifies, to the extent possible, the potential sources, pollutant discharges, and/or other factors causing the Los Peñasquitos WMA’s HPWQPs. The pollutant source assessment is based on currently available data associated with the urban runoff management programs. The pollutant source assessment is presented by HA.

Table 3-1 summarizes the land use in each of the HAs. Land use information is generally associated with wet weather urban runoff where rainfall runoff mobilizes and transports pollutants from areas that are collectively associated with particular land uses. This is opposed to dry weather urban runoff that is generally associated with point dischargers such as residences, commercial facilities, etc. Pollutants in the dry weather urban runoff enter the runoff from pollutant generating activities and from the conveyance of urban runoff as it enters and travels through the MS4.

Tables 3-2 and **3-3** present a limited inventory of pollutant generating sources that the Copermittees currently track by HA. The highest threat-to-water-quality (TTWQ) rated sources within each HA based on the HPWQPs are identified in each table (yellow highlight). This HPWQP is then associated with the sources that are likely to generate those pollutants (blue highlight). The process used to develop the tables was taken directly from the Baseline Long-Term Effectiveness Assessment (BLTEA) (Weston, MOE, LWA, 2005). The data used for the process includes the following: (1) results in the 2008-2009 Regional Annual Monitoring Report (Weston, 2010); (2) current inventory information from all WMA Copermittees; and (3) the Source Loading Potential (SLP) ratings from the BLTEA (Weston, MOE, LWA, 2005).

Table 3-1 Land Use Acreage by Hydrologic Area

Land Use	Hydrologic Area (acres)	
	906.1	906.2
Open Space	12,674.6	13,041.7
Single Family Residential	6,513.4	4,692.3
Transportation	4,807.3	2,565.2
Industrial	4,065.0	1,097.8
Multiple Family Residential	1,451.1	973.3
Commercial	1,239.2	639.4
Institutional	1,139.5	367.0
Park	764.3	552.4
Agricultural	414.1	291.2
Water	178.6	0.0
Recreation	118.3	31.1
Rural Residential	112.9	2,608.4
Municipal	89.4	128.6
Under Construction	86.8	74.1
Military	28.8	42.4
Prison	0.0	0.0

Source: SANDAG

Table 3-2 Pollutant Generating Sources – 906.1 Miramar Hydrologic Area*

Inventory Sites/Facilities**	Quantities			Pollutant Source Loading Potential***							
				Heavy Metals	Organics	Oil & Grease	Sediment	Pesticides	Nutrients	Gross Pollutants	Bacteria
Animal	27			N	L	UL	L	UK	L	UK	L
Automotive	554			L	L	L	UL	UL	UK	L	UL
Contractor	837			UL	UL	UL	L	UL	UL	L	UL
Food Establishment	654			N	L	L	UL	UK	UK	L	L
Equipment	99			L	L	L	UL	UL	UK	L	UL
Fueling	26			UK	L	L	UK	N	N	UK	N
General Industrial	17			L	L	L	UK	UK	UK	UK	UK
General Retail	47			UL	UL	UL	L	UL	UL	L	UL
Golf	1			N	N	UL	L	L	L	L	L
Manufacturing	306			L	UK	UK	UK	UK	UK	UK	UL
Metal	59			L	L	L	UK	UK	UK	UK	UL
Stone	25			L	UK	UK	UK	UK	UK	UK	UL
Storage & Warehousing	573			L	UK	UK	UK	UK	UK	UK	UL
Municipal	High	Non-High		L	L	L	L	UK	UK	UK	UL
	103	0									
Construction	High	Medium	Low	UL	UL	UL	L	UL	UL	L	UL
	6	6	26								

The highest threat-to-water-quality (TTWQ) rated sources within each HA based on the HPWQPs are identified in the table (yellow highlight signifies HPWQP). The HPWQP is associated with the sources that are likely to generate those pollutants (blue highlight).

*Prepared based on the WURMP Copermittees FY 2010 JURMP Annual Reports. The methodology for developing the tables is included as [Appendix A](#) to this report

**Other sources are not reported in this table including: Land Development, Residential and Non-inventoried Business Sources

***Pollutant Source Loading Potential taken from BLTEA 2005; N = None, UK = Unknown, UL = Unlikely, L = Likely

Table 3-3 Pollutant Generating Sources – 906.2 Poway Hydrologic Area*

Inventory Sites/Facilities**	Quantities			Pollutant Source Loading Potential***							
				Heavy Metals	Organics	Oil & Grease	Sediment	Pesticides	Nutrients	Gross Pollutants	Bacteria
Animal	13			N	L	UL	L	UK	L	UK	L
Automotive	191			L	L	L	UL	UL	UK	L	UL
Contractor	200			UL	UL	UL	L	UL	UL	L	UL
Food Establishment	335			N	L	L	UL	UK	UK	L	L
Equipment	59			L	L	L	UL	UL	UK	L	UL
Fueling	26			UK	L	L	UK	N	N	UK	N
General Industrial	3			L	L	L	UK	UK	UK	UK	UK
General Retail	11			UL	UL	UL	L	UL	UL	L	UL
Golf	8			N	N	UL	L	L	L	L	L
Manufacturing	85			L	UK	UK	UK	UK	UK	UK	UL
Metal	22			L	L	L	UK	UK	UK	UK	UL
Nursery	4			L	UL	UL	L	L	L	UK	L
Stone	11			L	UK	UK	UK	UK	UK	UK	UL
Storage & Warehousing	160			L	UK	UK	UK	UK	UK	UK	UL
Municipal	High	Non-High		L	L	L	L	UK	UK	UK	UL
	59	8									
Construction	High	Medium	Low	UL	UL	UL	L	UL	UL	L	UL
	12	33	41								

