

**Watershed Urban Runoff Management Program
Fiscal Year 2007-2008 Annual Report**

Tijuana River Watershed

Submitted to the Regional Water Quality Control Board, San Diego Region

on

February 2, 2009

Prepared by the County of San Diego

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ATTACHMENT 1 – WATERSHED ACTIVITY SUMMARY SHEETS

EXECUTIVE SUMMARY

This annual report describes implementation of the Tijuana River Watershed Management Area Watershed Urban Runoff Management Program (WURMP) during FY2007-08. Although much of the Tijuana River Watershed Management Area (WMA) extends into Baja California, only the portion within the County of San Diego is subject to the Municipal Stormwater Permit's WURMP requirements. Therefore, this report only addresses activities within the County of San Diego.

Section 2.0 presents a water quality assessment for the Tijuana River WMA. The assessment is largely based on the regional monitoring program conducted on behalf of the San Diego County Municipal Stormwater Copermittees in compliance with Municipal Permit requirements, but is supplemented by other monitoring programs, including jurisdictional dry weather monitoring and special studies the monitoring report is identified as "The Monitoring Reported (Weston 2008)" throughout this document. It should be noted that the Municipal Permit established a monitoring schedule for the entire county that alternated monitoring between the northern watershed and the southern watersheds. As a result of this schedule only dry weather monitoring occurred during this reporting period.

The Tijuana River WMA WURMP (2008) found that there were nine priority watershed water quality problems have been identified, five of which are considered high priorities for the purposes of WURMP implementation: Sediments, Pesticides, Gross Pollutants Bacteria and Trash.

Section 3.0 and Attachment 1 describe 20 watershed activities that were in various phases of implementation during FY 2007-08. Several activities addressed Bacteria and Trash in the Tijuana Valley HA (911.1) but also included other HAs in the eastern portion of the watershed including Potrero (911.2), Monument (911.4) and Morena (911.5), but there was also a special monitoring study, Imperial Beach Bacteria Source Identification Study, initiated in the Tijuana River WMA. Additionally planning for a Trash and Sediment Characterization Study was initiated.

Section 4 describes the how effective the Tijuana River WMA copermittees collaborated and whether or not overall WURMP activities were appropriate and effective at the Watershed and HA level. It was determined that a lot of headway has been achieved but there is much more to do. It is hoped that the bacteria source id study and trash and sediment characterization study will result in future effective activities at not only the WMA area level but also at the entire watershed level.

STATEMENT OF CERTIFICATION

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

I certify, under penalty of law, that this **FY 2007-2008 Tijuana River Watershed Urban Runoff Management Plan (WURMP) Annual Report** 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.

Chandra Wallar

CHANDRA L. WALLAR

Deputy Chief Administrative Officer
County of San Diego

1-21-09

Date

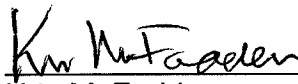


THE CITY OF SAN DIEGO

January 30, 2009

**RE: Statement of Certification
Tijuana 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 Tijuana 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

1/30/09
Date



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January 28, 2009

STATEMENT OF CERTIFICATION

Tijuana River Watershed Urban Runoff Management Program Document

I certify under penalty of law that the City of Imperial Beach's contributions to the Tijuana River Watershed Urban Runoff Management Program Annual Report for FY 2007-2008 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.

A handwritten signature in cursive script, appearing to read "H.A. Levien", is written over a horizontal line.

H.A. Levien
Public Works Director

SECTION 1.0 INTRODUCTION

The NPDES Municipal Stormwater Permit, Order No. R9-2007-0001, referred to throughout this document as the “Permit” or “Municipal Permit”, requires the Copermittees sharing the Tijuana River Watershed Management Area (WMA) to collaborate on the development and implementation of a Watershed Urban Runoff Management Program (WURMP). The WURMP is a collaborative effort to address high priority surface water quality issues throughout the Tijuana River WMA. The program includes identifying and addressing high priority water quality problems in the WMA, and developing and implementing activities that include pollutant load reduction and abatement (Watershed Water Quality Activities), Watershed Education Activities, as well as public participation and collaborative land use planning.

This Annual Report follows the standardized format developed by the San Diego Regional Copermittees to provide the necessary information required by sections E, H, I.2 and 4, and J.3.b of the Permit. The Watershed Activity Implementation Summary Sheets for all watershed water quality and education activities implemented during this reporting period will be included in Appendix 1.

This Annual Report is divided into five sections that highlight the efforts of the Tijuana River Watershed Copermittees during the FY 2007-08 reporting period.

- Section 1: Provides an overview of the information included in this report, summarizes the ongoing collaboration among Tijuana River Watershed Copermittees. There were not updates to the watershed maps during this reporting period.
- Section 2: Provides an update of water quality throughout the WMA, identifies high priority water quality problems in each hydrologic area (HA), and provides information about potential pollutant sources causing these problems.
- Section 3: Describes the Watershed Water Quality and Watershed Education Activities that occurred during this reporting period as well as any public participation or collaborative land use planning that took place.
- Section 4: Discusses WURMP effectiveness as a whole. The main goals of this section are to: 1) assess collaboration among Watershed Copermittees, 2) determine whether watershed activities are focused on appropriate water quality problems, 3) assess whether targeted outcomes are being achieved, and 4) evaluate the collective impact of all WURMP activities on pollutant loads, urban runoff discharge quality, and receiving water quality at the HA scale.
- Section 5: Provides a discussion of conclusions reached during FY 2007-08 as well as recommendations for future reporting periods.

1.1 Watershed Collaboration

WURMP development and implementation is a collaborative effort by all of the following Tijuana River Watershed Copermittees:

- City of Imperial Beach
- City of San Diego
- County of San Diego

The County of San Diego is the lead Copermittee and continues to serve as both coordinator of collaborative efforts among Watershed Copermittees and liaison between Copermittees and Regional Water Quality Control Board (RWQCB) staff.

The Tijuana River Watershed Copermittees met or participated in conference calls 6 times during this reporting period. Table 1-1 provides a summary of the dates and the general topics of discussion at these meetings. The majority of the meetings were focused on developing the updated Tijuana River WURMP that was submitted to the RWQCB on March 24, 2008.

During this reporting period, the Tijuana River Watershed Copermittees collaborated extensively on the development of a watershed strategy that guides WURMP activity selection. An extensive explanation of the Watershed Strategy was presented in the March 2008 WURMP document. The Watershed Copermittees developed a database of baseline information consisting of land use, water quality monitoring data, and other information on potential pollutant sources. Using this data they identified the High Priority Water Quality Problems on a HA level.

