

Tijuana River
Watershed Urban Runoff Management Program
FY 2003-2004 ANNUAL REPORT



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Prepared by

*County of San Diego
City of San Diego
City of Imperial Beach*

In partial fulfillment of the requirements of the
Regional Water Quality Control Board, San Diego Region
Municipal Stormwater Permit Order No. 2001-01

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ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

303(d)	Section of the Clean Waters Act
ABLM	Ambient Bay and Lagoon Monitoring
BECC	Border Environment Commission Cooperation
BMP	Best Management Practices
BOD	Biologic Oxygen Demand
BRI	Benthic Response Index
BWAC	Binational Watershed Advisory Council
BWQMP	Binational Water Quality Monitoring Program
CalPIRG	California Public Interest Research Group
CBI	Clean Beaches Initiative
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
COC	Constituent of Concern
COD	Chemical Oxygen Demand
CODAR	Coastal Ocean Dynamic Application Radar
Copermittees	The 18 cities within San Diego County, the County of San Diego, the Port of San Diego, and the San Diego County Regional Airport Authority.
County	County of San Diego
CTP	Coastal Training Program
CWA	Clean Water Act
DEH	County of San Diego Department of Environmental Health
EIR	Environmental Impact Report
GIS	Geographic Information Systems
IBI	Index of Biological Integrity
IC/ID	Illicit Connection / Illicit Discharge
IPM	Integrated Pest Management
JURMP	Jurisdictional Urban Runoff Management Program
MBAS	Methylene Blue Active Substances
MEC/Weston	MEC Analytical Systems/Weston Solutions, Incorporated
MLS	Mass Loading Station
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSCP	Multiple Species Conservation Plan
Municipal Permit	San Diego Regional Water Quality Control Board Order 2001-01
NOAA	National Oceanic & Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
PCW	Project Clean Water
PRISM Grant	Pesticide Research and Identification of Source Mitigation Grant
Reserve	Tijuana Reserve
RBI	Rapid Bioassessment Index

RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SBCOOS	South Bay Coastal Ocean Observing System
SCEEP	South County Environmental Education Partnership
SUSMP	Standard Urban Stormwater Management Plan
Task Force	Environmental Protection Agency Border 2012 Water Task Force
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TJ	Tijuana
TOC	Total Organic Carbon
TRNERR	Tijuana River National Estuarine Research Reserve
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
URMP	Urban Runoff Management Program
Vision	Binational Vision for the Tijuana River Watershed
Watershed	Copermittees within the Tijuana River watershed which include the
Copermittees	City of San Diego, City of Imperial Beach and the County of San Diego
WMA	Watershed Management Area
Workgroup	Tijuana River Watershed Urban Runoff Management Program Workgroup
WURMP	Watershed Urban Runoff Management Program

CERTIFIED STATEMENTS

Section M.3 (Universal Reporting Requirements) of the Municipal Storm Water Permit Order Number 2001-01 directs the watershed Copermittees to submit signed certified statements for their individual Watershed URMP Annual Report(s). Signed certification statements for the following Copermittees are located in Appendix A.1 of this report.

Tijuana River Watershed Copermittees

County of San Diego (lead)

City of Imperial Beach

City of San Diego

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EXECUTIVE SUMMARY

1.0 Introduction

The 2003-04 Tijuana River Watershed Urban Runoff Management Program Annual Report (Tijuana River Annual Report) describes the watershed activities conducted by the County of San Diego and the cities of Imperial Beach and San Diego (Copermittees) for Fiscal Year 2003-04, as required under the Municipal Storm Water Permit Order Number 2001-01 (Municipal Permit). The Tijuana River Annual Report represents the Copermittees efforts during the past fiscal year to implement the Tijuana River Watershed Urban Runoff Management Program (Tijuana River WURMP).

As required in the Municipal Permit Section M.1, Submittal of Watershed URMP Annual Report, this report is focused on addressing the following activities:

- Comprehensive description of all activities conducted by the watershed member Copermittees.
This requirement is addressed within Sections I, II, III, IV, and V of this report.
- Public participation mechanisms utilized during the Watershed URMP implementation process.
This requirement is addressed within Section II of this report.
- Mechanism for watershed based land use planning.
This requirement is addressed within Section II of this report.
- Assessment of effectiveness of Watershed URMP.
This requirement is addressed within Section IV of this report.
- Proposed revisions to the Watershed URMP
This requirement is addressed within Section V of this report.
- A summary of watershed effort related data not included in the annual monitoring report (e.g., special investigations)
This requirement is addressed within Section II of this report.
- Identification of water quality improvements or degradation
This requirement is addressed within Section III of this report.

The Copermittees in the Tijuana River Watershed have successfully implemented all of the permit requirements.

2.0 Program Highlights

Between July 2003 and June 2004, the Copermittees within the Tijuana River watershed made significant progress in implementing programs aimed at improving surface stormwater quality in the watershed. A few of these highlights are found below:

- Watershed Management Plan: The Proposition 13-funded effort to develop a watershed plan has been successfully moving forward in bringing together U.S. and Mexico representatives and stakeholders to discuss watershed issues and challenges, and to develop a watershed vision for the Tijuana River Watershed known as the Binational Vision Project for the Tijuana River Watershed. The update on this project can be found in Section II.
- Watershed Surveys. The County of San Diego conducted watershed surveys for the unincorporated areas of the Tijuana River watershed in order to establish a baseline of residents' behavior, attitude/preferences, and knowledge/awareness pertaining to water pollution and urban runoff issues. The survey results for the Tijuana Watershed are detailed in Section II, subsection 3.0.
- Water Quality Grants: The State Water Resources Control Board approved a \$637,500 grant to the County of San Diego to conduct the Tijuana River Watershed Invasive Species Removal Project. The project will consist of planning, mapping, removing, and revegetation of areas of Arundo and Tamarisk. The project will also provide short and long term water quality monitoring and community outreach in the Tijuana River Watershed. It is anticipated that the County will begin the planning and mapping phases of the project during the 2004-2005 fiscal year.
- Watershed Assessment: The Tijuana River Copermittees continued the implementation of the watershed assessment program, which is a collaborative effort to assess the water quality of receiving waters in the watershed. The Copermittees' monitoring programs make use of a variety of methodologies to document the physical, chemical, and biological characteristics of streams, creeks, rivers, enclosed bays, lagoons, estuaries and beaches. The 2003-2004 watershed assessment includes data from the mass loading station (MLS) and dry weather site data, toxicity data, rapid stream bioassessment, ambient bay and lagoon monitoring (ABLM), and citizen monitoring (2003 California Coast Wide Snapshot Day). Section III of this report summarizes the data collection and assessment efforts within the Tijuana River Watershed.

SECTION I – INTRODUCTION

The 2003-04 Tijuana River Watershed Urban Runoff Management Program Annual Report (Tijuana River WURMP Annual Report) describes the watershed activities conducted by the watershed Copermitees for fiscal year 2003-04 (July 1, 2003 to June 30, 2004).

1.0 Program Approach

The following provides the program goal of the WURMP and specific objectives that the Tijuana River watershed Copermitees will strive to meet as part of this effort.

TO POSITIVELY AFFECT THE WATER QUALITY OF THE TIJUANA RIVER WATERSHED WHILE BALANCING ECONOMIC, SOCIAL AND ENVIRONMENTAL CONSTRAINTS.

- Objective #1: Develop/expand methods to assess and improve water quality within the watershed.*
- Objective #2: Integrate watershed principles into land use planning.*
- Objective #3: Enhance public understanding of sources of water pollution within the watershed.*
- Objective #4: Encourage and enhance stakeholder involvement within the watershed.*

2.0 Organization and Content of the Report

The Tijuana River WURMP Annual Report consists of a total of six sections, and is organized as follows:

Section I – Introduction

Section I of the Annual Report provides a summary of the program approach to improving water quality and a general overview of the organization and content of the report.

Section II – Activity Implementation

Section 5 of the TJ WURMP (Plan of Action) identifies several activities and programs aimed at improving the quality of surface stormwater runoff within the watershed. These activities focused specifically in the areas of water quality, land use planning, education, and public participation. Section II provides a status report of the work completed for these activities and programs during this reporting period.

Section III – Water Quality Assessment

Section III of the Tijuana River Annual Report is designed to summarize the quality of the water in the Tijuana River Watershed based upon cumulative water quality data. In our effort to assess the water quality of receiving waters in the watershed, the Copermitees' monitoring programs make use of a variety of methodologies to document the physical, chemical and biological characteristics of streams, creeks, rivers, enclosed bays, lagoons, estuaries and beaches. A more detailed description of monitoring and analytical procedures can be found in the MEC/Weston document entitled *San Diego County Municipal Copermitees 2003-2004 Urban Runoff Monitoring Report* (MEC/Weston Report).

Section IV – Effectiveness Assessment

Section IV provides an initial assessment of the implementation and effectiveness of the Tijuana River WURMP for the period of July 2003 through June 2004 using concepts from “A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs”. It is important to note that the Copermittees reported in fiscal year 2002-03 that the Assessment Framework would be utilized in fiscal year 2004-05. The Copermittees are utilizing the framework to assess fiscal year 2003-04 which is a year earlier than previously reported.

Section V – Conclusions and Recommendations

Section V provides a summary conclusion of the Tijuana River Annual Report and makes recommendations for improving future reporting efforts.

Section VI – References

Section VI provides references

The Tijuana River Annual Report describes the watershed activities that were conducted by the Copermittees during the FY 2003-2004 reporting period. This years Annual Report was significantly revised to address the Regional Water Quality Control Board’s (RWQCB) comments presented in the October 8, 2004 letter. The RWQCBs comments and the Copermittees responses can be found in Attachment 1 of this Annual Report. The Copermittees have reviewed the RWQCB’s comment regarding the use of “boilerplate” text and collectively decided to move the “boilerplate” text and regional watershed activities to the Common Activities Section of the Unified Annual Report. All implementation sections and text that are directly related to the Tijuana River watershed are included in the Tijuana River WURMP Annual Report. It is hoped that with the restructuring of this document, it will provide a better understanding of the accomplishments and achievements of the Tijuana River Watershed Copermittees. This Annual Report taken as a whole, along with the Common Activities Section of the Unified Annual Report and the City of Imperial Beach, City of San Diego and County of San Diego JURMPs, clearly documents permit compliance.

SECTION II – IMPLEMENTATION

The following section summarizes the activities identified in the Watershed URMP and describes the actions taken by the Copermitees during the FY 2003-04 reporting period.

Implementation activities were conducted during the reporting period to achieve the following program objectives:

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

Activities were designed to address constituents of concern and the likely sources of each pollutant. It should be noted that several programs have multi-use implementation strategies and address multiple program strategies (i.e. development of a monitoring program coupled with an educational outreach campaign). As such some activities may be discussed in multiple areas in this section. Table 2-1 presents an overall list of activities being conducted within the Tijuana River Watershed and provides the sections of the Unified Annual Report in which those activities may be found. Furthermore, Table 2-1 distinguishes between activities originally identified in the WURMP (WURMP Activity), revised activities (Revised), or newly identified activities (New). Further details on the implementation status of each activity will be presented in the section appropriately identified in the table.

Based on comments from the RWQCB this section was revised to clarify how each program/activity addresses the priority pollutants and their likely sources, as well as how each relates to the original WURMP objectives. The report has also been significantly streamlined to reduce redundancy within the WURMP Annual Report. Information on regional programs/activities that do not relate solely to the Tijuana River Watershed have been moved to the Common Activities Section of the Unified Annual Report and are noted in the appropriate sections of this report. Raw data tables identifying individual events (education, public participation), or supplemental information have been summarized and moved into appendices to facilitate review without losing information. The revisions to this section provide a concise format and outline how the Tijuana River Watershed Copermitees are complying with the permit requirements.