The highest threat-to-water-quality (TTWQ) rated sources within each HA based on the HPWQPs are identified in the table (yellow highlight signifies HPWQP). The HPWQP is associated with the sources that are likely to generate those pollutants (blue highlight).

*Prepared based on the WURMP Copermittees FY 2010 JURMP Annual Reports. The methodology for developing the tables is included as [Appendix A](#) to this report

**Other sources are not reported in this table including: Land Development, Residential and Non-inventoried Business Sources

***Pollutant Source Loading Potential taken from BLTEA 2005; N = None, UK = Unknown, UL = Unlikely, L = Likely

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4 IMPLEMENTATION OF ACTIVITIES

4.1 JURMP AND WATERSHED ACTIVITIES

The Los Peñasquitos WURMP Copermittees are responsible for implementing Jurisdictional Urban Runoff Management Program (JURMP) activities throughout their jurisdictions in an effort to improve the water quality of urban runoff. These activities have historically been reported only in jurisdictional Annual Reports. The Copermittees recognize that in order to assess the effectiveness of urban runoff management programs, it is important to track and report the data and information on a watershed basis.

In addition to their JURMP activities, the Los Peñasquitos WURMP Copermittees are responsible for identifying and implementing watershed water quality activities that address the HPWQPs in the WMA. These activities may be implemented individually or collectively at the regional, watershed, or jurisdictional level. The activity selection process is described fully in the March 2008 Los Peñasquitos WURMP.

The tables below present the Copermittees' efforts towards reporting all urban runoff management activities on a watershed basis. A comprehensive reporting of all urban runoff management activities on a watershed basis will assist in the effectiveness assessment when attempting to connect sources to urban runoff water quality problems and activities to urban runoff water quality improvements.

Collectively, the Copermittees conducted five (5) watershed water quality activities and one (1) watershed education activity in the Miramar HA (906.1); and, four (4) watershed water quality and two (2) watershed education activities in the Poway HA (906.2). Some of these activities overlapped HAs.

Table 4-1 JURMP and WURMP Activities – 906.1 Miramar Hydrologic Area*

Activity		Results # of Inspections: (Inventory #)			High Priority Water Quality Problem	
					Bacteria	Sediment
Inspections	Construction	High 119: (6)	Medium 62: (6)	Low 166: (26)		X
	Animal	2: (27)			X	X
	Contractor	226: (837)				X
	Food Establishment	184: (654)			X	
	General Retail	59: (47)				X
	Golf	1: (1)			X	X
Street Sweeping (Tons Collected)		3,157			X	X
Basins/Inlets/Ditches/MS4 (Tons Removed)		1,036			X	X
LP-WQA1	SDCK Trash Cleanup Sponsorship				X	
LP-WQA5	Targeted Inspections (formerly Targeted Restaurant Facility Inspections)				X	X
LP-WQA8	ILACSD Trash Cleanup Sponsorship				X	
LP-WQA10	Municipal Rain Barrel Installation and Downspout Disconnects				X	X
LP-WQA17	Pet Waste Bag Dispenser Program				X	
LP-WQEA13	Fiesta de Los Peñasquitos				X	X

*Prepared based on the WURMP Copermittees FY 2010 JURMP Annual Reports. The methodology for developing the tables is included as [Appendix A](#) to this report

Table 4-2 JURMP and WURMP Activities – 906.2 Poway Hydrologic Area*

Activity		Results # of Inspections: (Inventory #)	High Priority Water Quality Problem
			Bacteria
Inspections	Animal	3: (13)	X
	Food Establishment	66: (335)	X
	Golf	5: (8)	X
	Nursery	2: (4)	X
Street Sweeping (Tons Collected)		1,078	X
Basins/Inlets/Ditches/MS4 (Tons Removed)		821	X
LP-WQA5	Targeted Facility Inspections		X
LP-WQA8	ILACSD Trash Cleanup Sponsorship		X
LP-WQA17	Pet Waste Bag Dispenser Program		X
LP-WQA18	Median Sweeping Pilot Study		X
LP-WQEA12	Compost Sox Demonstration Project, Poway Landfill		
LP-WQEA13	Fiesta de Los Peñasquitos		X

*Prepared based on the WURMP Copermittees FY 2010 JURMP Annual Reports. The methodology for developing the tables is included as [Appendix A](#) to this report

4.2 WATERSHED EDUCATION ACTIVITIES

This section describes activities implemented by the Los Peñasquitos WURMP Copermittees during the FY 2010 reporting period to enhance the general public’s understanding of basic watershed principles and sources of water pollution. The Los Peñasquitos WURMP Copermittees are responsible for identifying and implementing education activities that address the HPWQPs in the Los Peñasquitos WMA. The activity selection process is described fully in the 2008 Los Peñasquitos WURMP.