Utilizing the information from the watershed strategy, the Tijuana River Copermittees have identified several water quality activities which they have coordinated and standardized at the HA level. This collaborative approach was utilized because these activities were identified as beneficial to address high priority water quality problems and can be applied within different locations at different scales of implementation as determined by each Copermittee within their respective HAs. Collaboration on the watershed strategy enabled the Copermittees to identify data gaps by reviewing existing monitoring and land use data which provided the basis for developing additional water quality monitoring and source identification activities. Section 3 and Appendix 1 provide specific detail on each program that was initiated or completed during the FY 2007-08 reporting period.

Due to the Wildfires in San Diego County in November 2007 the County of San Diego requested and received a 60-day extension for the submittal of the revised WURMP document from January to March 2008. The County did not request extensions for the FY2006-2007 WURMP Annual Report.

Table 1-1: Summary of Meetings

Meeting (or Conference) Date	Main Topics of Discussion
08/13/07	<ul style="list-style-type: none"> • Status of Action Items. • Review Revised WURMP & Annual Report Formats. • ID High Priority Pollutants. • Review new TWAS locations.
08-21-07	<ul style="list-style-type: none"> • Review Watershed Data and Determine Priority Pollutants.
09-21-07	<ul style="list-style-type: none"> • ID High Priority Pollutants. • Schedule of completion discussion for revised WURMP Sections. • Initiate discussions for the FY06-07 Annual Report.
10-15-07	<ul style="list-style-type: none"> • Discuss Issues regarding Watershed Strategy. • Review Revised WURMP & Annual Report Schedules. • Status review for Revised WURMP and Annual Reports.
12-21-07	<ul style="list-style-type: none"> • Completed review final draft of the FY06-07 Annual Report
01-29-08	<ul style="list-style-type: none"> • Obtain Signed Certification Statements

1.2 Tijuana River Watershed Map Updates

There were no Tijuana River Watershed map updates included in the 2007-2008 Annual Report.

SECTION 2.0 WATER QUALITY AND POLLUTANT SOURCE ASSESSMENT

The Tijuana River WMA Copermittees are working to ensure implementation of water quality assessment strategies that will result in meaningful data and allow determination of long-term water quality changes in the Tijuana River WMA. This section of the report describes information collected by the Tijuana River WMA Copermittees to meet the requirements stated in Section J.3.b.2.c. of the Permit.

The Copermittees, as a regional group, tasked a consultant, Weston Solutions (Weston), with compiling and analyzing water quality data from the San Diego region. In addition to analyzing data on a regional basis, Weston also assimilated information and analyzed data for each of the nine WMAs within San Diego County. The results of these tasks are described in the 2007-2008 San Diego County Municipal Copermittees Urban Runoff Monitoring Report (Monitoring Report WESTON 2007-08) prepared for the San Diego County Municipal Copermittees. The Monitoring Report provides information on monitoring site descriptions and provides results and analyses from the mass loading station (MLS) monitoring during ambient and wet weather periods, stream bioassessment, Dry Weather Monitoring (DWM) Program, Coastal Storm Drain Monitoring (CSDM) Program, and additional studies. The Tijuana River WMA is described in Section 11 of the Monitoring Report. Please refer to the 2007-2008 San Diego County Municipal Copermittees Urban Runoff Monitoring Report for more specific information regarding analytical assessments.

According to the Receiving Waters and Urban Runoff Monitoring and Reporting Program identified in the Municipal Permit, monitoring in each of the watershed management areas will conform to the schedule established in Table 1 Monitoring Rotation (see Municipal Permit R9-2007-0001). Based on the schedule only jurisdictional dry weather monitoring was conducted during the FY2007-08 reporting period for the Tijuana River WMA.

2.1 Water Quality Assessment

The Monitoring Report was designed to answer the five core management questions described in Section I.B of the Receiving Waters and Urban Runoff Monitoring Program:

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
2. What is the extent and magnitude of the current or potential receiving water problems?
3. What is the relative urban runoff contribution to the receiving water problem(s)?
4. What are the sources of urban runoff that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

The core management questions were designed to provide focus in the research and development of specific study objectives and the execution of data collection, data analysis, and reporting for this monitoring program. Elements of the monitoring programs vary in the number of years applied and the spatial extent in which the collected data applies. Therefore, data support only partially resolution of each core management question. Through continued monitoring and the refinement of the Permit requirements a more complete understanding of the answers to each of the overarching management questions may be obtained.

Assessments are conducted using data from multiple monitoring programs, and the results were applied to the relevant core management questions using a weight-of-evidence approach (Table 2-1). Since only jurisdictional dry weather data was collected for the reporting period the majority of the following discussion is based on the historic monitoring that has occurred in the WMA prior to this reporting period.

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?

Beneficial uses affected by persistent exceedances of physical (TSS, BOD, COD, and turbidity), chemical (Diazinon, Malathion, MBAS, and dissolved phosphorus), and bacteriological (total and fecal coliform, and enterococci) benchmarks may be impacted. Beneficial uses related to the quality of natural habitat supporting benthic community diversity may be similarly impacted. Chemical constituents, specifically Diazinon, were detected at concentrations expected to cause beneficial use impairments related to toxicity. Persistent toxicity was observed to the acute, chronic, and reproductive endpoints using *Ceriodaphnia dubia*.

2. What is the extent and magnitude of the current or potential receiving water problems?

Wet weather and ambient weather water quality data were not collected during the 2007–2008 Monitoring Season; therefore, comparisons of the data to the water quality benchmarks were not conducted, and magnitudes of exceedances could not be calculated. Historically, constituents with a mean exceedance of more than five times their benchmarks included TSS, fecal coliform, and turbidity. During the 2009–2010 Monitoring Season, ambient conditions monitoring and two TWAS will be utilized to enhance the spatial and temporal understanding of the receiving water problems in the Tijuana River Watershed. Additionally, the City of Imperial Beach is conducting an extensive bacterial source tracking investigation under a Proposition 50 Clean Beaches Initiative (CBI) Grant primarily in the lower watershed and on the US side. Though the funding for this grant is tentative, the study should provide additional needed information to answer Question 2.