Table 2-1: Complete List of Watershed Activities by Section

	WURMP Activity	Classification	Section for Discussion	Constituents of Concern
Water Quality Activities	Regional Integrated Pest Control Management Campaign	Revised**	Section II, 3.2.3	Fertilizer, Pesticides: Diazinon, Chlorpyrifos, Malathion
	Data Collection and Management	Revised**	Section II, 1.1	All*
	San Diego Coastal Ocean Observing System Project	WURMP Activity	Section II, 1.2	Bacterial Indicators, Turbidity
	Standard Urban Storm Water Mitigation Plan (SUSMP)	WURMP Activity	Individual JURMPs	Sediment, Bacterial Indicators
	Tijuana River Invasive Species Removal Project	New**	Section II, 1.6.1	Sediment and potentially all*
	Toxicity Evaluation for <i>Ceriodaphnia Dubia</i>	WURMP Activity	Section III, 2.3	Identifies COC
	Water quality monitoring programs, determinations of possible sources, and reduction or elimination of the source	WURMP Activity	Section III	All*
Public Participation	Project Clean Water	WURMP Activity	Section II, 4.3	All
	Watershed URMP Workgroup	WURMP Activity	Section II, 2.3.3	All*
	Tijuana River Watershed Binational Vision Project Website	New**	Section II, 4.4	Nitrogen, phosphorous, potassium and pesticides, heavy metals
	Stormwater Copermittee Collaboration and Community Workshops	WURMP Activity	Section II, 4.1	Potentially all*
	Integration and Participation in Local Planning Activities	WURMP Activity	Section II, 4.2	Potentially all*
	Binational Vision Project for the Tijuana River Watershed	WURMP Activity	Section II, 2.3.2	All*
	Discretionary Project Review Process	WURMP Activity	Section II, 2.2	All*
	Direct Interaction	WURMP Activity	Section II, 4.5	All*
	Imperial Beach City Council Meetings	WURMP Activity	Section II, 4.6	All*

	WURMP Activity	Classification	Section for Discussion	Constituents of Concern
Educational Activities	Public Presentations and Media/Watershed Element	WURMP Activity	Section II, Section 3.2	All*
	School Presentations	WURMP Activity	Section II, 3.2.2	Potentially all*
	Regional Watershed Poster	WURMP Activity	Section II, 3.2.4	Potentially all*
	Partners in Clean Water	WURMP Activity	Section II, 3.2.7	Potentially all*
	Community Events Focused on Local Water Body	WURMP Activity	Section II, 3.2.8	Potentially all*
	Tijuana River Estuary Education	WURMP Activity	Section II, 3.2.9	Potentially all*
	Integrated Pest Management Campaign	Revised**	Section II, 1.3	Fertilizer, Pesticides: Diazinon, Chlorpyrifos, Malathion
	Project Clean Water	WURMP Activity	Section II, 4.3	All*
	Tijuana River Watershed Brochure	New**	Section II, 3.2.6	All*
Planning Activities	General Plan Updates	WURMP Activity	Section II, 2.1	All*
	Information Sharing/Planning Forums	WURMP Activity	Section II, 2.2 and 2.3	All*
	Jurisdictional Planning/Watershed URMP Workgroup	WURMP Activity	Section II, 2.3.3	All*
	Promote Trans-border Collaboration	WURMP Activity	Section II, 1.5	Potentially All*
	Binational Vision Project for the Tijuana River Watershed	WURMP Activity	Section II, 2.3.2	All*
	Multiple Species Conservation Plan (MSCP)	New**	Common Activities Section I.B.3.e	All*
Special Investigations	San Diego Coastal Ocean Observing System Project	WURMP Activity	Section II, 1.1	Bacterial Indicators, Turbidity

*Please refer to Table 3-5 in Section III for the list of Constituents of Concern and Table 3-6 for their priority level within the Tijuana River Watershed.

** New and Revised WURMP Activities are discussed in the sections noted.

1.0 Water Quality Activities

Water quality activities identified in Section 5.b. of the WURMP were designed to meet the WURMP primary objective #1 which is to develop/expand methods to assess and improve water quality within the watershed.

The original water quality activities were reviewed and assessed during the 2003-04 reporting period. Determinations were made as to the status of the original activities (ongoing or completed), appropriateness of the activity to meet the above stated objective and address constituents of concern, and identification of new or additional activities. The sections below provide a report on the original WURMP activities, subsequent revisions to the activities, and a discussion of additional or new activities implemented during this reporting period. We have included Table 2-2 in order to provide a concise summary of water quality activities, work implemented during the reporting period on the activities, and whether the water quality activities are short term, long term, or encompass both. The table also identifies the constituents of concern and likely sources addressed by each water quality activity. The supplemental text is provided in the respective sections following the table. To reduce redundancy, this annual report focuses solely on the activity components implemented during this reporting period. Please refer to WURMP Section 5 Plan of Action for a complete description of each activity.

Table 2-2: Summary of Water Quality Activities

Water Quality Activity	Short or Long Term	Work Implemented during FY 03-04	Constituent of Concern addressed	Likely sources addressed	Status
San Diego Coastal Ocean Observing System Project	Short Term	<ul style="list-style-type: none"> Continued gathering data Maintenance and implementation of network upgrades Collaboration resulting in advance alert network for bacteria 	Turbidity Bacteria	Still assessing	Ongoing
Data Analysis and Management Project	Short Term	<ul style="list-style-type: none"> Data from Dry Weather Monitoring, Ambient Bay and Lagoon Monitoring, and California Coast Wide Snapshot Day were incorporated into the 03-04 watershed assessments 	All*	Still assessing	Ongoing annually Completed for 03-04
	Short and Long Term	<ul style="list-style-type: none"> Guidelines for assessing data sets were developed 	All*	Not applicable	Completed
Toxicity Evaluation for <i>Ceriodaphnia Dubia</i>	Short Term	<ul style="list-style-type: none"> Toxicity Identification Evaluation was conducted during 2004 to determine the contributing causes of toxicity in the Tijuana River 	Determination of COC	Still assessing	Completed for 2003-2004
Regional IPM Campaign – PRISM Grant	Short and Long Term	<ul style="list-style-type: none"> Scope of the State Agreement was developed Agreement submitted to state for approval and signatures 	Pesticides	Residential and Commercial Applications	Ongoing
SUSMP Implementation	Long Term	<ul style="list-style-type: none"> SUSMP implementation is still required for designated priority projects in each jurisdiction 	Turbidity/TSS	Construction sites, New Development / Redevelopment	Ongoing
Promoting Trans-border Collaboration	Short and Long Term	<ul style="list-style-type: none"> Binational Watershed Advisory Council meetings 	All*	Mexico and U.S. sources	Ongoing
	Short and Long Term	<ul style="list-style-type: none"> The EPA Border 2012 Water Task Force was formed and began meeting 	All*	Mexico and U.S. sources	Ongoing
Tijuana River Invasive Species Removal Project	Short and Long Term	<ul style="list-style-type: none"> County of San Diego received approval for Proposition 13 grant funding 	Sediment and potentially all*	Still assessing	Ongoing
		<ul style="list-style-type: none"> Grant agreement is still in the process of being finalized 	Sediment and potentially all*	Still assessing	Ongoing

TIJUANA RIVER WURMP

Water Quality Activity	Short or Long Term	Work Implemented during FY 03-04	Constituent of Concern addressed	Likely sources addressed	Status
Tijuana River Watershed Management Plan	Short Term and Long Term	<ul style="list-style-type: none"> Conducted work on the Draft Binational Vision Project for the Tijuana River Watershed 	All*	Mexico and U.S. sources	Ongoing
	Short and Long Term	<ul style="list-style-type: none"> Created Tijuana River Watershed Brochure 	All*	Mexico and U.S. sources	Completed
	Short and Long Term	<ul style="list-style-type: none"> Developed GIS mapping component on the website Created Tijuana River Watershed Brochure 	Potentially all*	Mexico and U.S. sources	Completed

* Please refer to Table 3-5 in Section III for the list of Constituents of Concern and Table 3-6 for their priority level within the Tijuana River Watershed.

1.1 Data Analysis and Management Project

Please refer to the Common Activities Section of the Unified Annual Report Section I.B.3.f for an update on this project.

1.2 San Diego Coastal Ocean Observing System Project

The South Bay Coastal Ocean Observing System (SBCOOS), a Scripps Institution of Oceanography's project under a contract with the City of Imperial Beach, continues to collect real-time measurements of key oceanographic parameters relevant to understanding the complex coastal transport mechanisms present in this region and their relevance to local water quality issues. The project was originally funded through a Clean Beaches Initiative (CBI) grant, which expired on June 30, 2004. The grant was extended to expire October 31, 2004 with the final report due December 31, 2004. Funding from other sources has contributed to this project over the past 3-years and additional funding is being sought to continue the project.

The project monitoring area extends from Point Loma to the US Mexico Border and includes a variety of systems- three Coastal Ocean Dynamic Application Radar (CODAR) systems located at Point Loma, Border Field State Park, and South Island of the Mexican owned Coronado Islands to track ocean currents and a fourth CODAR site operated by colleagues at CICESE/UABC is located near Rosarito Beach, Mexico. The project also includes a near shore currents and water type sampling system to measure surface and subsurface currents, a surf-zone current and water quality sampling system which allows for real-time measurements of ocean water temperature, water salinity, and turbidity and a water column stratification measurement systems to allow the measurement of water column stratification in the region. Real time data and data summaries are available at the SDCOOS website at <http://www.sdcoos.ucsd.edu/data>.

During this reporting period, the SBCOOS project continued gathering data. Maintenance and implementation of network upgrades were performed to enhance system performance and increase stability. Using the early SBCOOS data collection effort, collaboration between Scripps, County Department of Environmental Health, and City of Imperial Beach during the 2003-2004 wet-weather season resulted in advance alert networking of conditions for likely ocean bacterial contamination and for likely contamination-free coastal waters. A final report to fulfill the CBI grant requirements will be provided by December 2004. Background information for this project can be found in the City of Imperial Beach JURMP document.

1.3 Integrated Pest Management Campaign

Please refer to subsection 3.2.3 below under Educational Activities for a description on this program.

1.4 Toxicity Identification Evaluation

Please refer to Section III, subsection 3.2 of this Annual Report for an update on the Toxicity Identification Evaluation conducted during this reporting period.

1.5 Promote Trans-border Collaboration

The Copermittees have, and are continuing to be engaged in trans-border collaboration with other organizations on issues involving water quality in the Tijuana River watershed. The US and Mexico have been involved in various cooperative efforts (both formal and informal) in an attempt to protect natural resources along our common border. Most significantly, the Proposition 13-funded Binational Vision for the Tijuana River Watershed, scheduled to be completed in early 2005, has brought together over 40 representatives from both sides of the border, including academia, local, state and federal agencies, non-profit organizations, labor groups, industry groups and interested individuals. A Binational Watershed Advisory Council has been formed to discuss key watershed issues including water quality. Key issues and recommendations will be formulated and included in the Binational Vision for the Tijuana River Watershed. Please refer to Subsection 2.0 – Land Use Planning below for additional information on the watershed management plan efforts.

1.6 Water Quality Grants

The following section provides a description of the water quality grants that have been received by the Copermittees for projects within the Tijuana River watershed.

1.6.1 Tijuana River Watershed Invasive Species Removal Project

The State Water Resources Control Board approved a \$637,500 Proposition 13 grant for the County of San Diego (County) to conduct the Tijuana River Watershed Invasive Species Removal Project. The project consists of planning, mapping, removing, and revegetation of approximately 125 acres of Arundo (located two miles downstream from Barrett Lake) and 75 acres of Tamarisk (located near the Morena Reservoir headwaters). The project will also include short and long term water quality monitoring and community outreach to the Tijuana River Watershed stakeholders. The water quality monitoring will involve monitoring upstream and downstream of the restoration sites to quantify the impacts of exotic vegetation removal on water quality, water flow, and the biological habitat. The restoration of native species will have a direct impact on the stream flow and biological habitat along Cottonwood Creek, which will lead to improvements in water quality, overall stream health, assimilative capacity, and will ultimately enhance and restore the habitat-associated beneficial uses. Removing invasive plants in Cottonwood Creek is important to preserving habitat quality and may be a factor for continued survival of the endangered species that occupy or use those habitats. Furthermore, restoration of natural stream channels can greatly improve water quality, removing sediment caused by scour as stream flows return and stream courses began to meander. Slower moving streams also provide more habitat for benthic invertebrates. This project will also reduce the chances of flooding as the removal of invasive vegetation from rivers and streams gives them room to spread during periods of heavy rains. The grant agreement is still in the process of being finalized, and the County hopes to begin the planning and mapping phases of the project during the fiscal year 2004-2005.

1.6.2 Goat Canyon Enhancement Project

California State Parks, the State Coastal Conservancy, the Wildlife Conservation Board and the National Oceanic & Atmospheric Administration (NOAA) have jointly funded the Goat Canyon Enhancement Project. The purpose of the project is to capture sediment that flows into the United States from Mexico, thus

protecting the valuable salt marsh habitat and allowing the park entrance road to be accessible throughout the year.

The Goat Canyon project has been in development since approximately 1998. Plans began processing during the fall of 2002 and construction began in September of 2003. The construction season is limited to the months between September and March due to environmental constraints. By February of 2004, the project was about 80% complete and was expected to meet the target completion date of March 2004 when a large storm occurred which caused extensive damage to the project. Emergency repairs were made however; construction was halted for the summer months with the exception of limited biological planting. The project is expected to complete construction and enter into a monitoring phase in the spring of 2005.

During the FY 2002-2003, The County of San Diego participated in the Goat Canyon project by providing technical review and comments on the project drainage plans, while the City of San Diego conducted both discretionary and ministerial grading plan reviews. During the discretionary review, City staff compared the proposed grading plan to the project Environmental Impact Report (EIR) to ensure compliance and to ensure the proposed scope of work fit one of the alternatives proposed in the EIR. Upon completion of its review, the City of San Diego issued a grading permit for the Project. As the project has entered the construction phase, the Copermittees no longer have an active role in the Project. As such, this project will not be discussed in future Tijuana River WURMP Annual Reports.

2.0 Land Use Planning Activities

The Land Use Planning Context & Processes section of the Tijuana River WURMP (Section 6) identifies several different activities and procedures designed to integrate watershed principles into comprehensive planning meeting the WURMP primary objective #2: integrate watershed principles into land use planning. The sections below provide a status report of work completed to date on those activities.