The Los Peñasquitos WURMP Copermittees have made significant progress in developing and implementing programs aimed at improving storm water and urban runoff water quality in the WMA. [Table 4-3](#) below list the two (2) education activities implemented during FY 2010 by the Los Peñasquitos WURMP Copermittees. In addition, other activities were in the active planning or assessment phases during the reporting period. For more details on all of the activities, refer to [Table 4-7](#) and [Appendix B](#).

Table 4-3 Watershed Education Activities Implemented During FY 2010

ID #	Activity/Project Name
LP-WQEA12	Compost Sox Demonstration Project, Poway Landfill
LP-WQEA13	Fiesta De Los Peñasquitos

The effectiveness assessments for these activities are presented in the Activity Implementation Sheets ([Appendix B](#)) and are summarized in Section 5 – Effectiveness Assessment.

4.3 PUBLIC PARTICIPATION ACTIVITIES

4.3.1 INTRODUCTION

The Public Participation component of the 2008 Los Peñasquitos WURMP encourages residents and organizations within the WMA (such as other agencies, private companies and environmental groups) to become involved in improving water quality in their communities. This is achieved through public meetings and community workshops, Project Clean Water and other methods including direct interaction of Los Peñasquitos WURMP Copermittee staff with members of the public.

4.3.2 ACTIVITIES CONDUCTED

WURMP documents and reports have been posted on the Project Clean Water website, <http://www.projectcleanwater.org/>, where they are available to all interested stakeholders. During FY 2010, the Los Peñasquitos WMA web page on the Project Clean Water website received 1,912 hits and the Los Peñasquitos WURMP page received 553 hits. These totals are slightly higher than those seen in the previous reporting period. A monthly breakdown of the hits can be found in the tables below.

Table 4-4 Number of Hits: Project Clean Water Los Peñasquitos WMA Web Site

July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	March 10	April 10	May 10	June 10	Total
145	138	143	179	175	163	186	137	200	149	152	145	1,912

Table 4-5 Number of Hits: Project Clean Water Los Peñasquitos WURMP Web Site

July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	March 10	April 10	May 10	June 10	Total
37	36	41	68	50	31	45	49	66	59	41	30	553

During this reporting period, the Los Peñasquitos WURMP Copermittees participated in three community events that reached approximately 30,070 participants, as shown in **Table 4-6** below. Watershed concepts and principles were incorporated into booth displays and event activities.

Table 4-6 Community Events in FY 2010

Date	Event Title	Target Audience	Estimated Attendance	Location	Jurisdiction(s)
9/21/09	San Diego Women's Foundation Environmental Fair	Public	70	Mira Mesa	City of San Diego
4/25/10	Earth Day Celebration	Public	15,000	Midland Road	Poway
5/2/10	Fiesta de Los Peñasquitos	Public	15,000	Black Mountain Road	San Diego, County of San Diego, Poway, Del Mar

As noted in section 4.1 of this report, Water Quality Activities, several community cleanup events were held during FY 2010, which also provides opportunities for individuals or organizations to be involved in improving water quality in the Los Peñasquitos WMA.

4.3.3 FUTURE EFFORTS

The Los Peñasquitos WURMP Copermittees will continue to provide opportunities for residents and other interested parties to participate in Los Peñasquitos WURMP activities.

Draft documents and other information will be posted on the Project Clean Water website to elicit feedback. Community events and workshops will encourage involvement of all stakeholders in improving water quality throughout the Los Peñasquitos WMA.

4.4 COLLABORATIVE LAND-USE PLANNING EFFORTS

4.4.1 INTRODUCTION

The Land-Use Planning component of the 2008 Los Peñasquitos WURMP identifies several different activities and procedures designed to integrate watershed principles into comprehensive planning and to increase coordination of land-use planning goals and principles across Los Peñasquitos WURMP Copermittees within the WMA. Effective land-use planning can provide important water quality protection by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities.

4.4.2 ACTIVITIES CONDUCTED

Integrated Regional Water Management (IRWM)

The WURMP Copermittees have been active participants in the Integrated Regional Water Management (IRWM) planning process (IRWMPP). The IRWM Plan provides a mechanism for coordinating, refining and integrating existing planning efforts within a comprehensive, regional context; identifying specific regional and watershed-based priorities for implementation projects; and providing funding support for the plans, programs, projects, and priorities of existing agencies and stakeholders. Participation in the IRWMPP has already led to funding approval for a number of BMP (Best Management Practice) installation projects that will benefit the WMA by reducing runoff.

Quality of Life Funding Strategy

The County of San Diego has been invited to participate in SANDAG's Quality of Life Funding Strategy, and asked to take the lead on the Water Quality Enhancement Element. Based upon past analysis from SANDAG's Regional Comprehensive Plan (RCP), it has been determined that the region lacks a long-term and sustainable funding source for different areas of infrastructure, including stormwater. The County has been working collaboratively with other Copermittees, as well as interested regional stakeholders to vet a variety of funding options, conduct a regional needs assessment and help establish funding priorities related to water quality. This is an ongoing effort that currently has a vision through 2012.