3. What is the relative urban runoff contribution to the receiving water problem(s)?

Core Management Question 3 is partially answered through the evaluation of urban runoff area assessments. During the 2007–2008 Monitoring Season, only the jurisdictional DWM data were collected. Dry weather action level exceedances were infrequent and limited to turbidity, MBAS, and total coliform. Trash assessments and pyrethroid monitoring assessments were not conducted in the Tijuana WMA during the 2007–2008 Monitoring Season. Trash and synthetic pyrethroids are solely anthropogenic in nature, and their route to receiving waters occurs through urban runoff, direct dumping, or via indirect sources (e.g., wind or animals such as birds, coyotes, and rodents). Diazinon is also solely attributed to anthropogenic sources and is commonly detected in samples collected at the Tijuana River MLS. New monitoring programs will be initiated during the 2008–2009 Monitoring Season that will allow for a better quantification of the contributions of urban runoff to the receiving waters. As mentioned above, the Imperial Beach Microbial Source Tracking Study will also provide some information needed to answer Question 3.

4. What are the sources of urban runoff that contribute to receiving water problem(s)?

Core Management Question 4 is partially answered by examining land use in conjunction with urban runoff area assessments. Land uses in the vicinity of the MLS are primarily residential and agriculture. The residential land use is located primarily in Mexico and is beyond the jurisdiction of the watershed Copermittees. Cross-border issues related to trash and illegal dumping are common problems in the watershed. Trash assessments and pyrethroid monitoring assessments were not conducted in the Tijuana WMA during the 2007–2008 Monitoring Season. The jurisdictional DWM Program has measures to identify sources and eliminate illegal connections and illicit discharges (ICIDs). Future MS4 Outfall Monitoring and Source Identification Monitoring will provide additional data useful in answering this question. Question 4 will also be partially answered via data collected under the Imperial Beach Microbial Source Tracking Study.

5. Are conditions in receiving waters getting better or worse?

Conditions at the MLS are based on previous monitoring years since there were no data collected from the Tijuana River MLS during the 2007–2008 Monitoring Season. Historically, the conditions of the receiving water have shown ten increasing trends (nitrate, TOC, TSS, turbidity, total coliform, fecal coliform, total arsenic, total lead, total zinc, and acute toxicity to the survival of *H. azteca*) and five decreasing trends (TDS, Diazinon, dissolved arsenic, dissolved nickel, and conductivity). The bioassessment results over the 2001–2007 monitoring period did not indicate changes in benthic IBI quality ratings; both sites have had historical mean ratings of Poor. However, with the addition of the O/E analysis during the 2006–2007 monitoring season, justification was provided to re-rank the Tijuana River Site as showing signs of benthic impairment. Persistent toxicity to the acute and chronic survival, as well as reproductive endpoints for *Ceriodaphnia dubia* has been observed in samples from the Tijuana River WMA.

Recommendations

The 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.

For the next full round of Permit monitoring in southern portion of San Diego County (Permit Year 2009–2010), the location of two new TWAS will help to understand the spatial characteristics of water quality in the watershed. Additionally, ambient monitoring and new monitoring programs will help in assessing the watershed with higher confidence.

One issue to be considered is the contribution of runoff and potential COCs from the portion of the watershed outside US jurisdiction. The addition of a TWAS at the international border in San Ysidro will help to quantify trans-border contributions to water quality degradation.

Future MS4 Outfall Monitoring and Source Identification Monitoring may be best focused in the areas of the Tijuana Valley HA, specifically the San Ysidro (911.11) HSA and Water Tanks (911.12) HSA (the most urbanized sections in the US portion of the watershed). Recent development of commercial, industrial, residential, and transportation land use development in the Otay Mesa area is increasing the potential for greater urban runoff in the Water Tanks HSA.

Table 2-1 Summary of WMA Assessment Findings

Monitoring Program Elements	Assessment	Summary of Findings	Core Questions Addressed
Receiving Water monitoring program	Ambient Receiving Water Assessment	No exceedances or data analyzed from this program to date.	1, 2
	Wet Weather Receiving Water Assessment	Constituents of concern (Frequency of Occurrence): <ul style="list-style-type: none"> • High: TSS, total coliform, fecal coliform, enterococci, and Diazinon. • Medium: BOD, COD, and total phosphorus. • Low: MBAS, dissolved phosphorus, and Malathion. Constituents with a mean magnitude of exceedance by more than five times the benchmark: TSS, fecal coliform, and turbidity. Persistent toxicity was observed to acute, chronic and reproductive endpoints of Ceriodaphnia dubia.	
	Rapid Stream Bioassessments	Altered benthic macroinvertebrate communities (Poor to Very Poor IBI ratings) were observed.	
Urban Runoff Monitoring Program	Ambient Urban Runoff Areas Assessment	Constituents of concern: Low: MBAS, turbidity, and total coliform.	3, 4
	Wet Weather Urban Runoff Areas Assessment	No exceedances or data analyzed from this program to date.	
WMA Assessment	Receiving Water Trend Assessment	Significant increasing trends: nitrate, TOC, TSS, turbidity, total coliform, fecal coliform, total arsenic, total lead, and total zinc. Acute toxicity to the survival of Hyalella azteca has also been significantly increasing. Significant decreasing trends: TDS, Diazinon, dissolved arsenic, and dissolved nickel.	5
	2001–2006 Baseline Long-Term Effectiveness Assessment Ratings	WMA high frequency of occurrence rating for TSS, turbidity, Diazinon, total coliform, fecal coliform, and enterococci were consistent with the 2001–2006 BLTEA ratings.	

As stated in the Tijuana River Watershed WURMP Annual Report (2008), the City of Imperial Beach has been awarded a Proposition 50 CBI Grant to identify and quantify the sources of microbial contamination in the Tijuana River that cause beach closures at two prominent beaches. The study will also identify potential mitigation/BMPs to reduce the bacterial loading in the Tijuana River. Dry weather and wet weather monitoring will occur throughout 2008 and 2009, with a final report completed by 2010. The outcome of this project will greatly enhance the understanding of bacterial sources and transport within the watershed.

2.2 Pollutant Source Assessment

The Permit requires the Tijuana River WMA Copermittees to identify the high priority water quality problems and identify the likely sources within the Tijuana River WMA and implement activities that will address these pollutants. There was little or no change in the existing land use coverages nor have any source id studies been completed within the Tijuana River WMA, therefore, the Tijuana River WMA Copermittees did not complete update its pollutant source assessment. However, the City of Imperial Beach did initiate a Bacterial Source Identification Project. The completion of that project currently on hold due to budget issues and may provide the basis for revisions in future annual reports. Since there have been no new source assessment studies completed for this WMA the reader should refer to the Watershed Urban Runoff Management Program – Tijuana River Watershed March 2008 (WURMP 2008) for specific information related to the likely sources. The discussion below highlights the components of a source assessment analysis, it must be acknowledged that the data presented below only represents information regarding the portion of the watershed that is within the jurisdiction of the Cities of Imperial Beach and San Diego and the County of San Diego.