2.1 Individual Jurisdictional Planning Goals

As stated in the Tijuana River WURMP, Copermittees who had not yet completed their General Plan update agreed to develop action plans to modify their respective plans in order to include goals and policies that addressed water quality, water protection, and jurisdictional collaboration. Below is a status report of those outstanding updates:

2.1.1 County of San Diego

The County of San Diego is continuing the process of updating its General Plan through the GP2020 Project. Water quality and watershed protection principals will be incorporated in the updated community plans and General Plan Elements, but there are several steps that still must be taken in order to update the General Plan before this can occur.

One of the foundations to the General Plan update is the land-use designation map. At the present time, county Planning Staff are working on the commercial and industrial land use maps, as well as the related portions of the Land Use Element. Acceptance of the residential land use distribution

map by the Board of Supervisors has taken nearly two years longer than expected as a result of Board-directed public review and referral process. Once the Land Use Maps and the Land Use Element are completed, the GP2020 Planners will focus their work on completing the road network planning, and the Circulation Element. This will be followed by the development of the additional elements required under state law.

Given the delays in the completion and approval of the land use maps, no work has begun on any of the specific General Plan elements, including those that would likely incorporate watershed policies and principals. Although formal policies have not yet been incorporated into the General Plan update, staff is reviewing all land use map changes with respect to watershed-specific protection issues including habitat connectivity, water quality, flood plain protection, and water supply. In addition, the County intends to integrate standardized language on water quality and watershed protection into its community plans. Further, the County intends to develop objectives and policies to address water quality for inclusion in the General Plan elements, as appropriate.

Given the size and scope of the general plan update effort, these activities have taken much longer than originally anticipated. AT this time, the County anticipates that drafts of the elements will not be available until Summer 2005, at the earliest. Specific updates to the community plans would be developed once the Elements are completed. For further information regarding proposed schedules, updates, and contacts please visit the County of San Diego website at <http://www.sdcounty.ca.gov/cnty/cntydepts/landuse/planning/GP2020/index.html>.

2.1.2 City of San Diego

The San Diego City Council adopted the Strategic Framework Element and Action Plan on October 22, 2002. This work program is based upon priority actions to be accomplished by 2008. Staff began work on Pilot City of Villages implementation and updates to elements on the General Plan upon adoption of the Strategic Framework element in the fall of 2002. A summary of the status of the efforts to update the General Plan can be found in the City's JURMP Annual Report.

Pilot Village Program

On February 10, 2004, the City Council approved five pilot projects to become Village demonstration projects for the City of Villages strategy of smart growth in San Diego. The projects selected are dispersed throughout the city and represent a variety of approaches and styles. Of the five villages chosen, one is located within the Tijuana Watershed. The Mi Pueblo project proposes to revitalize an existing underutilized commercial district within the historic San Ysidro community. The project scope proposes to add over 1,000 housing units, a public market (Mercado), public plazas, community gardens, senior housing and a linear park, along with a library and a 5,000-square-foot community center. Pedestrian connections will be provided between major components of the project and the Beyer Boulevard trolley station. Commercial properties will be neighborhood in character. Mi Pueblo also proposes to implement a design that integrates watershed principles into land use. Mi Pueblo also concentrates development in existing urban areas, provides more dense housing (10-64 du/ac) and increases opportunities for people to walk or take public transit. Refer to the Common Activities for additional information about the overall Pilot Village Program.

2.1.3 City of Imperial Beach

The City of Imperial Beach completed its General Plan amendments in September 2002 and no additional amendments were needed during this reporting period.

2.2 Current Inter-Jurisdictional Planning Collaborative Mechanisms

Before certain discretionary projects are approved, development proposals must be reviewed for conformance with local regulations, environmental effects and provide an opportunity for public input. While there may be minor procedural difference, generally speaking, such review is conducted by all jurisdictions. In order to get a better feel for the planning process, the following sections briefly describe the inter-jurisdictional planning collaborative mechanisms that specifically occur within the Tijuana River Watershed. Please refer to the individual JURMPs for detail on new and redevelopment project processing requirements. The following table summarizes the current inter-jurisdictional planning and watershed based planning mechanisms utilized within the Tijuana River Watershed and where they can be located.

Table 2-3: Summary of Current Inter-Jurisdictional Planning Mechanisms

Inter-Jurisdictional Planning Mechanism	Short Term or Long Term	Location
Memorandum of Understanding (1991)	Long Term	Common Activities Section I.B.3.e
Memorandum of Understanding (2001)	Short Term	Common Activities Section I.B.3.e
California Environmental Quality Act	Long Term	Common Activities Section I.B.3.e
Public Hearings	Long Term	Common Activities Section I.B.3.e
The Multiple Species Conservation Program	Long Term	Common Activities Section I.B.3.e
Binational Vision Project for the Tijuana River Watershed	Short and Long Term	Section 2.3.2 below
Tijuana River WURMP Workgroup	Short and Long Term	Section 2.3.3 below
Water Quality Assessment, Information sharing, and Jurisdictional Planning	Short and Long Term	Section 2.3.1 below

2.3 Watershed-Based Land Use Planning Mechanisms

The jurisdictions within the watershed are working with their respective public works and planning departments to develop a system of practices to facilitate the integration of watershed data and information into the land use decision-making processes. The Copermittees recognize that planning is an integral part in reducing pollutant levels resulting from new and redevelopment projects and continue to implement staff training and education. The amount and type of training conducted by the municipalities can be found

within each jurisdiction's JURMP document. Additional watershed based planning efforts currently going on within the watershed include the following:

- ✓ Water Quality Assessment, Information Sharing and Jurisdictional Planning
- ✓ Watershed Management Plans
- ✓ Tijuana River WURMP Workgroup

2.3.1 Water Quality Assessment, Information Sharing and Jurisdictional Planning

As discussed in the Tijuana River WURMP, the Copermittees are considering the role of land use planning during the development of their overall strategies related to specific issues and problems identified as priorities for the watershed, particularly as they relate to the impairment of beneficial uses of the water body. During this reporting period the Copermittees continue to work with their planning departments to develop a system of practices to facilitate the integration of watershed data and information into the land use decision-making processes. The Copermittees recognize that planning is an integral part in reducing pollutant levels resulting from new and redevelopment projects. The Copermittee's efforts have continued to be targeted on staff training and education. The amount and type of internal training can be found within the individual JURMP Annual Reports.

Moreover, as stated in the FY 2002-03 Annual Report, to help with the education and outreach, The County of San Diego, in cooperation with the City of San Diego, were in the process of developing a document entitled: "The Stormwater Quality and Watershed Protection Manual – Looking at Alternative Development Practices" (Manual). Although it was originally intended for public release in 2004, due to substantive comments during internal review no further work was completed on the Manual. Please refer to the Common Activities section I.B.3.a of the Unified Annual Report for a complete discussion on the progress of the Manual.

2.3.2 Watershed Management Plans

The County of San Diego, with support from numerous stakeholders within the watershed, has been given the responsibility of developing a Binational Vision (Vision) for the Tijuana River Watershed (Costa-Machado Water Act of 2000 – Proposition 13). This successful effort has brought together over 40 representatives from both sides of the border, including academia, local (including the three Copermittees in the watershed), state and federal agencies, non-profit organizations, labor groups, industry groups and interested individuals.

The components of the plan include development of a watershed advisory council, stakeholder database, watershed resource inventory, watershed analysis, management goals and strategies and ultimately, a Binational Vision for the Tijuana River Watershed. To date, the project team, in coordination with the Binational Watershed Advisory Council, has sponsored five public stakeholder meetings to formulate over 249 recommended actions for the Tijuana River watershed, prioritized the actions, developed an outline for the Binational Vision document, and updated the watershed resource inventory and web site for the project (<http://trw.sdsu.edu>). A complete list of the Council members, meeting agendas and minutes, and other key information is posted on the project web site.

The Binational Watershed Advisory Council met four times during this reporting period held in both the US and Mexico. These meetings continue to be a success by bringing together stakeholders with diverse interests to develop the Vision for the Tijuana River Watershed. Meeting summaries are highlighted in Table 2-4 in Appendix B.

Another group that was formed as a result of the Tijuana River Watershed Management Plan is the EPA Border 2012 Water Task Force. The EPA Border 2012 Program proposed that the Water Task Force for the Tijuana River Watershed (Task Force) be formed from the existing Binational Watershed Advisory Council (BWAC) and interested stakeholders. The Task Force participates in the development of the Vision for the Tijuana River Watershed and helps devise strategies and options for implementing the Vision on the ground to meet the goals and objectives of the EPA Border 2012 Program. The Task Force meets after the BWAC in the same location and meetings are open to the public. The EPA and the Border Environment Cooperation Commission (BECC) advertise the meeting notices and San Diego State University maintains the Task Force website <http://trw.sdsu.edu>. The City of San Diego and County of San Diego are active task force participants.

The EPA Border 2012 Water Task Force met twice in Tijuana, Mexico, during this reporting period, with an additional California – Baja California Regional Workgroup in Rosarito, Mexico. Table 2-5 highlights the meeting summaries and can be found in Appendix B.

2.3.3 Tijuana River WURMP Workgroup

In order to implement the Tijuana River WURMP, the watershed Copermittees continued jurisdictional communication and the Tijuana River WURMP Workgroup (Workgroup). During this reporting period, all Workgroup members took an active role in the development of the fiscal year 2002-2003 Tijuana River WURMP Annual Report and formally met two times between July 2003 and June 2004. In addition, the workgroup utilized e-mail to facilitate collaboration on the development of the WURMP Annual Report and WURMP implementation by all Tijuana River Copermittees. Table 2-6 presents a summary of the meetings held by the workgroup during the reporting period, including an outline of the principal agenda items all of which can be found in Appendix B.

3.0 Educational Activities

Objective #3 of the Tijuana River WURMP is to enhance public understanding of sources of water pollution within the watershed. The following sections outline the actions taken by the Tijuana River Watershed Copermittees during this reporting period to enhance the general public's understanding of basic watershed principles and sources of water pollution. It also demonstrates how the Copermittees are complying with objective #3 and the Municipal Permit.

3.1 Summary of Watershed Education and Outreach Conducted

3.1.1 Watershed Survey

The County of San Diego has received the results of public awareness surveys conducted in multiple watersheds during the last reporting period. This information will be incorporated into community-based

data sets to be used in the development of locally tailored (watershed based) public education and marketing strategies. Programs will continue to be refined as these strategies are tested and evaluated. These surveys help to establish baseline levels of knowledge of pollution prevention/source reduction activities in the watershed communities. Future progress will be measured against this baseline. Other watershed surveys were performed in the unincorporated areas of Santa Margarita, San Dieguito, San Diego River, and San Diego Bay Watersheds and comparisons among watershed results are summarized below. The complete report for the watershed survey can be found on the Project Clean Water website (www.projectcleanwater.org).

The survey results showed the following trends in the unincorporated areas of the Tijuana River Watershed:

- 94% of Tijuana Watershed residents provide maintenance of their own lawns or outdoor plants compared to an average of 73% for the other 4 watersheds surveyed. Therefore, outreach and marketing strategies for IPM and over-irrigation impacts should be targeted to residents of the watershed versus gardeners or other professionals.
- 45% of Tijuana residents use pesticide, herbicide, and fungicide. This percentage is less than the other watersheds surveyed. Promoting the positive behavior may help further reduce these uses.
- Tijuana watershed residents make greater use of trash disposal for unused pesticides than the other watersheds surveyed indicating that increased education of proper disposal and source reduction is warranted.
- 93% of Tijuana watershed residents, who own a pool or spa, maintain their pool or spa themselves and do not use a professional service compared to the other watersheds.
- 20% of Tijuana watershed residents with dogs that never pick up their dog droppings was the highest of the watersheds surveyed.
- 33% of Tijuana watershed residents said that they did not consider any water bodies in San Diego County to be part of their community.
- 60% of Tijuana watershed residents identified Morena Reservoir (drinking water related) as a water body in their community.
- 29% of Tijuana watershed residents do not visit any body of water in San Diego County for recreational use; 28% visit the Pacific Ocean/beaches and 22% visit Morena Reservoir. It appears that community ties are related to drinking water uses rather than recreational.

3.2 Education Action Plan

Progress on each specific educational activity identified in the program's Education Action Plan, which can be found in Section 8.d of the Tijuana River WURMP, is described in the following sections.

3.2.1 Public Presentations and Media – Impacts of Individual Actions

Public presentations and media opportunities incorporate both general watershed principles common to all watersheds and specific best management practices of interest to the particular audience to address pollution prevention. Please refer to Table 3-1 in Appendix B for a summary of the public presentations and media releases conducted by the Copermittees during this reporting period. Presentations and media outreach that occurred outside the Tijuana River watershed and do not specifically address the watershed are identified in the Common Activities Section of the Unified Annual Report.

3.2.1.1 Watershed Video

During this reporting period, the Copermittees began then process for the translation of the video entitled “Clean Water and You,” which incorporates general watershed principles aimed at educating the general public, for use within the Tijuana River Watershed. Translating the video into Spanish and airing of this video by County Television Network and other local stations will be pursued during the next reporting period. Dissemination of this video to high schools and libraries within the Tijuana watershed is also planned for the next reporting period.

3.2.1.2 Public Presentations: Speaker’s Bureau and Other Community Outreach

A public presentation conducted within the Tijuana River Watershed during the respective reporting period is summarized in Table 3-2 of Appendix B.