4.4.3 FUTURE EFFORTS

In FY 2011, the City and County of San Diego, as well as other WURMP Copermittees, will continue to participate in the IWRMP process, and the expenditure of grant money and implementation of BMP projects will continue. Monitoring the effectiveness and maintenance requirements of the BMPs during the lifecycle of the grant will allow for the development of recommendations for future use by the City and other jurisdictions.

The Los Peñasquitos WURMP Copermittees remain committed to encouraging collaborative, watershed-based land-use planning in their jurisdictional planning departments. The Los Peñasquitos WURMP Copermittees will continue to work together to seek additional means of collaboration in this area.

4.5 UPDATED 5-YEAR STRATEGIC PLAN

4.5.1 NEW WMA ACTIVITIES

Proposed watershed activities Implementation Sheets can be found in **Appendix B**. New activity information includes a description of how each activity was selected, and how the activities are expected to abate sources and reduce pollutant discharges that may be causing the identified HPWQPs in the WMA.

Each activity on the WMA Activities List is fully described in an Activity Implementation Sheet that includes the following information:

1. A description of the activity;
2. A time schedule for implementation of the activity, including key milestones;
3. An identification of the specific responsibilities of WMA Copermittees in completing the activity;
4. A description of how the activity will address the identified HPWQP(s) of the WMA;
5. A description of how the activity is consistent with the collective watershed strategy;
6. A description of the expected benefits of implementing the activity; and
7. A description of how implementation effectiveness will be measured.

The Los Peñasquitos WURMP Copermittees will implement identified WMA activities pursuant to the proposed schedule. For each Permit year, no fewer than two water quality activities will be in an active implementation phase. A water quality activity is in an active implementation phase when significant pollutant load reductions, source abatement or other quantifiable benefits to discharge or receiving water quality can reasonably be established in relation to the WMA's HPWQP(s). Water quality activities that are capital projects are in active implementation for the first year of implementation only.

See the Updated 5-Year Strategic Plan below for specific information about the implementation schedule for these new watershed activities.

4.5.2 UPDATED 5-YEAR STRATEGIC PLAN

This section describes the results of the Collective Watershed Strategy process described in the Los Peñasquitos WURMP. The strategy was specifically applied at the HA level in an effort to focus the Copermittees' activities at a scale in which actions and results can be reasonably measured.

To reiterate, the basic strategy applied was to first identify (where sufficient data is available) water quality problems. From those water quality problems, the Copermittees reviewed water quality data and used best professional judgment to determine the HPWQPs in each HA.

The second step was to identify the sources that are most likely to contribute (having the highest TTWQ ratings) to the HPWQPs for each HA-HPWQP combination in the WMA. Based on the available data, the Los Peñasquitos WURMP Copermittees made appropriate management decisions on which water quality and education activities to implement in the WMA.

Where sufficient data was not available to make a determination about the state of water quality in an HA, the Los Peñasquitos WURMP Copermittees used available information to

identify where additional water quality monitoring may be conducted to effectively determine the level of water quality problems.

The updated 5-year strategic plan presented below is intended to supersede the earlier versions presented in the 2008 Los Peñasquitos WURMP and the FY 2008 and FY 2009 Los Peñasquitos WURMP Annual Reports.

Table 4-7 Updated 5-Year Strategic Plan

Watershed Water Quality Activities		Jurisdiction(s)	HPWQPs		Implementation Schedule			
			Bacteria	Sediment	FY 2010	FY 2011	FY 2012	Future Fiscal Year(s)
LP-WQA1	Coastal Cleanup Day Sponsorship	SD	X		WQI	WQI	WQI	WQI
LP-WQA5	Los Peñasquitos Targeted Inspections (formerly Targeted Restaurant Facility Inspections)	SD	X		WQI	WQI	Completed	
LP-WQA7	Marindustry Hydrodynamic Separator Installation	SD	X	X	P	P	P	WQI
LP-WQA8	ILACSD Trash Cleanup Sponsorship	SD/POW	X		WQI	WQI	WQI	WQI
LP-WQA9	Mira Mesa Bioretention and Infiltration Retrofit	SD	X		P	P	P	P, M, WQI
LP-WQA10	Los Peñasquitos Municipal Rain Barrel Installation and Downspout Disconnect Project	SD	X	X	WQI	Completed – no longer reported		
LP-WQA11	Aubrey Street Continuous Deflective Separation (CDS) Device	POW		X	A	A	A	A
LP-WQA12	Gate Drive Detention Basin Modification	POW	X		A	A	A	A
LP-WQA13	Median Irrigation System Replacement	DM	Completed – no longer reported					
LP-WQA14	Park and Open Space Irrigation and Controllers	DM	Completed – no longer reported					
LP-WQA16	Outdoor Water Conservation Rebate Program	SD	X	X	P	I	I	WQI
LP-WQA17	Pet Waste Bag Dispenser Program	SD	X		WQI	Completed – no longer reported		
LP-WQA18	Median Sweeping Pilot Study	SD	X	X	WQI	Completed – no longer reported		
LP-WQA19	City of San Diego Strategic Plan Implementation	SD	X	X	I	I	I	I
LP-WQA20	Sediment Source Identification Study	SD	Completed – no longer reported					
LP-WQA21	ESD Phased Green Mall and Underground Vault Project	SD	X		P	P	P	WQI
LP-WQA22	Los Peñasquitos Lagoon Third Party TMDL Development	SD/POW COUNTY/DM		X	P	I	-	-
LP-WQA23	Residential Rain Barrel Subsidies & Distribution	COUNTY	X	X	P	WQI	WQI	WQI
LP-WQA24	Stormwater Quality Master Plans For Special Drainage Fee	COUNTY	X	X	P	P	WQI	WQI