A key component of identifying pollutants is knowledge of the land uses for each hydrologic area (HA) (Table 1-2 WURMP 2008) and the pollutant-generating activities generally associated with these specific land uses (Table 3-10 WURMP 2008). Of particular note is that the majority (86%) of the Tijuana WMA remains undeveloped or is within protected open space. Most of the developed uses within the watershed occur within the Tijuana River Valley within the 911.1 and 911.2 HA.

During the current reporting period the City of Imperial Beach selected Weston Solutions to conduct a Bacterial Source Identification Study on the U.S. portion of the Tijuana River Watershed. The purpose of the study is to identify sources of bacterial contamination and recommend appropriate actions and activities to reduce the input of those sources to the Tijuana River and adjacent Pacific Ocean. Weston initiated work in November 2007 and is expected to submit a final report February 2010. During this reporting period, project activity focused on developing a stakeholder group, completion of a Quality Assurance Project Plan and Monitoring Plan, literature review, and field reconnaissance to identify sampling locations. Water quality samples will be conducted during the next reporting period.

SECTION 3.0 IMPLEMENTATION OF WATERSHED ACTIVITIES

3.1 Watershed Water Quality Activities

The Tijuana River Watershed Copermittees have implemented or were actively planning twenty water quality activities, two of which also qualify as watershed education activities, during Fiscal Year 2007-2008 (FY07-08) that address the high priority water quality problems identified in the Tijuana River Watershed WURMP (March 2008). Table 3-1 identifies each of the water quality activities and includes information pertaining to the lead jurisdiction, the hydrological area(s), and the priority pollutants which these activities targeted. For more detail on the specific activities, please refer to Appendix 1 for the Watershed Activity Summary Sheets describing the Copermittees watershed water quality activities and details regarding their anticipated implementation schedule. These activities include projects ranging from pet waste dispensers and trash cleanup events to land acquisition and Low Impact Design (LID) education and outreach focused on specific stakeholder constituencies.

Table 3-1: Water Quality and Education Activities

Activity ID	Project Name	Lead Copermittee	Other	WQA	WQE	HA	High Priority Water Quality Problems									
							Bacteria	Trash	Sediment	Pesticides	Metals	Organics	Manganese	Gross Pollutants	Color	Nutrients
TJ-001	Pet Waste Dispenser Program	COSD		X		911.2										X
TJ-002	Land Acquisition within TJWMA	COSD		X		911.4										X
TJ-003	ILACSD Trash Clean-Up Sponsorship	SD		X		911.5	X	X	X	X	X	X	X	X	X	X
TJ-004	San Diego Coastkeeper Trash Clean-up Sponsorship	SD		X		All	X	X	X	X	X	X	X	X	X	X
TJ-005	Alpha Project for the Homeless Trash Clean-ups	SD		X		911.1	X	X	X	X	X	X	X	X	X	X
TJ-006	Targeted Restaurant Facility Inspections	SD		X		911.2	X	X	X	X	X	X	X	X	X	X
TJ-007	Targeted Auto-Related Facility Inspections	SD		X		911.1									X	
TJ-008	Targeted Auto-Related Facility Inspections Outreach	SD		X		911.2								X		
TJ-009	Municipal Rain Barrel Installation and Downspout Disconnects	SD		X		911.1									X	
TJ-010	City-Wide Clean-Up Events	IB		X		911.2	X	X	X	X	X	X	X	X	X	
TJ-011	Large Special Events Inspection and Clean-Ups	IB		X		911.1	X	X	X	X	X	X	X	X	X	
TJ-012	Smuggler's Gulch Sediment and Debris Removal Program	COSD		X		911.1	X	X	X	X	X	X	X	X	X	
TJ-013	Tijuana River Bacteria Source Identification Study	IB	COSD, SD	X		911.1	X	X	X	X	X	X	X	X	X	
TJ-014	LID and Watershed Planning Education for Com & Sponsor Groups	COSD		X		911.2	X	X	X	X	X	X	X	X	X	
TJ-015	Karma and Karma Second Chance PSA	SD		X		All	X	X	X	X	X	X	X	X	X	
TJ-016	Mobile Advertising	SD		X		911.1	X	X	X	X	X	X	X	X	X	
TJ-017	Invasive Species Removal Program in Tijuana River Park	COSD		X		911.2	X	X	X	X	X	X	X	X	X	
TJ-018	Trash and Sediment Characterization Study	COSD SD		X		911.1	X	X	X	X	X	X	X	X	X	
TJ-019	City of San Diego Strategic Plan Implementation	SD		X		911.1	X	X	X	X	X	X	X	X	X	
TJ-020	Pet Waste Dispenser Program	SD		X		911.2	X	X	X	X	X	X	X	X	X	

3.2 Watershed Education Activities

The Tijuana River Watershed Copermittees recognize the need for education programs as an essential element in watershed protection. The main focus of the watershed education program is to make the public aware of the sources of water pollution in order to positively affect behavioral change. Each of the Copermittees participated in or hosted several activities to promote watershed education including:

- Workshops focusing on LID BMP implementation, preventing urban runoff contamination, and ecological protection of the watershed, and water quality protection activities.
- Trash removal/river cleanup events emphasizing volunteer participation and public awareness, and proper disposal of potential contaminants from entering Tijuana river system.

Table 3-2 identifies each of the Public Participation, Education and Outreach activities that occurred during FY07-08. In addition the County of San Diego continues to sponsor the Project Clean Water Website (www.projectcleanwater.org) this website provides information pertinent to each of the watersheds in San Diego County. During FY07-08 there were total of 4,243 hits on the Tijuana Watershed page and 2,124 hits on the Tijuana WURMP page.

Several watershed water quality activities are also considered education activities and are identified in Table 3-1. Progress on these specific watershed education activities have been described in the standardized template and clearly identifies what was accomplished during the reporting period and how it pertains to high priority water quality problems.