3.2.2 School Presentations: Water Quality and Watersheds

The Copermittees conducted four formal presentations that reached 84 students and teachers in the Tijuana River watershed. Splash Lab conducted eight presentations that reached 201 students and teachers. A complete description of the Splash Lab curriculum is located in Section 5 of the County of San Diego’s JURMP. The presentations are interactive in order to increase learning and concept retention through hands-on demonstrations. The efforts have targeted the elementary grade levels (K-6); watershed outreach to high school students was achieved primarily through citizen monitoring and cleanup efforts and will be reported in the respective sections of this report. In addition to the Splash Lab curriculum and the Enviroscape watershed model, common learning tools include brochures to take home, student pledges, puzzles, water activity posters and/or videos such as “We All Live Downstream” and “Journey of the Blob” (focus on the water cycle and water movement through a coastal watershed). The badge-making activity is popularly used in Copermittee staff-led presentations and serves, like the pledges, as a social marketing tool to take home and share. Pre and post-tests continue to be utilized to determine educational content retention. Testing results will be used to refine and improve educational program content and delivery. Do-It-Yourself watershed curriculum and a list of enrichment activities were sent to interested teachers in an effort to increase teacher training so that watershed curriculum can be better integrated into existing standard curriculum. Two schools in the Tijuana River Watershed were sent this curriculum: Godfrey Berry Elementary and Howard Pence Elementary, both in the South Bay Unified School District.

In addition, Emory School, which is located within the Tijuana River Watershed, participated in the habitat rehabilitation along the Otay River. Although the physical work was done in the San Diego Bay watershed, the education was for the students and parents living in the Tijuana River Watershed. This program was

designed for students in 2nd – 6th grade. On behalf of the Copermittees, the City of Imperial Beach coordinated with Habitat Heroes for the South San Diego Bay Wildlife Refuge Restoration Project and conducted several classroom presentations on watershed concepts, habitat, pollution and storm water pollution prevention and habitat restoration studies. Students also visited the south end of the San Diego Bay Watershed and learned first hand about how trash and other pollutants affect the flora and fauna at the receiving waters. These students also served as tour guides for friends, families, and community residents explaining the habitat and pollutant sources and impact on the micro-watershed. While in the field, staff also demonstrated sampling procedures. Approximately 100 students participated. Refer to Table 3-3 in Appendix B for a summary of the outreach efforts that were conducted in this watershed.

3.2.2.1 CalPIRG Partnership

The student-based California Public Interest Research Group, CalPIRG, received a grant of \$607,500 to provide, in part, watershed/pollution prevention education to schools in Southern California. During this reporting period, however, CalPIRG was unable to retain a representative in the San Diego to implement the grant. Therefore, no activities were completed at this time.

3.2.2.2 Think Blue Campaign at San Diego City Schools

Please refer to the Common Activities Annual Report Section I.B.1.d for a further description of this program.

3.2.3 Integrated Pest Management Campaign

During this reporting period, the County of San Diego, assumed the lead responsibility to develop and administer, a pesticide mitigation grant from the State Water Resources Control Board (Proposition 13 Pesticide Research and Identification of Source and Mitigation Grant Program). All progress made towards this activity was focused on the development of the scope of work and contractual agreements. A summary of the IPM strategy, approach and activity is presented in the Common Activities Section I.B.1.d of the Unified Annual Report. The Copermittees will support the project by in-kind contributions of additional educational materials, outreach activities, and sponsorship of workshops. In the future, activities related to this IPM project that are conducted within the Tijuana River Watershed and/ or which specifically relate to the Tijuana River watershed will be reported in this section.

3.2.4 Regional Watershed Poster: What Watershed Do You Live In?

Please refer to the Common Activities Section I.B.1.d of the Unified Annual Report for a description on this project.

3.2.5 Regional Watershed Brochure: What is a Watershed?

Please refer to the Common Activities Section I.B.1.d of the Unified Annual Report for a description on this project.

3.2.6 Tijuana River Watershed Brochure

A brochure on the Binational Vision Project for the Tijuana River Watershed was created and distributed during the FY 2003-04. The brochure was developed by San Diego State University and translated and reproduced through the funding provided by the County of San Diego pursuant to the Costa-Machado Water Act of 2000 (Proposition 13). There were a total of 3,000 copies made and approximately 1,500 have been distributed to date. A copy of the brochure is included in Appendix C.

3.2.7 Partners in Clean Water – Partnerships in Action

To maximize effectiveness, the Copermittees pursue partnerships and cooperative activities to enhance regional stormwater activities. These partnerships are described in the individual Jurisdictional URMP Annual Reports. Details on watershed stakeholder partnerships, above and beyond those identified in JURMP annual reports, are described below.

3.2.7.1 San Diego Citizen Watershed Monitoring Steering Committee

Discussion of the general characteristics and activities pertaining to this partnership that occurred outside the Tijuana River watershed and do not specifically address the Tijuana River watershed are identified in Section 5 of the County of San Diego's JURMP.

The San Diego Citizen Watershed Monitoring Consortium, formerly known as the San Diego Citizens Watershed Monitoring Steering Committee, has provided fundamental support for citizen monitoring events within the Tijuana River Watershed in both the San Diego region and in Mexico. As a primary organizer within the Consortium, the Copermittees performed functions such as hosting a web site, releasing media pieces, project tracking, attending and hosting bi-national meetings, providing document templates, completing document reviews, purchasing equipment, coordinating community monitoring events and distributing watershed education and promotional materials.

Activities in or related to the Tijuana River Watershed this reporting period include World Water Monitoring Day on October 17, 2003, and Coastal Snapshot Day on May 1, 2004. Partners for the event segments carried out in Mexico were CETYS Universidad, CONALEP Tijuana, County of San Diego, Grupo Ecologista Gaviotas, Ja Jan Coalition, SDSU School of Engineering and Graduate School of Public Health, Sisters Schools of San Diego, Southwestern College, SWRCB Clean Water Team, UCSD Nature Reserves, UCSD Regional Workbench and Superfund Program, Universidad Xochicalco, and USD Marine Science Department.

For World Water Monitoring Day, the Consortium (and Grupo Gaviotas in Tijuana) planned, supplied materials, and co-sponsored concurrent media events, one in the City of San Diego and one at Parka Azteca, in Playas de Tijuana. Consortium members met more than 6 times in Tijuana from August through October 2003, prior to the event. The 4-hour event in Playas de Tijuana included a press conference, speakers from local governmental and non-governmental environmental agencies, rotation of 70 middle and high school students through water quality testing activities with assistance from University students and a small awards ceremony. Students were able to communicate their findings to students in San Diego (and around the globe) through an Internet discussion forum set up by the San Diego Futures Foundation on www.sdcommunities.com.

On Coastal Snapshot Day, the Consortium, led by San Diego Baykeeper, organized and conducted water-monitoring activities at five locations along the coast of Mexico as well as 5 locations along the Coast of San Diego County. Sites in Mexico were the same as those sampled in 2003. Two 4-hour Water Quality Testing training events were held for all team leaders and samplers at the Offices of San Diego Baykeeper on April 10th and 24th in conjunction with the event. Participants were trained using State approved Quality Assurance Program guidelines, thus, increasing the capacity of citizen watershed monitoring and of quality data in the Tijuana watershed. Results will be posted on the Coast-wide Snapshot Day web page: www.coastal.ca.gov. Also for more information please refer to Section III, 2.5.1 of this Annual Report.

3.2.7.2 South County Environmental Education Partnership (SCEEP)

Copermittees encouraged the formation of a more formal partnership among environmental educators in the South County area in order to better leverage resources and provide a forum for networking and program support. Participants include Chula Vista Nature Center, California State Parks, Tijuana River Estuary Education Program, County of San Diego, Tijuana River Valley Regional Park, and U.S. Fish and Wildlife Service - San Diego NWR Complex. Meetings are held at the Tijuana River National Estuarine Research Reserve Visitor's Center and SCEEP met four times this reporting period.

SCEEP goals are to promote participation in the diverse environmental education programs of its members, and to provide quality environmental education to an underserved area of San Diego. Four objectives were established:

- To provide classroom and hands on experience in the field to students in the South County with existing environmental education programs, all of which meet State of California standards for Science, Math and Language Arts.
- To enhance the understanding of students, their families and the community of the rare species and habitats that exist in their own backyards – not just in the tropical rain forests and savannas of the world.
- To expand, through watershed components of our programs, students' and teachers' vision of their "backyard" to include the ecosystem to which their backyard belongs.
- To raise the awareness of students, their families and the community of the place they hold in San Diego's ecosystem.

3.2.8 Community Events –Focused on Local Water Body

During this reporting period, the Copermittees participated in several community events in the Tijuana Watershed. On September 20, 2003, the County of San Diego led the Coastal Cleanup Day once again at Lake Morena. This one-day event brought together 25 volunteers that participated in cleanup of the area and distribution of educational materials to residential areas. Copermittees also joined the Tijuana River National Estuarine Research Reserve and the South County Environmental Education Partnership in the first annual Fiesta Del Rio event. In all events, the Copermittees provided participants with a general watershed brochure, displayed the regional watershed map, and conducted demonstrations with the

Enviroscape watershed model. During watershed model demonstrations, emphasis was placed on constituents of concern in the Tijuana River watershed, such as nutrients, pesticides, automotive fluids, bacteria and trash. Interacting with the various communities within in the watershed is the first step in forging key relationships with community groups. Building on these relationships, the Copermittees will target increasing stakeholder involvement in the watershed in order to promote watershed stewardship and to protect our water resources. These events along with a few others are summarized in Table 3-4 in Appendix B.

3.2.9 Tijuana River Estuary Education Program

In an ongoing attempt to alleviate some of the problems facing the Tijuana River National Estuarine Research Reserve (TRNERR), a program known as the Coastal Training Program (CTP) has been launched at the Tijuana Reserve (Reserve). Critical issues confronted by the Reserve include habitat restoration, endangered species management, management of wastewater from Mexico, sediment management, and the integration of recreation, habitat conservation, and restoration. The CTP provides up-to-date scientific information and skill-building opportunities, such as workshops, to coastal-decision makers who are responsible for making decisions that affect coastal resources. The CTP can ensure that coastal decision-makers have the knowledge and tools they need to address critical resource management issues of concern to local communities. The CTP focuses on a wide range of issues, and target a wide range of audiences. Programs can be developed in a variety of formats ranging from seminars, hands-on skill training, participatory workshops, lectures, and technology demonstrations. While these programs are an effective way to increase communication and understanding, partnerships are the true key to the success of the program. The Reserve works with many partners on both sides of the border in determining key coastal resource issues to address and targeting appropriate audiences. In addition to this increase in knowledge, understanding and communication, the TRNERR is also attempting to affect change "on the ground," through trans-border projects like the Los Laureles Canyon Erosion Control Project and the Matadero Canyon Conservation Park. In addition to these two projects, there is the Tecate River and Watershed Rescue Project and the possibility of the Punta Banda International Research Reserve in Ensenada, Mexico.

About two thirds of the Reserve's watershed is in Mexico and the management, education, and research issues necessarily involve a bi-national perspective. Critical issues confronted by the Reserve must be looked at through the lens of a bi-national region, with two unique political, cultural, economical and geographical settings. The CTP has been no exception to bi-national cooperation with a highlight being the new inclusion of the Mayors of Tecate and Tijuana to the Management Authority at the Reserve. Table 3-5 in Appendix B summarizes the watershed education activities conducted by the TRNERR.

Copermittees support the TRNERR by participating in the SCEEP bi-monthly meetings, which are often in conjunction with TRNERR Management Authority, Education Committee meetings. Copermittees attended three meetings of the TRNERR Education Committee this reporting period. SCEEP discussed above acts in an advisory capacity with some activities including review of the TRNERR 5-year plan and new curriculum as developed and provision of comments.

4.0 Public Participation Activities

Public participation during the development and implementation of the Tijuana River WURMP has been, and will continue to be, encouraged to ensure that stakeholder interests and creative solutions are considered. The following sections include the public participation activities and efforts conducted during the FY 2003-04.

The following sections summarize the activities and efforts made by the Copermittees to encourage public participation during this reporting period. *Please note that this section is not exhaustive and only discusses the activities that were identified in the Public Participation section of the Tijuana River Watershed URMP. Many municipalities have worked with stakeholders on efforts such as grant applications and water quality data collection. The Copermittees felt that it was not necessary to reiterate these activities in this chapter, if such public involvement and interaction was already discussed in the previous sections.*

4.1 Stormwater Copermittee Collaboration and Community Workshops

The Copermittees participated in two events during this reporting period, the Coastal Cleanup Day and the First Annual Fiesta Del Rio event. Refer to Section 3.2.8 “Community Events – Focused on Local Water Body” of this report for information on these two events.

4.2 Integration and Participation in Local Planning Activities

Watershed planning has become an issue of increasing importance over the past few years. Various local planning efforts provide forums for exploring both the development of watershed and jurisdictional activities and programs. The relationship of these efforts to the WURMP development and implementation cannot be overstated since both efforts address complementary issues that rely on public participation for success.

The stakeholders within the watershed are in the process of developing a Binational Vision for the Tijuana River Watershed that will target various watershed issues, including water quality. As part of plan development, stakeholders within the watershed are attending regular meetings and providing valuable input on plan direction. For more information on this effort, please refer to Section 2.3.3 “Watershed Management Plans” the Land Use Planning Activities section of this document.