Table 4-7 Updated 5-Year Strategic Plan - Continued

Watershed Water Education Activities		Jurisdiction(s)	HPWQPs		Implementation Schedule			
			Bacteria	Sediment	FY 2010	FY 2011	FY 2012	Future Fiscal Year(s)
LP-WQEA2	Public Service Announcements: Karma, Karma Second Chance, Karma Tourist	SD	X		E	Completed – no longer reported		
LP-WQEA4	LID and Watershed Planning Education	COUNTY/DM	Completed – no longer reported					
LP-WQEA5	Infiltration BMP Retrofit Outreach	SD	X		P	P	P	P, WE
LP-WQEA6	Residential Water Conservation Outreach	DM	X		P	WE	P, WE	P, WE
LP-WQEA9	Our Water, Our Responsibility Pamphlet Distribution	SD	Completed – no longer reported					
LP-WQEA10	Erosion and Sediment Control Poster	SD		X	E	Completed – no longer reported		
LP-WQEA11	Los Peñasquitos Watershed Restaurant Best Management Practices Booklet	SD	X		E	Completed – no longer reported		
LP-WQEA12	Compost Sox Demonstration Project, Poway Landfill	COUNTY		X	WE	Completed – no longer reported		
LP-WQEA13	Fiesta de Los Peñasquitos	ALL	X		WE	WE	-	-
LP-WQEA14	Los Peñasquitos Watershed Brochure	SD	X	X	P	P	WE	-

WQI	= Watershed Water Quality Activity Implementation (Active Implementation)
I	= Watershed Water Quality Activity Implementation (No WURMP Credit)
A	= Watershed Activity Assessment (No WURMP Credit)
P	= Watershed Activity Planning (No WURMP Credit)
WE	= Watershed Education Activity (Active Implementation)

E	= Watershed Education Activity (No WURMP Credit)
PP	= Watershed Public Participation Activity
M	= Water Quality Monitoring Activity (No WURMP Credit)
S	= Source ID/Characterization Activity (No WURMP Credit)

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5 EFFECTIVENESS ASSESSMENT

The Municipal Permit requires that the effectiveness of the WURMP program and activities be assessed on an annual basis. The purpose of the assessment is to determine if the management and implementation of the program is achieving its goals and objectives, to assess the effectiveness of the activities conducted to meet those goals and objectives, and to identify areas that may need improvement. This report section is written pursuant to the requirements of Section J.2.i of the Municipal Permit, and reports on the activities planned and implemented during FY 2010.

5.1 ASSESSMENT OF OVERALL WURMP EFFECTIVENESS

Activities collaborated upon and selected by the Los Peñasquitos WURMP Copermittees address the overall goal of the WURMP by focusing on the HPWQPs within the WMA.

As set forth in the Municipal Permit and outlined in the 2008 Los Peñasquitos WURMP, the following minimum permit requirements (Level 1 Outcomes) are tracked annually to demonstrate permit compliance. This table describes whether or not compliance was demonstrated by the Los Peñasquitos WURMP Copermittees in FY 2010, and where in this report required compliance points are fulfilled or described.

Table 5-1 Permit Component Compliance (Level 1)

Targeted Outcome	Measure	Report Section
Update any watershed maps.	Not Applicable	1
Update assessments and analyses of the WMA’s current and past applicable water quality data, reports, analyses, and other information, including identification of the watershed’s water quality problems and HPWQP(s) during the reporting period.	Completed	2
Identify the likely sources, pollutant discharges, and/or other factors causing the HPWQPs within the WMA.	Completed	3
Update list of potential Watershed Water Quality Activities.	Completed	4
Identify and describe the Watershed Water Quality Activities implemented by each Copermittee during the reporting period.	Completed	4
Update list of potential Watershed Education Activities.	Completed	4
Identify and describe the Watershed Education Activities implemented by each Copermittee during the reporting period.	Completed	4
Describe the public participation mechanisms used during the reporting period and the parties that were involved.	Completed	4
Describe Copermittee collaboration efforts including meeting as the San Dieguito WMA WURMP Workgroup.	Completed	1
Describe the efforts implemented to encourage collaborative, watershed-based, land-use planning.	Completed	4
Describe all TMDL activities implemented for each approved TMDL in the watershed. The description shall include: any additional source identification information; the number, type, location, and other relevant information about BMP implementation; updates in the BMP implementation prioritization and schedule; an assessment of the effectiveness of the BMP Implementation Plan; and a discussion of the progress to date meeting the TMDL numeric targets and WLAs, which incorporates the results of the effectiveness assessment, compliance monitoring, and an evaluation of additional efforts needed to date.	Not Applicable	N/A

As shown in **Table 5-1**, the Los Peñasquitos WURMP Copermittees were in compliance with all Level 1 WURMP related Municipal Permit requirements during FY 2010.