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Table 3-2 Public Participation, Education, and Outreach Activities

Date	Event Type	Event Title	Site Name	Lead Copermittee	Specific Target Audience	Estimated Attendees	Education	Public Outreach	Media
7/9/07	Day Camp	Biology Day Camp for students: Water Quality Study	TRVR Park	County	Students - HS	12	X		
7/30/07	Day Camp	Biology Day Camp for students: Water Quality Study	TRVR Park	County	Students - HS	12	X		
8/19/07	Talk	Student Environmental Education: Trees & Ecology: Take care of the earth	Pine Valley	County	Students	3	X		
8/23/07	Nature Study	Biology Day Camp: Riparian Habitat Study	TRVR Park	County	Students - HS	11	X		
8/31/07	E-Mail	E-Waste / Universal Waste event	Imperial Beach	IB	Muni Staff	200	X	X	X
9/2/07	Talk	Student Environmental Education: Trees & Ecology	Pine Valley	County	Students	2	X		
9/9/07	Hike	Pollution Prevention/Water Quality: Stormwater Environmental Impact on Wildlife	Potrero	County	Boy/Girl Scouts	17	X		
9/30/07	E-Mail	Proper Disposal of Batteries	Imperial Beach	IB	Muni Staff	200	X	X	X
9/30/07	E-Mail	Tijuana River Bacteria Source Identification Study	Imperial Beach	IB	Muni Staff	200	X	X	X
10/7/07	Community Event	Fiesta Del Rio	Border Field State Park	IB	Gen Public	2,000		X	
10/31/07	E-Mail	Safe Clean-Up Ash	Imperial Beach	IB	Muni Staff	200	X	X	X
12/5/07	Presentation	BMP's for Pest Control: P2 & Water Quality	Potrero	County	Campers	11		X	
1/14/08	Presentation	Post Fire BMP's: Erosion Prevention	Potrero	County	Campers	21		X	
1/27/08	Talk	Habitat & Ecosystems: Trees	Pine Valley	County	Students	1	X		
1/29/08	Talk	Habitat & Ecosystems: Trees	Pine Valley	County	Students	4	X		

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Date	Event Type	Event Title	Site Name	Lead Copermittee	Specific Target Audience	Estimated Attendees	Education	Public Outreach	Media
1/31/08	E-Mail	Update on the JURMP Annual Report	Imperial Beach	IB	Muni Staff	200	X	X	X
1/31/08	Presentation	Update on the JURMP Annual Report	Imperial Beach	IB	City Council / Gen Public	40	X	X	
2/8/08	Presentation	Imperial Beach Kiwanis Club: Watershed Concepts & Stormwater P2	Imperial Beach	IB	Gen Public	30	X	X	
2/12/08	Talk	Habitat & Ecosystems: Trees	Pine Valley	County	Students	7	X		
2/24/08	Talk	Habitat and ecosystems: Trees	Pine Valley	County	Students	3	X		
3/5/08	Environmental Education	Habitat & Ecosystems: Riparian Habitat Study	TRV Regional Park	County	Students - HS	14	X		
3/31/08	Print Media	EDCO Article: April is Recycling Month	Imperial Beach	IB	Gen Public	28,000		X	X
3/31/08	Print Media	EDCO Article: Creek To Bay Article	Imperial Beach	IB	Gen Public	28,000		X	X
3/31/08	Print Media	EDCO Article: Oil Drop-Off	Imperial Beach	IB	Gen Public	28,000		X	X
3/31/08	Print Media	EDCO Article: Put Toxic Waste in it's Place	Imperial Beach	IB	Gen Public	28,000		X	X
4/15/08	Interpretive Display	Say Yes to Recycling	Pine Valley	County	Children & Students	100			
4/20/08	Talk	Habitat & Ecosystems: Tree Ecology	Pine Valley	County	Children & Students	2	X		
4/20/08	Talk	Recycling: Go Green information	Pine Valley	County	Children & Students	1	X		
4/22/08	E-Mail	Earth Day Announcement	Imperial Beach	IB	Muni Staff	200	X	X	X
4/30/08	Hosted Event	Earth Day @ IB Pier	Imperial Beach	IB	Gen Public	500		X	
4/30/08	Presentation	Splash Lab	Portero Elementary	County	Students - Grades 3-6	68	X		
5/1/08	Print Media	IB Beach Eagle & Times Article: Earth Day @ IB Pier	Imperial Beach	IB	Gen Public	28,000		X	X
5/1/08	E-Mail	Update on the IB Pier Earth Day	Imperial Beach	IB	Muni Staff	200		X	X

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Date	Event Type	Event Title	Site Name	Lead Copermittee	Specific Target Audience	Estimated Attendees	Education	Public Outreach	Media
5/3/08	Clean-Up	IB Home Front Clean-up Day	Imperial Beach	IB	Gen Public	742		X	
5/4/08	Talk	Go Green	Pine Valley	County	Children & Students	2	X		
5/5/08	Presentation	Splash Lab	Clover Flat Elementary	County	Students - Grades 4-6	71	X		
5/15/08	Presentation	Recycling: P2 & Water Quality	Potrero	County	Campers	13		X	
5/23/08	Staffed Booth	Wellness Fair: Stormwater Awareness	Mt. Empire School	County	Students	200	X		
5/25/08	Talk	Pollution Prevention/Water Quality: Waste and Litter Control	Pine Valley	County	Children & Students	25	X		
5/30/08	Presentation	Recycling & HHW Presentation	Clover Flat Elementary	County	Students - Grades 2-6	88	X		
6/3/08	Talk	Pollution Prevention/Water Quality: Waste & Litter	Pine Valley	County	Children & Students	35	X		
6/12/08	County Fair	IPM Booth	Del Mar Fairgrounds	All	Gen Public	1,235,698		X	
6/27/08	Presentation	Post Fire BMP's: P2 & Water Quality	Potrero	County	Campers	22		X	
6/30/08	CTN Network	County Chronicles - Outdoor H2O Conservation: Short program on outdoor water conservation tips to help conserve water & minimize polluted run-off		County		85 Airings			X
6/30/08	CTN Network	Down To Earth: Environmentally Friendly Home Gardening Techniques		County		120 Airings			
6/30/08	CTN Network	How to Manage Manure: Composting for Horse Owners		County		16 Airings			