4.3 Project Clean Water – Tijuana River Watershed Website

During this reporting period, Project Clean Water provided a venue for public participation and involvement in local watershed activities. The relationship of these efforts to WURMP development and implementation cannot be overstated since they address complementary objectives and all rely on public participation for success.

The Project Clean Water watershed website (http://www.projectcleanwater.org/html/ws_map.html) was revised in March 2002 to provide watershed-based resources. The Watershed Map page is the starting point of the watershed website. Visitors wishing to learn more about a particular watershed can simply “click” on a desired watershed in the Watershed Map. Once selected, the visitor is linked to the

watershed's summary page and provided with additional link options. The visitor can view multiple informational pages on the Tijuana River Watershed which include:

- ✓ Tijuana River Watershed Summary Page
- ✓ Tijuana River Watershed Plan Page
- ✓ Tijuana River Watershed Project Page
- ✓ Tijuana River Watershed Activities Page

During FY 2003-2004, the Tijuana River watershed web page received a total of 2,294 hits. A monthly breakdown of the hits can be found in Table 4-1 and 4-2 in Appendix B.

4.4 Tijuana River Watershed Binational Vision Project Website

A Geographic Informational System (GIS) and Maps page was added to the Tijuana River Watershed Binational Vision Project website (<http://trw.sdsu.edu/English/GIS/mapsGISFrame.htm>). The GIS map page was added by San Diego State University and was funded by the County of San Diego. The new web page features Interactive GIS Maps, GIS downloads and other data, Static maps, Tijuana River Watershed Data Descriptions, and samples of modeling done in the Tijuana River Watershed.

4.5 Direct Interaction

In addition to the discretionary review process that was detailed in Subsection 2.0 – Land Use Planning, the Copermittees continued to rely heavily on the interaction of staff with members of the public during their regular job duties. As described further in the JURMPs, municipal staff with program implementation responsibilities received targeted training to increase their understanding of urban runoff issues. Staff interaction with the general public provides an additional avenue for obtaining direct feedback from the public. Feedback and interaction were conducted during the discretionary permit review process, building permitting process, building inspections and public presentations and outreach campaigns.

4.6 Imperial Beach City Council Hearings

Pursuant to Section 7.b.4 of the Tijuana River WURMP, the Imperial Beach City Council hearings provide a venue to maximize the public's exposure to the watershed program and the challenges and solutions to the identified water quality problems. Through this process, the Copermittees ensure that the community is educated through, and participates in, the decision making process.

The Imperial Beach City Council, through an advertised public hearing, approved the Tijuana River WURMP on December 12, 2002.

SECTION III – WATER QUALITY ASSESSMENT

1.0 Introduction

Information presented here represents activities that occurred during the third year of program implementation, July 1, 2003 through June 30, 2004, and includes assessments and analyses of water quality monitoring data. The watershed data assessments were prepared using the interim guidance document “Watershed Data Assessment Framework” prepared on behalf of the Copermittees by MEC Analytical Systems/Weston (MEC/Weston). A complete description of methods and tools used to perform the watershed assessment can be found in the guidance document. The water quality assessment strategy and methodology can also be found in Section I.B.3.g of the Common Activities document.

The watershed assessment process leads to a prioritization of water quality issues and assists in developing short and long-term activities directed at maintaining or improving water quality.

2.0 Identification of Water Quality Issues - Watershed Data

The following is a discussion of the data collected during the most recent reporting period and how it is used to identify and prioritize water quality issues in the Tijuana River Watershed.

2.1 Triad Decision Matrix

The triad of data (storm water chemistry, storm water toxicity and rapid stream bioassessment data) collected under the regional monitoring program is evaluated using the triad decision matrix and a summary of the findings for the Tijuana River Watershed is included in the table below. For a description of this process please refer to Section I.B.3.g of the Common Activities Annual Report.

Table 3-1. Matrix of Findings for Tijuana River Watershed Management Area

Constituents With Any Wet Weather (MLS) Or Dry Weather WQO Exceedance	MLS (Wet Weather) Results								Dry Weather Results		Frequency of Occurrence	Criterion No.
	2001/2002		2002/2003		2003/2004		Cumulative		2003			
	#/3	%	#/3	%	#/3	%	#/9	%	#/3	%		
General / Physical / Organic												
PH	0	0	1	33	0	0	1	11	0	0	-	-
Bacteriological												
Total Coliform	3	100	3	100	3	100	9	100	0	0	◆◆◆	1
Fecal Coliform	3	100	3	100	3	100	9	100	0	0	◆◆◆	1
Enterococcus	3	100	3	100	3	100	9	100	0	0	◆◆◆	1
Wet Chemistry												
Un-ionized Ammonia as N	NA		3	100	2	67	5	83	0	0	◆◆◆	1
BOD	2	67	1	33	3	100	6	67	NA		◆◆	6
COD	2	67	2	67	3	100	7	78	NA		◆◆	6
Dissolved Phosphorous	3	100	0	0	1	33	4	44	NA		◆	9
Nitrite as N	1	33	0	0	0	0	1	11	NA		-	-
Surfactants (MBAS)	2	67	1	33	1	33	4	44	0	0	◆	9
Total Phosphorous	3	100	3	100	2	67	8	89	NA		◆◆◆	1
Total Suspended Solids	2	67	2	67	3	100	7	78	NA		◆◆	6
Turbidity	2	67	3	100	3	100	8	89	2	67	◆◆◆	1
Pesticides												

Constituents With Any Wet Weather (MLS) Or Dry Weather WQO Exceedance	MLS (Wet Weather) Results								Dry Weather Results		Frequency of Occurrence	Criterion No.
	2001/2002		2002/2003		2003/2004		Cumulative		2003			
	#/3	%	#/3	%	#/3	%	#/9	%	#/3	%		
Chlorpyrifos	3	100	1	33	1	33	5	56	0	0	♦♦	5
Diazinon	3	100	3	100	3	100	9	100	0	0	♦♦♦	1
Malathion	NA		2	67	2	67	4	67	NA		♦♦	6
Total Metals												
Arsenic	0	0	0	0	1	33	1	11	NA		-	-
Copper	0	0	1	33	2	67	3	33	0	0	♦	9
Nickel	0	0	0	0	1	33	1	11	NA		-	-
Zinc	0	0	0	0	1	33	1	11	0	0	-	-
Dissolved Metals												
Copper	0	0	1	33	0	0	1	11	0	0	-	-
Toxicity	# and % of Samples with NOEC < 100%										Evidence Of Persistent Toxicity?	
<i>Ceriodaphnia</i> 96-hr	3	100	3	100	3	100	9	100	NA		Yes	
<i>Ceriodaphnia</i> 7-day survival	3	100	3	100	3	100	9	100			Yes	
<i>Ceriodaphnia</i> 7-day reproduction	3	100	3	100	3	100	9	100			Yes	
<i>Hyallela</i> 96-hr	0	0	1	33	2	67	3	33			No	
Bioassessment	IBI SCORE										Evidence Of Benthic Alteration?	
Campo Creek	Very Poor		Poor		Poor		Poor				No	

The triad decision matrix is primarily intended to direct changes in the monitoring program using a consistent and scientific approach. The triad decision matrix is used as one step in the process of identifying additional monitoring needs, such as performing a Toxicity Identification Evaluation (TIE) study to identify the constituents causing toxicity. Once the constituent is identified, then that constituent is considered as a constituent of concern (COC).

2.2 Mass Loading Station and Dry Weather Site Data

The mass loading station is located downstream from the International Boundary and Water Commission's diversion structure and treatment plant. During periods of low flow the river is diverted through the treatment plant. The river flows freely once the water level rises over the diversion structure. The river flows through Tijuana, Mexico and runoff contributions come from both Mexico and the United States. However, due to the presence of dams and reservoirs in the watershed (Presa Rodriguez in Mexico and Barrett Lake in the United States), the source of contributing runoff is limited to the central watersheds.

The COCs identified for the Tijuana River watershed for the 2002, 2003, and 2004 assessments are summarized in Table 3-2. The Regional Monitoring Report describes in detail how the COCs for 2004 were developed.

Table 3-2: Summary of constituents of concern assessment comparison.

	Bact. Indicators/ Fecal Coliform	Diazinon	Malathion/ Chlorpyrifos	Total Suspended Solids	Turbidity	Total phosphorous	Dissolved phosphorous	Toxicity	Copper	Chromium	Ammonia	BOD/COD	MBAS
Tijuana River 2002	◆◆◆	◆◆◆	◆◆◆	◆◆	◆◆	◆◆◆	◆◆◆	◆◆◆	◆			◆◆	◆◆
Tijuana River 2003	◆◆◆	◆◆◆	◆◆◆	◆◆	◆◆◆	◆◆◆	◆◆	◆◆◆	◆◆	◆	◆◆◆	◆◆	◆◆
Tijuana River 2004	◆◆◆	◆◆◆	◆◆	◆◆	◆◆◆	◆◆◆	◆	◆◆◆	◆		◆◆◆	◆◆	◆

◆◆◆- Higher frequency of occurrence ◆◆- Medium frequency of occurrence ◆- Lower frequency of occurrence

In this Report high, medium and low frequencies of occurrence set the priorities for COCs. When the current 2003-04 constituents of concern for the Tijuana watershed were compared to last year’s water quality assessment (2002-03) as shown in Table 3-4, the following changes were noted for the Tijuana River in 2003-04.

- ✓ Malathion, Chlorpyrifos, dissolved phosphorous, copper, chromium, and surfactants (MBAS) are less apparent as COCs.
- ✓ The remaining COCs were unchanged for Tijuana River WMA in 2003-2004.

The elevated densities of all three bacterial indicators and high concentrations of nutrients (un-ionized ammonia as N and total phosphorous) are indicative of wastewater discharges. The elevated nutrients are likely the cause of excessive BOD and COD values. Pesticides are also a persistent problem in the watershed.

2.3 Toxicity Data

Persistent toxicity to *Ceriodaphnia dubia* was observed during 2003-04 wet weather monitoring at the MLS. As a result of these findings a toxicity identification evaluation (TIE) was conducted during 2004 to determine the contributing causes of toxicity. The evaluation singled out non-polar organic compounds, which were consistently associated with the toxic fraction of the effluent as the cause of toxicity levels. This evaluation was conducted utilizing the C-18 column filtration and methanol elution procedure used to isolate the toxic fraction. There were several compounds identified as the possible cause of toxicity including Diazinon and Quinoline and its byproducts. However, quinoline and its byproducts were also identified within laboratory blanks included in this process. The presence of quinoline and its byproducts in the laboratory blanks indicate they are an artifact of the C-18 column filtration and methanol elution procedure used to isolate the toxic fraction. Based on this information, quinoline and its byproducts can be removed as a potential contributor of Tijuana River stormwater toxicity. Furthermore it was determined that diazinon is a contributing element to Tijuana River stormwater toxicity.

2.4 Rapid Stream Bioassessment Data

In May of 2004, a single stream bioassessment within the Tijuana River Watershed Management Area was conducted at Campo Creek in the town of Campo, upstream from any urban runoff and not representative of stormwater collected at the MLS. The Index of Biological Integrity (IBI) rating for the site was poor, but there were several organisms collected that were otherwise found only at reference site, and the specific conductance was low, which is a good indication. The in-stream habitat of the site was marginal with anoxic silt deposits, and this may have prohibited the full colonization potential of macroinvertebrates.

2.5 Ambient Bay and Lagoon Monitoring (ABLM) Program

Sediments in Tijuana River Estuary were monitored as part of the 2003 ABLM Program to assess the potential for adverse effects from the watershed and to compare sediment quality with other coastal embayments in San Diego County. The results of the chemistry, toxicity, and benthic community assessments for Tijuana River Estuary were ranked against the same parameters for the other embayments monitored in the ABLM Program (see Section 13.3 of the Regional Monitoring Report for a complete discussion).

For Tijuana River Estuary, the relative ranks were good for chemistry and toxicity, and fair for benthic community structure. Using the rankings of all three parameters combined, the sediments in Tijuana River Estuary ranked second best overall, slightly lower than Santa Margarita River Estuary. These results suggest that the upstream watershed, relative to the other embayments assessed, minimally impacts the Estuary. This is a somewhat unexpected result because historically wet weather water quality in the Tijuana River has been among the worst of any of the watersheds in San Diego County (MEC 2003). The lack of high concentrations of metals and low toxicity associated with the Estuary sediments indicate that the heavy COC loading observed during storm events in the Tijuana River does not lead to a persistent accumulation of COCs downstream in the Estuary sediment. Future monitoring will help determine the strength of this relationship.

2.6 2003 California Coast Wide Snapshot Day

The San Diego Baykeeper's Binational Water Quality Monitoring Program (BWQMP) coordinated the 2003 Coast Wide Snapshot Day in San Diego County. On May 17th, 2003, under the direction of the BWQMP, qualified and trained citizen volunteers monitored 30 coastal stations throughout the County by taking field measurements for dissolved oxygen, pH, conductivity, air and water temperature, and turbidity. Water samples were collected for laboratory analyses of bacterial indicators (*E. coli* and total coliform) and nitrate at selected sites.