5.1.1 ACTIVITIES ASSESSMENT

The effectiveness of each Watershed Water Quality and Watershed Education Activity is assessed on an annual basis. Data are typically collected and assessed during or after activity implementation to determine effectiveness in achieving targeted outcomes. Copermittees collaborated on and selected activities that would address HPWQPs not only within each jurisdiction, but throughout the WMA. In some cases, these activities can reach a regional audience. The following is a description of the activities planned and implemented during this timeframe.

Each activity summary sheet in **Appendix B** identifies specific targeted outcomes (Levels 1-6 – as described in **Table 5-2** below) that will be assessed, and the measures and methods that will be used to gauge activity effectiveness. Each watershed activity is unique and its impacts on water quality are equally distinctive. As a result, measurable outcomes do not always follow a linear path (assessing effectiveness at each of the six outcome levels). For example, while a capital project may result in pollutant load reductions (Level 4), it may not have any bearing on changes in the awareness or behavior of a target population (Levels 2 and 3). It is also unlikely that implementation of an individual watershed activity would be measurable at Levels 5 or 6.

Table 5-2 Outcome Levels: Levels 1-6

Outcome Level		Anticipated Outcome of Activity	Effectiveness Metrics or Methods
1	Permit Compliance	Compliance with Permit requirement to implement Watershed Activities	Number of applicable Watershed Activities implemented per jurisdiction per year.
2	Changes in Attitudes	Increased awareness among the targeted audience regarding sources of pollutants and the need to reduce pollutant discharges/ exposure.	Pre and post implementation surveys targeted audience attitudes.
3	Behavioral Change	Reduction in targeted audience behaviors that generate pollutants. Increase in targeted audience behaviors that support watershed health and water quality.	Pre and post implementation observations of targeted audience behavior. Behavior may be directly observed/ measured or inferred from observed or documented conditions.
4	Load Reductions	Identification of sources and quantification of baseline loadings. Reduced volume of flow and/or reduced concentration of priority pollutants in dry and wet weather runoff.	Use permit required source identification monitoring data for targeted sources. If necessary, supplement with a special study.
5	Discharge Quality	Reduced volume of flow and/or concentration of priority pollutants in dry and wet weather discharges at storm drain outfalls.	Use permit required outfall and dry weather monitoring data down gradient of targeted sources. If necessary, supplement with a special study.
6	Receiving Water Quality	Reduced frequency of receiving water violations of WQOs for targeted priority pollutants.	Use permit required and other available regional monitoring data down gradient of targeted sources. If necessary, supplement with a special study.

During FY 2010, there were eight (8) activities in the active implementation phase, six (6) of which focused on water quality and two (2) focused on education. These activities addressed the HPWQPs in the Los Peñasquitos WMA, which include bacteria and sediment, and are the activities that the Copermittees are counting towards the minimum requirement to have two active water quality and two active education activities each year. **Tables 5-3** and **5-4** below, summarize the assessments of the water quality and education activities to provide a snapshot of the overall effectiveness of the watershed activities.

In addition to the WURMP activities included in the table, the WURMP Copermittees are presenting their JURMP activities that are related to the HPWQPs in each HA. It is important to note that not all JURMP activities are included in this presentation. This year's annual reporting effort is intended to be a follow-up to the initial presentation of JURMP activities conducted by WURMP Copermittees that are relatable based on hydrologic area of implementation. For complete assessment of JURMP activities, the reader may review each WURMP Copermittees' JURMP Annual Reports.

5.2 ASSESSMENT OF TMDL BMP IMPLEMENTATION PLAN EFFECTIVENESS

At this time, there are no adopted TMDLs with implementation plans currently in effect within the Los Peñasquitos WMA.

Table 5-3 Summary of Implemented Activities for FY 2010 – 906.1 Miramar Hydrologic Area (HPWQPs = Bacteria & Sediment)