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Date	Event Type	Event Title	Site Name	Lead Copermittee	Specific Target Audience	Estimated Attendees	Education	Public Outreach	Media
6/30/08	Presentation	Imperial Beach Senior Center: Watershed Concepts & Stormwater P2	Imperial Beach	IB	Gen Public	20	X	X	
3/31/08	Print Media	EDCO Article: South Bay HHW Facility now open Weds & Sat.	Imperial Beach	IB	Gen Public	28,000		X	X
6/31/08	E-Mail	Effects of Trash & Sediment on Water Quality	Imperial Beach	IB	Muni Staff	200	X		X
6/31/08	Field Trip	Habitat Heroes Restoration Event	SBay National Refuge	IB	Students - Elementary	1,000	X		
6/31/08	E-Mail	Help Reduce Stormwater Pollution	Imperial Beach	IB	Muni Staff	200	X		X
4/26/08	Cleanup Event	ILACSD Creek to Bay Cleanup	San Ysidro	SD	Gen Public	150	X	X	X
9/15/07	Cleanup Event	SDCK Coastal Cleanup Day	San Ysidro	SD	Gen Public	9	X	X	X
FY 2008	Print Media	Admobile	Imperial Beach	SD	Residents	638,480		X	X
FY 2008	PSA	Karma, Karma TV Campaign	County Wide	SD	Res/Com/Ind			X	X
FY 2008	PSA	Karma, Karma Radio Campaign	County Wide	SD	Res/Com/Ind			X	X
FY 2008	Print Media	Poster Distribution	TJ WMA	SD	Dev-Const Community	100		X	X
FY 2008	Print Media	Guidebook Distribution	TJ WMA	SD	Bus Own / Op & Rest Emp	500		X	X
FY 2008	Print Media	Pamphlet Distribution	Barrett Lake	SD	Residents	611		X	X
6/31/08	E-Mail	Water Conservation & Stormwater Pollution	Imperial Beach	IB	Muni Staff	200	X		X

3.3 Public Participation Activities

The Tijuana River Watershed Copermittees continue to actively encourage the participation and input of diverse stakeholders in the development, and implementation, of the Tijuana River watershed activities. Public participation is encouraged to ensure that stakeholder interests and creative solutions are considered. A number of activities, both education and water quality, are crafted to encourage public input and involvement (Table 3-1). For example, the Tijuana River Bacterial Source Identification Study involved the development of a Technical Advisory Committee comprised of several stakeholders including the Tijuana River Copermittees, local and state governmental agencies, local non profits, university researchers, and Tijuana River Valley residents. Additional public participation activities included volunteer clean-up events, outreach to specific groups such as students and residents within the Tijuana Watershed, County wide public service announcements, Project Clean Water website, and the Think Blue campaign.

3.4 Collaborative Land-Use Planning Efforts

To encourage collaborative planning in the watershed and implementation of the Tijuana River WURMP, the Tijuana River Copermittees met formally six times during FY07-08 to discuss watershed principles and develop collaborative efforts to reduce storm water pollution in the watershed, including possibilities for collaboration in land use planning (see Table 1-1). This section describes collaborative land use planning efforts within the watershed during FY07-08. The 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. A discussion of several collaborative land use planning efforts follows.

Education:

The Tijuana 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 FY07-08 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. Four additional Community Planning Groups and one additional Community Sponsor group are targeted for similar outreach during FY08-09.

Cross-Jurisdictional Communication:

The primary means of collaborative land use planning is the clear and timely communication of pending land use decisions among the 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 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.

Tijuana River Bacteria Source Identification Study:

One such activity that involved collaborative planning included the Tijuana River Bacteria Source Identification Study. Collaborative land use planning for the Tijuana River Bacteria Source Identification Study was achieved through the development of a Technical Advisory Stakeholder group. These stakeholder meetings encourage Copermittees to actively plan with community organizations and jointly identify potential sources of bacteria, trash, and sediment (i.e., human activity, storm outfalls), leading to generating pertinent information for field monitoring groups to collect water quality data and make a more informed assessment of pollutant sources along the river. This information is then available to storm water staff that coordinate and periodically make recommendations to jurisdictional planning department staff regarding appropriate storm water-related land use planning regulations and policies.

By pursuing a setting of coordinated dialogue and strong working relationships among each other, the Copermittees are more equipped to develop collaborative land use planning efforts to address the needs of this watershed. The Tijuana River Copermittees will continue its regular meetings to plan and implement the Tijuana River WURMP. 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.

3.5 Updated 5-year Strategic Plan

3.5.1 New Watershed Activities

Development of the 5-Year Strategic Plan included the formulation of a list of activities to implement over a five-year period. These activities have been integrated into the Tijuana River

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WURMP. The Regional Copermittees recognized that there would be a need to revise the 5-year plan as new activities were identified and implemented. During FY07-08, one new activity has been identified. During FY07-08 the Regional Board, the County of San Diego, the City of San Diego and several other Copermittees were approached regarding participation in an effort to identify and abate sources of trash and sediment in the Tijuana River Valley. As a result of this collaboration the County of San Diego was identified as the lead local agency to manage a contract to develop a “Tijuana River Valley Trash and Sediment Characterization Study”.

This study is a cooperative effort between the Copermittees and other stakeholder government agencies and community groups to identify trash and sediment sources along the River, and develop alternatives to remove, recycle these high priority pollutant sources in an effort to restore the river and estuary to its natural condition. A more detailed activity description for this activity is included in Appendix 1.

Additionally, in an effort to direct activity selection, implementation, and assessment in a comprehensive framework, the City of San Diego developed a Strategic Plan for its Watershed Activity Implementation. A planning and guidance document, the Strategy Plan uses an integrated, tiered, and phased approach to designing and implementing non-structural to structural projects that target pollutant sources and prevent storm water pollution in the watershed. It should be noted that the City of San Diego considers this an ongoing activity versus a new activity.

3.5.2 Updated 5-Year Strategic Plan

During FY07-08 several projects were modified, updated, completed or deleted from the strategic plan. These include the City of San Diego’s Pet Waste Dispenser Program Alpha Project for the Homeless, Inc. Trash Cleanups, Street Sweeping, and Targeted Auto-Related and Restaurant Facility Inspections Project. Table 3-3 represents the Tijuana River WMA Updated 5-year Strategic Plan.

An updated activity, the Pet Waste Project will target areas frequented by pet owners such as municipal parks, street, and sidewalk right of ways. Pet waste dispensers will be built in those targeted areas for the purpose of limiting pet waste.

The Alpha Project was implemented and completed in FY 2008. However, the City of San Diego will not continue this project in FY 2009 due to hazardous waste disposal issues. It was deemed more efficient to sponsor trash cleanup events than to contract specific groups like the Alpha Project for debris removal.