The *California Coast Wide Snapshot Day Report* (www.coastforyou.org) documents the project design and organization, regional results, and quality assurance for the project. The BWQMP satisfies the general guidance for third party data inclusion in this Annual Report as described in Section 3.1.1 of the *Watershed Data Assessment Framework* (Interim Guidance Document, San Diego Storm Water Copermitees June 2004). The data collected under the BWQMP was compared to the benchmark water quality objectives used at the mass loading station in each of the watersheds. In the Tijuana River watershed, three samples are reported for this location and only dissolved oxygen tested was below the 5.0 mg/L water quality objective.

3.0 Identification of Water Quality Issues – Regulatory Mechanisms

3.1 303(d) List of Impaired Waters

The main regulatory tool for the 2003-04 review is the revised 303(d) list of impaired waters issued in July, 2003 by the San Diego Regional Water Quality Control Board (RWQCB) upon approval by United States Environmental Protection Agency (USEPA). Table 3-3 identifies four areas, along with the COCs, within the Tijuana River WMA that are considered impaired.

Table 3-3: 303(d) List of Impaired Waters in the Tijuana Watershed.

Water Body Name	Hydrologic Sub Area (HSA)	HSA #	Pollutant/Stressor
Pacific Ocean Shoreline	Tijuana (HU)	911.00	Bacterial Indicators
Pine Valley Creek, Upper	Pine	911.41	Enterococci
Tijuana River	San Ysidora	911.11	Bacterial Indicators, Dissolved Oxygen, Eutrophic, Pesticides, Solids, Synthetic Organics, Trace Elements, Trash
Tijuana River Estuary	San Ysidora	911.11	Bacterial Indicators, Dissolved Oxygen, Eutrophic, Lead, Nickel, Pesticides, Thallium, Trash

Source: RWQCB July, 2003

3.2 Beneficial Uses Designated for the Tijuana River Watershed

Beneficial use designations describe existing or potential uses of water bodies. Beneficial uses take into consideration the use and value of water for many purposes, including recreation in and on the water, protection and propagation of aquatic life, and public water supplies. It is essential to review the beneficial uses identified within the watershed as part of the water quality assessment effort.

The beneficial uses designated for the entire watershed are summarized in Table 3-6. It should be noted that beneficial uses may be defined more specifically for each water body segment or sub-watershed in the San Diego Basin Plan. The beneficial uses for the watershed can be affected when water quality is limited or altered by a variety of factors.

Table 3-4: Beneficial Uses within the Tijuana Watershed.

Beneficial Uses	Inland Surface Waters	Coastal Waters	Reservoirs and Lakes	Ground Waters
Municipal and Domestic Supply	●		●	●
Agricultural Supply	●		●	●
Industrial Service Supply	●		●	●
Industrial Process Supply	●		●	
Contact Water Recreation	●	●	● ¹	
Non-Contact Water Recreation	●	●	●	
Commercial and Sport Fishing		●		
Fresh Water Replenishment	●		●	
Biological Habitats of Special Significance		●		
Warm Freshwater Habitat	●		●	
Cold Freshwater Habitat	●		●	
Estuarine Habitat		●		
Wildlife Habitat	●	●	●	
Rare, Threatened, or Endangered Species	●	●	●	
Marine Habitat		●		
Migration of Aquatic Organisms		●		
Shellfish Harvesting		●		

● Existing Beneficial Use.

Source: San Diego Basin Plan, 1994.

¹ Shore and boat fishing only. Other REC-1 or Contact Water Recreation uses are prohibited at Morena Reservoir.

4.0 Prioritization of Water Quality Problems

In this section, COCs are framed in terms of their potential impact on beneficial uses and evaluated to determine short-term and long-term activities that Tijuana River watershed Copermittees will pursue in an effort to improve or sustain water quality and beneficial uses.

It is important to note that beneficial uses provide the context by which water quality issues are assessed. Under this framework, a single COC may lead to the identification of a water quality issue (e.g. limited recreation opportunities due to bacterial levels which exceed standards). The assessment provided here is, in general, related to a beneficial use for which attainment of water quality is the ultimate goal. The long-term objective of all efforts in the watershed is to obtain water quality that supports designated beneficial uses.

Data from the Tijuana watershed MLS for 2003-04 and supplemental data, as detailed in section 3.0, yields six high frequency COCs and six medium to low frequency COCs (see Table 3-5). The regulatory mechanisms detailed in section 4.0 yields five potential COCs (see Table 3-5).





Table 3-5: COCs from Watershed Data and Regulatory Mechanisms



High Frequency of Occurrence COCs from Watershed Data	Medium to Low Frequency of Occurrence COCs From Watershed Data	Other Potential COCs from Regulatory Mechanisms
Bacterial indicators	Total suspended solids	
Pesticides	BOD	Dissolved Oxygen
Total and dissolved phosphorus	COD	Eutrophication
Turbidity	MBAS	Trash
Toxicity (Non-polar organic compounds causing toxicity)	Copper	Lead, Nickel, Thallium
Ammonia	Chromium	

The comprehensive analysis that takes into account the priority of the potential constituents of concern with the impact to Beneficial Uses for the watershed indicates that the Tijuana watershed has five potential high and one low priority water quality issue identified in the 2004 Water Quality Assessment process. The COCs were grouped by potential source and medium frequency of occurrence COCs were assigned a high priority to be consistent with the 2003 assessment and to acknowledge that an activity may result in a suite of COCs, not just one, therefore, all COCs from the same source should be given equal weight. Compared to the 2003 list of high priority water quality issues/problems, this year's assessment is similar, with one exception. Table 3-6, the table of Potential Water Quality Issues has been modified to separate turbidity and TSS from eutrophication, dissolved oxygen and nutrients to reflect that the sources of these COCs may be different. Watershed Copermittees will track other potential water quality issues that are not high priority (i.e. trash) for 2004 and re-evaluate in 2005. The evaluation of all identified water quality issues for Tijuana River WMA is presented in Table 3-6.

The exact sources of COCs will be identified with greater accuracy over the next few years, pursuant to additional sampling data.

Table 3-6: Potential Water Quality Issues/Problems

POTENTIAL WATER QUALITY ISSUE(S)	CONSTITUENTS OF CONCERN ADDRESSED	HIGH PRIORITY?	POTENTIAL SOURCES	COMMENTS / ACTIVITIES
Limited recreation opportunities in inland and coastal waters due to potential for pathogens	Bacterial Indicators: Fecal Coliforms, Total Coliforms, Enterococci, and Ammonia, COD, BOD, Nutrients, MBAS, Trace metals	 Yes	Sewage overflows from wastewater treatment plants during storms, leaking septic systems, sewer spills or homeless encampments; wildlife including birds, dogs, coyotes, raccoons, etc; domestic animals-including livestock and pets.	The Copermittees and the Regional Board have identified bacteria as a regional priority. Bacteria are identified as a pollutant in the existing 303(d) list. It is found in the 2002-04 wet weather sampling at the MLS and in the some of the 2002 and 2003 DWS. Ammonia was found for the first time in the 2002-03 MLS and DWS and is seen again in 2003-04. These COCs are considered an indicator of possible raw sewage spills from the Mexican side of the border. Activity: The Copermittees shall encourage trans-border collaboration with other organizations on issues involving water quality in the Tijuana River Watershed.
Limited habitat value of waterbodies	Pesticides: Diazinon, Chlorpyrifos, and Malathion	 Yes	Agricultural, orchards and landscaping operations; pesticide chemicals used residentially, agriculturally, and/or commercially.	2003-04 wet weather sampling at the MLS found the pesticides Malathion, Diazinon, and chlorpyrifos. Pesticides are identified as a pollutant in the 303(d) list. Copermittees are addressing the use of pesticides in the region as an important component of proactive stormwater runoff management activities. Activity: The County of San Diego has begun development of a Regional Integrated Pest Management (IPM) campaign with funding from Proposition 13.
Limited habitat value of waterbodies	TSS and Turbidity	 Yes	Agricultural operations, orchards, erosion and sedimentation, and construction	Turbidity and TSS were observed in MLS data and Rapid Stream bioassessment data for 2003-04. Activity: Continue water monitoring programs and attempt to reduce or eliminate the source.
Limited habitat value of waterbodies	Eutrophication, Dissolved Oxygen, and Nutrients,	 Yes	Agricultural operations, orchards, residential uses, sewage discharges	The 303(d) listing includes Tijuana River Estuary for Eutrophication and data collected during 2003-04 wet weather monitoring at the mass loading station collaborates this finding with high levels of nutrients. Eutrophication is detrimental to aquatic habitat due to changes in the levels of oxygen as nutrient levels fluctuate. ABLM data contradicts the

POTENTIAL WATER QUALITY ISSUE(S)	CONSTITUENTS OF CONCERN ADDRESSED	HIGH PRIORITY?	POTENTIAL SOURCES	COMMENTS / ACTIVITIES
				findings of the MLS and suggests healthy conditions relative to other embayments in County. Activity: Continue water monitoring programs and attempt to reduce or eliminate the source.
Limited habitat value of waterbodies	Toxic substances: Trace elements (Including: zinc, copper, and, chromium) and Non-polar organic compounds	 Yes	Untreated wastewater, Automobiles or industrial wastes; pesticide chemicals used residentially, agriculturally, and/or commercially.	Persistent toxicity to <i>Ceriodaphnia dubia</i> was observed during the 2003-04 wet weather monitoring at the MLS. A TIE conducted during 2004 has singled out non-polar organic compounds. The C-18 column filtration method identified diazinon as a contributing element to Tijuana River stormwater toxicity. Activity: Continue water monitoring and perform SW-846 Method 8272 screening on MLS samples for methyl dihydrojasmonate.
Limited recreation opportunities in inland and coastal waters and limit habitat value of waterbodies	Trash	 No	Residential and commercial activities, illegal disposal	Trash is not currently identified as a high priority issue, but it can cause storm drain blockages and is unsightly. Activity: Maintenance activities conducted by local agencies as well as ongoing and future education and outreach will assist in addressing the trash issue.

SECTION IV – EFFECTIVENESS ASSESSMENT

One of the most important components of a successful program is the development and implementation of a comprehensive program evaluation. The intent of the 2003-2004 evaluation is two-fold: 1) assess the effectiveness of the management and implementation of the WURMP at a programmatic level; and 2) assess the effectiveness of the activities conducted to meet the program goals and objectives. This section of the annual report discusses the status of these assessments and meets the requirements of Section J.2.i. of the Municipal Permit by identifying and reporting on measures to assess the effectiveness of the Tijuana River WURMP.

1.0 Programmatic Assessment

A large part of the 2003-2004 effectiveness assessment for the Tijuana River Watershed Copermittees focused on a programmatic assessment of how to best integrate regional, watershed, and jurisdictional concepts into both Jurisdictional and Watershed programs. The Copermittees agree that the integration of watershed issues is critical to a successful Urban Runoff Management Program. Water quality problems are inherently linked to watersheds and are best solved using a watershed approach. The Copermittees also agree that some tools for program implementation, such as education and water quality monitoring programs, are best applied at a regional or watershed level. Other programs, such as enforcement and planning, must be implemented at a jurisdictional level due to funding limitations and differences in jurisdictional regulations. Although Copermittees agree the watershed approach has many benefits, functional differences between jurisdictions make its implementation a challenge.

The biggest problem with implementing watershed programs is that jurisdictional boundaries in the San Diego region do not correspond with watershed boundaries. Because funding, planning, and regulations are developed and distributed on a jurisdictional basis, implementation of different jurisdictional programs may occur within the same watershed. The Copermittees recognize this problem; but do not have the luxury of redefining jurisdictional boundaries to fit within the watershed landscape, but are working toward a solution to develop and implement watershed-based programs.

The Copermittees have addressed the challenge of developing and implementing watershed programs by establishing a WURMP Workgroup. This workgroup meets on a regular basis to discuss watershed-based programs conducted within the Tijuana River watershed. Because traditional watershed planning methods are more difficult to implement within multiple jurisdictions, the Copermittees have developed alternate mechanisms to address the issue. Examples of these alternative mechanisms include the Tijuana River Watershed Management Plan and the Multiple Species Conservation Program. These projects involve watershed planning, encompass multiple jurisdictions, incorporate educational programs, and encourage stakeholder participation. As such, these projects meet Permit requirements J.2.f (development of mechanisms for public participation), J.2.g. (development of a watershed based education program), and J.2.h (development of a mechanism to facilitate collaborative “watershed based” land use planning with neighboring local governments in the watershed).

1.1 Activity Assessment

The San Diego Municipal Stormwater Copermittees produced a guidance document during October 2003 for assessing program effectiveness, entitled "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." In the 2002-2003 annual report, the Tijuana River Copermittees stated that this effectiveness assessment would not be implemented until the 2004-2005 reporting period. The Copermittees have been proactive by incorporating concepts of this document into this annual report. Full implementation of this strategy, however, will not occur until FY2004-2005.

Effectiveness evaluations conducted during this period were based on achieving predetermined goals and objectives and meeting Permit requirements. The four primary objectives of the Tijuana River WURMP are as follows:

Objective #1: *Develop/expand methods to assess and improve water quality within the watershed (Water Quality Activities);*

Objective #2: *Integrate watershed principles into land use planning (Land Use Planning Activities);*

Objective #3: *Enhance public understanding of sources of water pollution within the watershed (Educational Activities);*

Objective #4: *Encourage and enhance stakeholder involvement within the watershed (Public Participation Activities).*

Achievement of these objectives was measured through the development, implementation, and completion of activities targeted for each objective. The status of these activities and how they related to the WURMP goals and objectives is outlined below.