Activity:	Type:	Priority Problems Addressed	Level Outcomes:	Pollutant Load Reduction, Source Abatement or Other Benefit Derived:
JURMP Construction and Industrial/Commercial Inspections	Water Quality	Bacteria & Sediment	Levels 1, 3 and 4	The Copermittees inspected the following business categories in the HA: Animal Facilities; Contractors; Food Establishments; General Retail Facilities; Golf Courses and Construction Sites.
JURMP MS4 Cleaning & Street Sweeping	Water Quality	Bacteria & Sediment	Level 1 and 4	The Copermittees removed materials from the MS4 and by street sweeping which has a direct Load Reduction of bacteria and sediment in the HA.
Coastal Cleanup Day Sponsorship	Water Quality	Bacteria	Level 1 & Level 4	The City of San Diego contributed \$5,000 towards the Cleanup Sponsorship in the hydrologic area. During this event 85 participants removed 3,275 pounds of trash, debris, and recyclables for an efficiency of \$1.53 per pound collected.
Los Peñasquitos Targeted Facility Inspections	Water Quality	Bacteria & Sediment	Level 1, Level 3 & Level 4	Inspections lead to education, BMP implementation, and load-reducing effectiveness. Inspections with immediate corrective actions initiated are confirmed source abatement activities. Additionally, when IC/IDs are observed, immediate corrections are required to eliminate the pollutant loading.
ILACSD Trash Cleanup Sponsorship	Water Quality	Bacteria	Level 1 & Level 4	The City of San Diego contributed an estimated \$5,000 towards the Cleanup Sponsorship in the hydrologic area. During this event 218 participants removed or recycled 2,012 pounds of trash and debris, of which approximately 103 pounds were recycled, for an efficiency of \$2.82/lb.
Municipal Rain Barrel Installation and Downspout Disconnect Project	Water Quality	Bacteria & Sediment	Level 1 & Level 4	The City of San Diego assessed the capacity of rain barrels to capture rain water and prevent runoff to the MS4. Results showed that the barrels could attenuate and infiltrate up to six times their capacity in storm water runoff, in addition to capturing and redirecting pollutants away from the MS4.
Pet Waste Bag Dispenser Program	Water Quality	Bacteria	Levels 1, 2 and 4	Reducing the amount of pet waste and educating the public on the need to cleanup after their pets will result in the reduction of pollutant loads, particularly bacteria and nutrients.
Fiesta de Los Peñasquitos	Water Education	Bacteria & Sediment	Level 1 & Level 2	The event provided direct outreach regarding pollution prevention and pollutant reduction to the residents living in the local hydrologic area. Through assessments, the Copermittees established several findings based on surveys of the Fiesta participants: 72% of individuals surveyed that knew storm water is not treated, and 83% of those who took the survey were able to name a behavior that they could do to prevent storm water pollution. Furthermore, 96% of individuals surveyed reported that they would be willing to take steps to prevent pollution, specifically in regards to picking up after their pets.

Table 5-4 Summary of Implemented Activities for FY 2010 – 906.2 Poway Hydrologic Area (HPWQP = Bacteria)

Activity:	Type:	Priority Problems Addressed	Level Outcomes:	Pollutant Load Reduction, Source Abatement or Other Benefit Derived:
JURMP Industrial/Commercial Inspections	Water Quality	Bacteria & Sediment	Levels 1, 3 and 4	The Copermittees inspected the following business categories in the HA: Animal Facilities; Food Establishments; Golf Courses and Nurseries.
JURMP MS4 Cleaning & Street Sweeping	Water Quality	Bacteria & Sediment	Level 1 and 4	The Copermittees removed materials from the MS4 and by street sweeping which has a direct Load Reduction of bacteria and sediment in the HA.
Los Peñasquitos Targeted Facility Inspections	Water Quality	Bacteria & Sediment	Level 1, Level 3 & Level 4	Inspections lead to education, BMP implementation, and load-reducing effectiveness. Inspections with immediate corrective actions initiated are confirmed source abatement activities. Additionally, when IC/IDs are observed, immediate corrections are required to eliminate the pollutant loading.
ILACSD Trash Cleanup Sponsorship	Water Quality	Bacteria	Level 1 & Level 4	The City of San Diego contributed an estimated \$5,000 towards the Cleanup Sponsorship in the hydrologic area. During this event 218 participants removed or recycled 2,012 pounds of trash and debris, of which approximately 103 pounds were recycled, for an efficiency of \$2.82/lb.
Pet Waste Bag Dispenser Program	Water Quality	Bacteria	Levels 1, 2 and 4	Reducing the amount of pet waste and educating the public on the need to cleanup after their pets will result in the reduction of pollutant loads, particularly bacteria and nutrients.
Median Sweeping Pilot Study	Water Quality	Bacteria & Sediment	Level 1 & Level 4	This pilot study was used to determine whether sweeping medians improves the effectiveness of street sweeping activities. Water quality monitoring and/or debris volume monitoring was conducted to allow for assessment.
Compost Sox Demonstration Project, Poway Landfill	Water Education	Sediment	Levels 1, 2 and 3	Studies were conducted to assess the effectiveness of compost and straw wattles. Both the straw wattle and compost sock BMPs showed reduced flow compared to the control plots, although not statistically significant. When statistically significant differences were found between straw wattles and compost socks compared to control plots, most constituents were elevated at the straw wattles and compost sock test plots over the control plots.
Fiesta de Los Peñasquitos	Water Education	Bacteria & Sediment	Level 1 & Level 2	The event provided direct outreach regarding pollution prevention and pollutant reduction to the residents living in the local hydrologic area. Through assessments, the Copermittees established several findings based on surveys of the Fiesta participants: 72% of individuals surveyed that knew storm water is not treated, and 83% of those who took the survey were able to name a behavior that they could do to prevent storm water pollution. Furthermore, 96% of individuals surveyed reported that they would be willing to take steps to prevent pollution, specifically in regards to picking up after their pets.