The Targeted Inspections project was combined into one activity summary sheet for the purposes of report consolidation and to preserve the numbering system for this activity type. The project is still in its developing stage. Should more substantive data be collected in future years, this project will then be separated into individual activity summary sheets pursuant to facility type (i.e., auto-related facilities and restaurants).

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The Sweeping Route Posting and Enforcement Project was modified with a new approach, which is to determine whether posting routes versus non-posted routes improve the effectiveness of street sweeping activities.

In April 2008, the Regional Board and its consultant, PG Environmental, conducted an audit of the WURMP programs within the San Diego Region. The review focused primarily on the Carlsbad and San Diego Bay watersheds. The final audit report was available for review by the San Diego Regional Copermittees in September 2008. The audit report contents 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. The San Diego Regional Copermittees have been working together with Regional Board staff to identify how the WURMPs and WURMP Permit language may be modified to meet the goals of the program more effectively.

One of the key components of the discussions between Copermittees and Regional Board staff involves refocusing the goals of the program is to allow WURMP efforts to increase their focus on watershed activities implementation, rather than be focused on intensive reporting. The Copermittees are committed to continuing their involvement in this process. In response to the WURMP audit comments relating to the Tijuana River Strategic Plan, the City is working to better define the goals of the WURMP. Additionally, the City has addressed each of the Regional Board's comments to each specific activity within the Activity Implementation section of each Activity Summary Sheet.

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Table 3-3 Tijuana River Updated Five-Year Strategic Plan

TIJUANA RIVER WATERSHED	Watershed Activities Planned for FYs 07-08 & 08-09											FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12		
	Heavy Metals	Sediment	Bacteria	Nutrients	Gross Pollutants	Trash	Dissolved Minerals	Pesticides										
TJ-001			x	x								WQ						
TJ-002	x	x	x	x	x	x	x					WQ						* unable to predict acquisitions
TJ-003			x		x							WQ						
TJ-004			x		x							WQ						
TJ-005			x		x							WQ						**deemed completed in FY08
TJ-006		x										WQ						
TJ-007	x											WQ						
TJ-008	x											WE						
TJ-009	x	x	x	x	x	x	x					WQ						
TJ-010			x		x							WQ						
TJ-011		x										WQ						
TJ-012												WQ						
TJ-013			x									M	S					
TJ-014	x	x	x	x		x						WE						
TJ-015			x			x						WE						
TJ-016			x									WE						
TJ-017		x	x									WQ						
TJ-018		x				x						WQ						
TJ-019	x		x			x						WQ						
TJ-020			x	x								WQ						

WQ = Watershed Water Quality Activity (Active Implementation)
WQ = Watershed Water Quality Activity (No WURMP Credit)
WE = Watershed Education Activity (Active Implementation)
WE = 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)
D = Watershed Data Assessment/Management Activity

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TIJUANA RIVER WATERSHED	Heavy Metals	Sediment	Bacteria	Nutrients	Gross Pollutants	Trash	Dissolved Minerals	Pesticides	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12
Potential Future Watershed Activities													
Source Identification of Metals and Ammonia	X			X									
Doggie Bag Dispenser Program			X	X									
Mobile Business Assessment Program	X												
Restaurant Outdoor BMP Implementation and Inspections			X										
Infiltration BMP Retrofit	X		X										
Trash Segregation Device Installation			X			X							
Inlet Bacteria Treatment BMP Installation			X										
Green Mall Infiltration Retrofit Education and Outreach	X		X										
Irrigation Controller and Xeriscaping Incentive Program	X		X	X				X					
Tijuana River Watershed Street Sweeping Effectiveness Study	X					X							
Tijuana River Valley Park Trails and Habitat Enhancement Project		X											

SECTION 4.0 EFFECTIVENESS ASSESSMENT

4.1 Assessment of Overall WURMP Effectiveness

This section of the report will assess the effectiveness of the Copermittees collaboration efforts over the year, the overall effectiveness of targeting specific water quality problems, and the collective impacts made towards reducing pollutant loads and improving receiving water quality. In order to facilitate this assessment the Copermittees agreed upon using the 2003 Framework for Effectiveness Assessment, which uses a six level hierarchical analysis to assess the effectiveness of watershed activities. This section will focus on assessing the WURMP effectiveness as a whole. There are four key components that the Copermittees will consider when assessing the effectiveness including:

1. An assessment of the Copermittees Collaboration Efforts during Reporting Period.

The Tijuana River Watershed Copermittees have collaboratively worked together over the past year to successfully implement a number of watershed and education based activities throughout the WMA. In addition to participating together on shared watershed activities, the Tijuana River Copermittees met 6 times during the year to further develop and implement the Tijuana River WURMP, and participated in a number of Tijuana River Stakeholder groups that are working toward the ultimate restoration of the Tijuana River watershed and estuary. The Copermittees were in compliance with all Level 1 provisions of the WURMP as required by the NPDES permit.

2. An assessment of whether watershed activities are focused on the appropriate water quality problems and sources or whether additional information is needed to reach such conclusions.

As noted in Section 2 Bacteria and Trash are two of the many high priority pollutants found throughout the watershed. During the current reporting period the Copermittees actively engaged in 15 water quality and education activities as noted in Table 4-1. These activities specifically targeted bacteria and trash as well as a few of the other high priority pollutants. Each activity is evaluated annual basis and the Copermittees will make changes as appropriate in the coming years. Data are typically collected and assessed during or after activity implementation to determine effectiveness in achieving targeted outcomes. Copermittees collaborated and selected activities that would address high level priority pollutants within not only each jurisdiction, but throughout the watershed. In some cases, these activities (i.e., educational) could reach a Regional audience.

In addition to the activities mentioned the Copermittees are collaboratively planning and implementing two programs the Tijuana River and Estuary Trash and Sediment Characterization Study and the Tijuana River Bacteria Source Identification Study, which should result in additional future abatement and source identification activities.

Table 4-1 identifies each of the water quality and water education activities that were in active implementation or planning for FY07-08.