Activities conducted by the Tijuana River Copermittees also have been incorporated into the six hierarchical levels of targeted outcomes described in the Framework Document. The six levels are as follows:

- Level 1: Compliance with Activity-Based Permit Regulations
- Level 2: Changes in Knowledge / Awareness
- Level 3: Behavioral Change / BMP Implementation
- Level 4: Load Reductions
- Level 5: Changes in Discharge Quality
- Level 6: Changes in Receiving Water Quality

Documentation of Levels 1-3 is fairly straightforward, whereas documentation of Levels 4-6 requires the development and implementation of scientific studies designed specifically to detect these issues. Moreover, the detection of changes in discharge quality and, in particular, changes in receiving water quality require the collection of data over several years to detect and change. Although the Copermittees have very few data sets that span several years, we are working to collect this information and improve the process. Conclusions from existing data will be conducted when possible, but documentation of changes in water quality throughout the Tijuana River watershed cannot yet be determined.

1.1.1 Level 1 Effectiveness (Permit Requirements)

The Copermittees fulfilled the requirements of the Municipal Stormwater Permit and were in compliance during the 2003-2004 reporting period. Table 4.1 outlines Level 1 Targeted Outcomes by relating each activity conducted by the Copermittees to one of the four objectives and the requirements specified in the Municipal Permit.

Table 4.1: Level 1 Targeted Outcomes

Permit Requirements	Objective	Activities	Status
The Tijuana Watershed Copermittees shall collaborate to identify and mitigate the highest priority water quality issues/pollutants in the watershed	#1 – Develop/expand methods to assess and improve water quality within the watershed	• MEC 2003-2004 Urban Runoff Monitoring Report	Complete for 2003-2004
		• Tijuana WURMP Workgroup (Please refer to Table 2-2 for a list of water quality activities and associated pollutants for FY2003-04)	On-going
Provide an accurate map of the watershed	#2 – Integrate watershed principles into land-use planning	• Copermittee’s developed an accurate map of the watershed which was included in the Tijuana WURMP	Completed
Conduct assessment of receiving water quality	#1 – Develop/expand methods to assess and improve water quality within the watershed	• MEC 2003-2004 Urban Runoff Monitoring Report	Complete for 2003-2004
Identification and prioritization of major water quality problems	#1 – Develop/expand methods to assess and improve water quality within the watershed	• MEC 2003-2004 Urban Runoff Monitoring Report	Complete for 2003-2004
Implementation time schedule of short and long-term recommended activities for highest priority water quality issues	#1 – Develop/expand methods to assess and improve water quality within the watershed	• Please see Table 2-2 in Section II of this Annual Report for a complete list of recommended activities	On-going
Identification of the Copermittee responsible for implementing each recommended activity, selection of Lead permittee, and time schedule for implementation	#1 – Develop/expand methods to assess and improve water quality within the watershed	• County of San Diego was designated as Lead	Completed
		• Responsible Copermittee was designated for each recommended activity in the WURMP	Completed
		• Time schedule for implementation was incorporated into the WURMP and continues to be updated in the Annual Reports when necessary	Completed and ongoing
Mechanism for public participation	#4 - Encourage and enhance stakeholder involvement within the watershed	• Project Clean Water	Ongoing
		• Watershed URMP Workgroup	Ongoing
		• Integration/Participation in Land Use Planning	Ongoing

Permit Requirements	Objective	Activities	Status
		<ul style="list-style-type: none"> • Binational Vision for the Tijuana Watershed Project 	Ongoing
Watershed-based education program	#3 - Enhance public understanding of sources of water pollution	<ul style="list-style-type: none"> • Public Presentations and Media/Watershed Element 	Ongoing
		<ul style="list-style-type: none"> • IPM Campaign 	Ongoing
		<ul style="list-style-type: none"> • Tijuana River Watershed brochure 	Development completed – distribution ongoing
		<ul style="list-style-type: none"> • Project Clean Water 	Ongoing
		<ul style="list-style-type: none"> • Tijuana River website (SDSU) 	Ongoing
		<ul style="list-style-type: none"> • General Plan updates 	Ongoing
Mechanism to facilitate collaborative “watershed based” land use planning	#2 – Integrate watershed principles into land use planning	<ul style="list-style-type: none"> • Information sharing/planning forums 	Ongoing
		<ul style="list-style-type: none"> • Jurisdictional Planning/Watershed URMP Workgroup 	Ongoing
		<ul style="list-style-type: none"> • Binational Vision for the Tijuana Watershed Project 	Ongoing
		<ul style="list-style-type: none"> • Multiple Species Conservation Plan 	Ongoing
		<ul style="list-style-type: none"> • Development of Framework Document 	Completed
Long-term strategy for assessing the effectiveness of the WURMP	#1 – Develop/expand methods to assess and improve water quality within the watershed	<ul style="list-style-type: none"> • Implementation of Framework Document 	On-going
Revise the WURMP as necessary	#1 – Develop/expand methods to assess and improve water quality within the watershed	<ul style="list-style-type: none"> • See Appendix B.10 	On-going
Identify watershed effort related data not included in the annual monitoring report (e.g. special investigations)	#1 – Develop/expand methods to assess and improve water quality within the watershed	<ul style="list-style-type: none"> • San Diego Coastal Ocean Observing System Project 	On-going
		<ul style="list-style-type: none"> • World Water Monitoring Day 	Complete for 2003-2004
Identification of water quality improvements and degradations	#1 – Develop/expand methods to assess and improve water quality within the watershed	<ul style="list-style-type: none"> • MEC 2003-2004 Urban Runoff Monitoring Report 	Complete for 2003-2004

1.1.2 Level 2 Effectiveness (Changes in Knowledge / Awareness)

The following programs implemented by the Copermittees were able to document changes in knowledge and/or awareness of program participants:

- Project Clean Water
- Tijuana River Watershed Website
- Watershed URMP Workgroup
- Binational Vision for the Tijuana River Watershed Project
- IPM Campaign
- Watershed brochure
- Which is my watershed? map
- Multiple Species Conservation Plan
- Watershed Survey

Many of the programs listed above address multiple program strategies (i.e., development of a monitoring program coupled with an educational outreach campaign). As such, these programs provided education on general watershed concepts, as well as information on specific priority pollutants within the Tijuana River watershed. Please see Section II Implementation for specific information on each of these programs.

1.1.3 Level 3 Effectiveness (Behavioral Change / BMP Implementation)

Changes in behavior and/or implementation of BMPs were documented through the following programs:

- SUSMP Implementation
- Watershed Survey

Activities associated with the programs listed above involved stakeholder participation in activities and decision-making processes, as well as the implementation of BMPs to reduce the impacts of urban runoff. These programs also provided information on general watershed concepts, as well as information on specific priority pollutants within the Tijuana River Watershed. On a watershed scale, jurisdictional SUSMP implementation has contributed to a visible change in BMP implementation. There has been a significant increase in the number of construction and post construction BMPs being implemented and maintained within the Tijuana River Watershed due to the implementation of SUSMP. Please see Section II Implementation for specific information regarding the Watershed Survey and the Individual JURMPs for specific information regarding SUSMP implementation.

1.1.4 Level 4-6 Effectiveness (Load Reduction and Changes in Water Quality)

The calculation of pollutant load reductions and the determination of water quality changes is a regional effort and requires the collection of rigorous scientific information over several years. The Copermittees currently are analyzing existing information. Results of these analyses will be included in the Report of Waste Discharge to be submitted to the RWQCB in August 2005.

SECTION V – CONCLUSIONS & RECOMMENDATIONS

As stated in the Tijuana River WURMP, updates and changes to this program would be submitted as part of the annual report and would include the annual reevaluation of high priority and other potential water quality issues, description of any changes to the priority listing, and the inclusion of any revisions to the list of activities. The following sections cover these proposed changes to program priorities and activities as well as the Copermittees closing comments on this reporting period.

1.0 FY 03-04 Proposed Amendments to the Tijuana River Watershed URMP

Based upon the updated water quality data discussed in Section III of the Tijuana River Annual Report and the activity effectiveness assessment completed in Section IV of the Tijuana River Annual Report, the Copermittees propose the following changes/revisions to the WURMP program.

1.1 Water Quality Priorities

Bacterial indicators, pesticides, eutrophication, dissolved oxygen, TSS, nutrients, toxic substances will remain on the high priority list. The Copermittees will continue track other potential water quality issues that are not high priority (i.e. trash) for 2004 and re-evaluate in 2005. The high priority water quality issues have not been changed to allow for the establishment of longer-term temporal trends to verify constituents of concern and high priority water quality issues that have been identified in the watershed are not merely a short-term variation in conditions. The mass loading station is located downstream from the International Boundary and Water Commission's diversion structure and treatment plant. During periods of low flow the river is diverted through the treatment plant. The river flows freely once the water level rises over the diversion structure and during storm events include untreated wastewater from Mexico. The elevated densities of all three bacterial indicators and high concentrations of nutrients (un-ionized ammonia as N and total phosphorous) are indicative of wastewater discharges. The elevated nutrients are likely the cause of excessive BOD and COD values.

The following activities/program improvements have been identified by the Copermittees, and will be addressed in the upcoming reporting periods

1.2 Water Quality Activities

- ✓ No new water quality concerns have been identified in the watershed; and no specific new activity (beyond current program activities) has been identified as necessary at this time. The Copermittees will continue to collect data, attempt to identify and reduce sources of these pollutants of concern in an effort to identify appropriate courses of action for each. Estimated completion date: Ongoing
- ✓ The Copermittees shall encourage trans-border collaboration with other organizations on issues involving water quality in the Tijuana River Watershed. Estimated completion date: Ongoing

1.3 Land Use Planning Activities

- ✓ Complete development of a watershed planning reference manual for land use professionals use during project development and long-range planning activities. Estimated completion date: On hold until more funding and staff become available

1.4 Educational Activities

- ✓ Survey results and monitoring data will be reviewed and evaluated in light of program outreach strategies. Emphasis will be focused toward "community direct" efforts (i.e. speaking to local community groups and using direct outreach efforts such as informational door hangers on helpful BMP tips when pollutants are found in local neighborhoods). Based on these results, additional modifications to the outreach efforts will be developed. Estimated completion date: Ongoing

1.5 Public Participation Activities

- ✓ The Copermittees are always looking to improve public participation mechanisms by adjusting and expanding the types of opportunities the public has had to participate in the program. In future years, the Copermittees will continue to add new participation opportunities (when and where feasible) through the parallel programs such as the Watershed Management Plans. Estimated completion date: Ongoing

1.6 Assessment Program

- ✓ The Copermittees have incorporated the concepts of the Framework Document into this Annual Report. The Tijuana River Copermittees will continue to utilize and, when possible, expand upon the Framework Document in future Annual Reports. Estimated completion date: Ongoing

Please refer to Table 5-1 in Appendix B.10 for a list of the Tijuana River WURMP Revisions to date.

2.0 Copermittee Closing Comments

Between July 2003 and June 2004, the Copermittees with land use authority within the Tijuana River watershed made significant progress in developing and implementing programs aimed at improving surface stormwater quality in the watershed. The Copermittees were also in compliance and met the requirements of the Municipal Permit during this fiscal year. A few of the program highlights are found below:

- Watershed Management Plan: The Proposition 13-funded effort to develop a watershed plan has been successfully moving forward in bringing together U.S. and Mexico representatives and stakeholders to discuss watershed issues and challenges, and to develop a watershed vision for the Tijuana River Watershed.
- Watershed Surveys. The County of San Diego conducted watershed surveys for the unincorporated areas of the Tijuana River watershed in order to establish a baseline of residents' behavior, attitude/preferences, and knowledge/awareness pertaining to water pollution and urban

runoff issues. The survey results for the Tijuana Watershed are detailed in Section II, subsection 3.0.

- Water Quality Grants: The State Water Resources Control Board approved a \$637,500 grant to the County of San Diego to conduct the Tijuana River Watershed Invasive Species Removal Project. The project will consist of planning, mapping, removing, and revegetation of areas infested with Arundo and Tamarisk. The project will also include short and long term water quality monitoring and community outreach in the Tijuana River Watershed. The County hopes to begin the planning and mapping phases of the project during the fiscal year 2004-2005.
- Watershed Assessment: The Tijuana River Copermittees continued the implementation of the watershed assessment program, which is a collaborative effort to assess the water quality of receiving waters in the watershed. The Copermittees' monitoring programs make use of a variety of methodologies to document the physical, chemical, and biological characteristics of streams, creeks, rivers, enclosed bays, lagoons, estuaries and beaches. The 2003-2004 watershed assessment includes data from the mass loading station (MLS) and dry weather site data, toxicity data, rapid stream bioassessment, ambient bay and lagoon monitoring (ABLM), and citizen monitoring (2003 California Coast Wide Snapshot Day). Section III of this report summarizes the data collection and assessment efforts within the Tijuana River Watershed.