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6 CONCLUSIONS AND PROGRAM IMPROVEMENTS

6.1 CONCLUSIONS

During FY 2010, the Los Peñasquitos WURMP Copermittees strove to address the overall goal of the WURMP—to have a positive impact on the water quality of the Los Peñasquitos WMA—by focusing on its HPWQPs. To target the identified pollutants, the Copermittees employed the strategy articulated in their 2008 Los Peñasquitos WURMP, which strives to link identified water quality problems to their potential sources. Based on the Water Quality Assessment in Section 2, the Copermittees determined that the HPWQPs in the Los Peñasquitos WMA are bacteria in both HAs and sediment in the Miramar HA. It should be noted that the HPWQPs have not changed from previous assessments even though this year’s evaluation included the first year of expanded monitoring mandated under the new Municipal Permit.

To effectively address the Los Peñasquitos WMA’s HPWQPs, the Copermittees identified and then evaluated them for likely sources at the individual HA level (please refer to **Tables 3-2** and **3-3**). As a result of examining each HA in the WMA, the Copermittees drew some general conclusions: a) water quality problems appear to be well characterized in the receiving waters and consistent throughout the WURMP and Regional Monitoring Programs; and b) water quality and education activities appear to be targeting suspected sources of the HPWQPs and are mostly viewed as effective at reducing the impacts of the sources. Based on this analysis, the Copermittees focused their activities on the following suspected priority sources: eating and drinking establishments; animal facilities; nurseries, greenhouses and botanical or zoological gardens; landscaping-golf courses; cemeteries; and construction sites.

The Los Peñasquitos WURMP Copermittees then developed and implemented watershed water quality and education activities to address these HPWQPs and their sources. **Tables 4-1** and **4-2** summarize the activities implemented during the reporting period. However, because there is currently no definitive link between identified water quality sources and their impacts on water quality, it is difficult to quantitatively assess the activities’ effect on overall water quality. Despite there being no currently established direct connection between the potential sources and water quality issues, the Copermittees undertook a qualitative assessment of their water quality activities, which determined that they were in compliance with all Level 1 Municipal Permit requirements (e.g., identifying likely pollutant sources, updating water quality and education activities, updating assessments and analyses, etc.). Moreover, eight (8) activities were implemented, six (6) of which focused on water quality and two (2) on education. All of these activities targeted the HPWQPs in the Los Peñasquitos WMA, which include bacteria and sediment. The Los Peñasquitos WURMP Copermittees satisfied the Permit requirement by having at least two water quality activities and two education activities in active implementation during the reporting period.

In an effort to report on the Copermittees’ actions to improve water quality in the WMA, the Copermittees began the process to collect and report on JURMP and WURMP activities performed on an HA basis. The Copermittees believe that it is an important first step towards integrating the activities and reporting to best assess and plan for activities that address the identified HPWQPs on an HA basis.

The Los Peñasquitos WURMP Copermittees have responded to meet the challenges of implementing the new requirements outlined in the Municipal Permit as they continue to

refine and improve their WURMP program. In addition to evaluating the WURMP program, the Copermittees worked diligently at a regional level with other WMA working groups during the reporting period to collaborate for consistent implementation of the WURMPs across the region. Furthermore, the Los Peñasquitos WURMP Copermittees will continue to implement the activities described in Section 4 of this document in future reporting periods.

6.2 PROGRAM IMPROVEMENTS

The lack of water quality data directly related to sources makes true effectiveness assessment of the activities difficult. Without the data, the Copermittees are limited to qualitative assessments, which contain substantial assumptions linking the sources to the water quality problems. In order to work toward more effective management of water quality in the WMA, the Los Peñasquitos WURMP Copermittees must further develop and characterize source inventories and research existing data related to the suspected sources, or collect data unique to the WMA. In doing so, the linkage between sources and pollutants may be more directly confirmed, allowing the Copermittees to justifiably prioritize the sources for activity development.

Moreover, once inventories are developed specific to the HAs, linkages need to be established between the suspected sources and water quality. This may be accomplished through a combination of research, analysis of existing data and monitoring. Significant source identification studies have been undertaken in southern California, which may provide relevant data linking some of the suspected sources to water quality problems in the WMA. In some studies, pollutant loading estimates specific to sources and/or land uses have been developed. There are also substantial amounts of data collected in the jurisdictional dry weather monitoring programs that may provide insight into specific sources, since this program is designed to detect illicit discharges and connections. To date, analysis of this data has been performed only at the macro level (i.e., evaluating the data from the larger watershed level). Analysis of the data at the HA level may provide useful information to the 2008 Los Peñasquitos WURMP.

In many cases, water quality data may be unavailable to accurately characterize loading from suspected sources. Where there is sufficient evidence of impacts to water quality from suspected sources, the Copermittees may need to collect water quality data to characterize the impacts. Without this confirmatory step, further assumptions related to effectiveness may be unsubstantiated. With confirmed linkages between the sources and the water quality problems, watershed Copermittees can prioritize activities and provide true, effective assessments of them and their impacts on water quality.

To further support the goal of the 2008 Los Peñasquitos WURMP—to determine and target the sources contributing to the HPWQPs – the Copermittees will continue to implement the following complementary objectives:

- Develop activities to assess and improve water quality within the WMA;
- Integrate watershed principles into land use planning;
- Enhance public understanding of water pollution sources; and
- Encourage and develop stakeholder participation.

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