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Table 4-1 Water Quality and Education Activities in Tijuana River WMA

Activity		HA	Activity Type	Priority Problems Addressed	Level Outcome	Measurement or Other Benefit
ID No.	Project Name					
TJ-001	Pet Waste Bag Dispenser Program in County Parks	911.2 911.4 911.5	Water Quality	Bacteria	4	50,388 bags distributed 10,078lbs removed
TJ-002	Land Acquisitions	All	Water Quality	All	4	5.2 acres of acquisition
TJ-003	ILACSD Trash Cleanup Sponsorship	911.1	Water Quality	Bacteria, Trash	1, 4	178 participants 31,660lbs of trash
TJ-004	SDCK Trash Cleanup Sponsorship	911.1	Water Quality	Bacteria, Trash	1, 4	55 participants 400lbs of trash 318lbs recycled
TJ-005	Alpha Project for the Homeless Trash Clean-ups	911.1 911.2	Water Quality	Bacteria	4	4 participants 910lbs of trash
TJ-006	Targeted Restaurant Facility Inspections	911.1 911.2	Water Quality	Bacteria, Nutrients	1, 3, 4	18 inspections Ed materials distributed BMP Implementation
TJ-007	Targeted Auto-Related Facility Inspections	911.1 911.2	Water Quality	Bacteria, Nutrients	1, 3, 4	2 BMP Corrective Actions 17 inspections Ed materials distributed
TJ-009	Municipal Rain Barrel Installation and Downspout Disconnect Project	911.1 911.2	Water Quality	Bacteria, Metals	1, 4	Location selected Barrels procured Installation to commence
TJ-010	City-Wide Clean-Up Events	911.1	Water Quality	Bacteria	1, 4	742 participants 356,000lbs of trash
TJ-011	Large Special Events Inspection and Clean-Ups	911.1	Water Quality	Bacteria	1	Increased Awareness BMP implementation
TJ-013	Tijuana River Bacteria Source Identification Study	911.1 911.2	Water Quality	Bacteria	1	Identify Stakeholders Literature Review QA and Monitoring Plans Establish Sampling Locations
TJ-015	Karma/Karma Second Chance PSA	911.1 911.2	Education	Bacteria	1, 2	646,888 est. audience 207,416 est. radio audience
TJ-016	Mobile Advertising	911.1 911.2	Education	General Bacteria	1, 2	31,924 estimated audience
TJ-017	Invasive Species Removal Program in Tijuana River Park	911.1	Water Quality	Bacteria, Sediment, Pesticides	1	100ac arundo & castor bean 511ac retreated 61ac tamarisk Planted & Maintained native plants Assisted SWIA

3. A comprehensive assessment of the impact of all the WURMP Activities on the watershed's high priority problems, with a focus at the Hydrologic Area Level.

During the past reporting period, there were 14 activities in the active implementation phase, 12 of which focused on water quality and 2 focused on education. These activities addressed several of the priority pollutants in the Tijuana River Watershed, including metals, sediment, pesticides, nutrients, gross pollutants, bacteria/pathogens.

There are 8 HAs in the Tijuana WMA. According to Table 4-1 appropriate activities occurred within each HA that had Tijuana WURMP (2008) identified High Priority Water Quality problems. However many of the projects were focused in the HA (911.1) because that is where the issues are the most numerous and significant.

4. Measurable targeted outcomes and assessments measures will be used to facilitate assessment wherever possible. Assessment levels one through six will be applied to the watershed as whole where applicable and feasible.

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, and 4 likely had positive effects on water quality and will help establish the effectiveness of the Tijuana River watershed program. The bacteria-focused activities implemented a comprehensive method of promoting education and awareness (Level 1, 2, and 3) combined with actual load reduction and source abatement. As can be seen, levels of effectiveness for these activities had wide outcome range, with a majority emphasizing load reduction or source abatement (Level 4). The process also allowed a thorough evaluation of the WURMP and to make improvements, modifications, and changes to the program as needed. As the activities progress and become more developed in its implementation, data will become more available to design measurements that will improve the effectiveness of the activities. This will in turn lead to a better framework of assessing the activities and thereby improve the overall effectiveness of this watershed program.

4.2 Assessment of TMDL BMP Implementation Plan Effectiveness

At this time, there are no adopted TMDLs currently in effect within the Tijuana River WMA.

SECTION 5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

During FY07-08 the Municipal Permit was updated in response to Order No. R9-2007-0001, which resulted in several changes in our WURMP annual reporting process. Most notably changes included developing a 5 year Watershed Strategy and development of measurable effectiveness goals. Much of the year was spent collaborating with the other Tijuana River WMA Copermittees to develop the strategy for implementing Water Quality and Education Activities in compliance with the new Regional Board Order.

The Tijuana River WMA Copermittees met six times during the year to develop the strategy as well as to develop new activities to address the High Priority Pollutants. As a result of this the Tijuana River Copermittees completed and submitted a revised WURMP in March of 2008, which lead to the planning or implementing of 20 activities in the watershed. Over the course of this reporting period, the Tijuana River WMA Copermittees further modified 4 of the ongoing activities from previous reporting years, and added 2 new watershed activities.

As noted in the Water Quality section of this report, no watershed specific monitoring efforts, with the exception of jurisdictional dry weather monitoring, were completed during this reporting period in the WMA. Therefore, no monitoring updates were provided. However, Regional Monitoring efforts were modified to provide the basis for answering the 5 Core Management Questions listed in Section 2. The Regional Monitoring Report analyzed previous data against the Core Questions and provided recommendations for the WMA. Regional Monitoring will once again take place in FY08-09 monitoring period. In addition, the City of Imperial Beach initiated a bacterial source identification activity that should provide significant information that will be utilized by the Regional Monitoring group for the next annual Report.

Lastly, the Tijuana River WMA Copermittees achieved effectiveness level outcomes of Levels 1 through 4 with the implementation of the watershed and education/outreach activities during FY07-08. The Copermittees successfully collaborated on activities targeting the high priority pollutants in the watershed, and collaborated on a comprehensive approach to address one specific pollutant of concern, bacteria. During the next fiscal year the Copermittees will continue collaborate and assess the effectiveness of targeted watershed activities, and further develop programs in order to maximize benefits to water quality.

5.2 Recommendations

In April 2008, the RWQCB and its consultant, PG Environmental, conducted an audit of the WURMP programs within the San Diego region. The review focused primarily on the Carlsbad and San Diego Bay Watersheds. 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 Copermittees to amend permit language where necessary to better meet program goals. The San Diego Regional Copermittees, through the Regional WURMP Workgroup, initiated dialogue with RWQCB staff on these issues in November 2008. The Tijuana River Watershed Copermittees are committed to continue their

involvement in this process during the 2008-09 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.

SECTION 6.0 REFERENCES

California Regional Water Quality Control Board, San Diego Region. 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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