Above all, the Tijuana River Watershed URMP and Annual Reports should be considered part of overall program development. The Copermittees have responded well to meet the challenges of implementing new and aggressive Municipal Permit requirements. The Copermittees feel strongly that they have made significant strides in developing a comprehensive stormwater program that could serve as a model for other regions. It is also recognized that improvement and refinement is an important part of all program areas and the Watershed URMPs will need to be augmented over the long term as the Copermittees continue to develop a better understanding of the complex issues affecting the Tijuana River Watershed.

In summary, a number of important challenges have arisen during the implementation of this revised Municipal Permit. While the Copermittees have generally responded well to meet them, some requirements are not easily addressed. Continued collaboration is key to the development of quality programs that are cost-effective and responsive to the needs of our customers. Only time and continued implementation will tell whether or not the programs established pursuant to this Municipal Permit will meet the standards of water quality improvement and cost-effectiveness that together define practicability. Increased cooperation between Copermittees and the RWQCB will be necessary as we continue to move our programs forward. In some instances, the issues confronting us may be within the ability of Copermittees to resolve. In other cases, more innovative approaches, including Municipal Permit amendments, may ultimately be required. Keeping these lines of communication open is crucial to our long-term success.

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SECTION VI - REFERENCES

California Regional Water Quality Control Board, San Diego Region (RWQCB). 1994. Water Quality Control Plan for the San Diego Basin

California Regional Water Quality Control Board, San Diego Region (RWQCB). 2001. Order No. 2001-01.

California State Water Resources Control Board (CSWRCB). 2003. 2002 CWQ Section 303(d) List of Water Quality Limited Segments.

MEC Analytical Systems, Inc. 2003. San Diego County Municipal Copermittees 2002-2003 Urban Runoff Monitoring Report. Prepared for the County of San Diego. January, 2004.

MEC Weston 2004. San Diego County Municipal Copermittees 2003-2004 Urban Runoff Monitoring Report, Draft Report. Prepared for the County of San Diego. November, 2004.

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APPENDIX A

A.1 Signed Certification Statements

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County of San Diego

WALTER F. EKARD
CHIEF ADMINISTRATIVE OFFICER
(619) 531-6226
FAX (619) 557-4060

CHIEF ADMINISTRATIVE OFFICE

1600 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2472

January 31, 2005

**RE: STATEMENT OF CERTIFICATION
2003/04 Watershed Urban Runoff Management Program Annual Report
(Tijuana River Watershed)**

I certify under penalty of law that the 2003/04 Watershed Urban Runoff Management Program Annual Report for the Tijuana River watershed was 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 knowingly submitting false information, including the possibility of fine and imprisonment for knowing violations.

A handwritten signature in black ink, appearing to read "R. Copper", written over a horizontal line.

ROBERT R. COPPER
Deputy Chief Administrative Officer
County of San Diego

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APPENDIX B

- B.1 Table 2-4
- B.2 Table 2-5
- B.3 Table 2-6
- B.4 Table 3-1
- B.5 Table 3-2
- B.6 Table 3-3
- B.7 Table 3-4
- B.8 Table 3-5
- B.9 Table 4-1 and Table 4-2
- B.10 Table 5-1

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APPENDIX B.1

Table 2-4: Summary of the Binational Watershed Advisory Council Meetings

Meeting Date	No. of Stakeholders	Principal Agenda Items
8/21/2003	24	<ul style="list-style-type: none"> Watershed related activities by SEMARNAT and Tijuana Trabaja Stakeholder meeting dates and invitations Sign up for stakeholder meetings Discussion of structure for stakeholder meetings
9/4/2003 9/19/2003 9/20/2003 9/25/2003 10/2/2003	19 37 26 59 32	Public Stakeholder Meetings: <ul style="list-style-type: none"> Explanation of the goals of the meeting Presentation introducing the project Challenges and actions worksheets Breakout sessions Prioritization of activities Next steps in the visioning process
11/13/2003	23	<ul style="list-style-type: none"> Watershed related activities by Mike Wells of the Tijuana River National Estuarine Research Reserve and CESPT Stakeholder meetings Review of the Stakeholder Report and outcomes of stakeholder meetings
2/5/2004	23	<ul style="list-style-type: none"> Watershed activities by the Campo EPA Outline for the Binational Vision Document Preliminary results from stakeholder meetings for BWAC review
5/6/2004	23	<ul style="list-style-type: none"> Watershed Activities by the Municipality of Tecate Updates on Mexico's Natural Protected Areas Updates on U.S. Watershed Activities Revised Outline for the Binational Vision Document Data Available for Research in the Tijuana River Watershed

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APPENDIX B.2

Table 2-5: Summary of the EPA Border 2012 Water Task Force Meetings

Meeting Date	No. of Stakeholders	Principal Agenda Items
2/5/2004	59	<ul style="list-style-type: none"> • What is the Border 2012 Task Force? • Mission for the Border 2012 Task Force • Logistics for the Task Force: organization, meetings, communication, decision-making and funding • Project proposals submitted to the EPA
3/3/2004	~65	<p>Border 2012 California-Baja California Regional Workgroup Meeting</p> <ul style="list-style-type: none"> • National Coordinators' meeting update • Task Force Reports: Environmental Education, Air Quality, Waste, Tijuana River Watershed and Chemical Emergency Preparedness and Response Activities • Request for proposal updates • Communication tools for participating parties and the public • Tribal Perspective • Borders Policy Committee, SANDAG • Border Energy Issues Group
5/6/2004	27	<ul style="list-style-type: none"> • News: Regional Workgroup meeting, Senate Bill 1957, status of Border 2012 grant proposals • Task Force support for additional Border 2012 proposals • Task Force Logistics • Creation of Task Force sub-groups

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APPENDIX B.3**Table 2-6: Summary of TJ River Watershed URMP Workgroup Meeting**

Meeting Date	Jurisdictions Represented	Principle Agenda Items
8/21/03	County of San Diego, City of San Diego and City of Imperial Beach	<ul style="list-style-type: none">• Review WURMP activities• Responsibility designation for WURMP tasks
10/20/03	County of San Diego, City of San Diego and City of Imperial Beach	<ul style="list-style-type: none">• Review information needed for Annual Report

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APPENDIX B.4

Table 3-1: Public Presentations and Media Events – County of San Diego

Date	Event Title	Comments	Specific Audience	#	Site	Materials
11/16/03	Global Learn Day	Live Internet broadcast on the local program for World Water Monitoring Day	General Public	Local Est. +/- 1,000	B Franklin Institute of Global Education Web Site	White papers on stormwater runoff, watershed principles and citizen monitoring; photographs & slides from San Diego/ Border Region World Water Monitoring Day 2003
5/13/2004	Fiesta Del Rio Bi-national Conference	Presentations from Mexico and U.S. on social/natural history and hydrology of the Tijuana River and networking event	Golf Course, Park, Equestrian Facility, Nursery administrators, Municipal Government, Sanitation & Water Districts, Planners, & General Public	110	South-western College	Stormwater Pollution Prevention Brochures in English and Spanish, Project Clean Water Strategic Plans

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APPENDIX B.5**Table 3-2: Public Presentations and Other Community Outreach**

Date	Event Title	Comments	Duration (Hours)	Specific Audience	#	Site Name
10/8/03	Speaking Engagement w/Jamul Kiwanis Club	Overview of watershed and stormwater pollution prevention principles. Discussed constituents of concern from the Project Clean Water website. Distributed general watershed stormwater protection brochures.	1	General Public (Residents)	40	St. Pius Church, Jamul

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APPENDIX B.6

Table 3-3: Summary of Presentations to Schools

Date	Event Title	Comments	Duration (Hours)	Specific Audience	#	Site Name
1/23/04	Watershed Awareness Presentation	NPS Watershed Model Demo, Badge-making, Journey Of the Blob Video and inter-active discussion on residential stormwater best management practices with emphasis on nutrients, bacteria, automotive fluids and pesticides and IC/ID reporting.	4.5	School (Elementary, Grade 1)	84	Sunnyslope Elementary
February – March 2004	Habitat rehabilitation along the Otay River	Participated with Emory School (located in the Tijuana River Watershed) on the habitat rehabilitation along the Otay River. Consisted of several presentations on watershed concepts; field trips where students learned first hand about how trash and other pollutants affect the flora and fauna at the receiving waters; the students were also provided with demonstrations on sampling procedures		School, Grades 2 - 6	~100	Emory School
5/20/04	San Diego County Office of Outdoor Education Splash Science Mobile Lab Water Splash Program - Clover Flats Elementary	Water Splash Curriculum. Materials distributed: Stormwater pollution prevention brochures for pet, horse, pool/spa, and yard waste and general stormwater management, We All live in a Watershed brochures, Promotional Items and activity sheets.	4	School (Elementary, K-6)	118	Clover Flats Elementary School
6/7/04	San Diego County Office of Outdoor Education Splash Science Mobile Lab Water Splash Program - Campo Elementary	Water Splash Curriculum. Materials distributed: Stormwater pollution prevention brochures for pet, horse, pool/spa, and yard waste and general stormwater management, We All live in a Watershed brochures, Promotional Items and activity sheets.	4	School (Elementary, K-6)	83	Campo Elementary School

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Table 3-4: Community Events

Date	Event Title	Comments	Duration (Hours)	Specific Audience	Site Name
7/4/2003	Independence Day Community Picnic	Provided print information on watersheds, stormwater BMPs, Watershed Model Demonstration	7	General Public (Residents)	Simpson's Nursery, Jamul
7/26/2003	Pine Valley Days	Provided print information on watersheds, stormwater BMPs, Watershed Model Demonstration	8	General Public (Residents)	Pine Valley Village
8/3/2003	Dulzura Community BBQ	Provided print information on watersheds, stormwater BMPs, Watershed Model Demonstration	3	General Public (Residents)	Camp's Grove, Dulzura
9-20-03	California Coastal Cleanup Day	As Captain of Site Cleanup, provided cleanup materials, general watershed and stormwater information, and oversight.	5	General Public (Residents, Scout Group)	Lake Morena
4/24/04	City Annual garage sale	Encouraged the reuse of articles, reducing solid waste disposal	2 days	General Public	Imperial Beach
5/1/04	Home Front Clean Up	Residents dropped off various material/items including furniture, yard waste, metal, concrete	1day	General Public	Mar Vista High School
5/12/04	Community Resource Fair	City held a display booth and provided storm water pollution prevention information	1 day	General Public	Boys & Girls Club
5-15-04	Fiesta Del Rio	Provided print information on watersheds, stormwater BMPs, Watershed Model Demonstration	5	General Public (Residents)	Imperial Beach Pier/Tijuana River Mouth

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APPENDIX B.8

Table 3-5: Tijuana Estuary Watershed Education

Name of Program	Number of Programs	Age	Number of Participants	Program Description
Junior Rangers	30	7 to 12	169	Junior Rangers is a hands-on, after-school program designed to teach about various subjects within the watershed. These include estuarine ecology, natural and cultural history, plants and wildlife.
School Programs	54	K to 12	1566	Students who participate in a guided field trip learn about subjects like the functions of wetlands, watershed education, food webs, cultural history, and species adaptations and identification.
Speaker Series	8	Adult	126	Once a month the Tijuana Estuary offers a free lecture series. Speakers usually include enthusiastic biologists, specialists or researchers who share information on estuary or watershed related topics.
Scouts	4	7 to 18	60	Programs are most often offered to scout groups who are interested in earning a particular badge (i.e. Cub Scout Naturalist Badge) or to fulfill a required project. These badges usually comprise elements of watershed education, including
Teacher Training	3	Adult	25	Teachers who want to bring their students for guided field trips must participate in a teacher workshop or orientation. These trainings include information on wetland ecology, watershed education, natural and cultural history, and program logistics.
YCC/CCC - Youth Conservation Corps & California Conservation Corps	2	15-18	25	YCC & CCC groups participate in various work projects that usually include an education component that focuses on watershed restoration and management.
Tours	5	Adult	72	Various organizations and interested groups request tours from estuary staff. They are most often interested in bi-national watershed issues and management.

Name of Program	Number of Programs	Age	Number of Participants	Program Description
Special Events	7	All	293	Special events are various planned programs throughout the year. They vary from native plant gardening workshops, to coastal cleanup and restoration projects, to family education programs. They almost always include a watershed theme.

APPENDIX B.9**Table 4-1: Number of 'Hits' on the Project Clean Water Tijuana River Watershed Web Site**

<u>July</u> <u>'03</u>	<u>Aug.</u> <u>'03</u>	<u>Sept.</u> <u>'03</u>	<u>Oct.</u> <u>'03</u>	<u>Nov.</u> <u>'03</u>	<u>Dec.</u> <u>'03</u>	<u>Jan.</u> <u>'04</u>	<u>Feb.</u> <u>'04</u>	<u>Mar.</u> <u>'04</u>	<u>April</u> <u>'04</u>	<u>May</u> <u>'04</u>	<u>June</u> <u>'04</u>	<u>Total</u>
104	91	103	135	123	199	163	144	148	133	172	222	1737

Table 4-2: Number of 'Hits' on the Project Clean Water for the Tijuana River WURMP website

<u>July</u> <u>'03</u>	<u>Aug.</u> <u>'03</u>	<u>Sept.</u> <u>'03</u>	<u>Oct.</u> <u>'03</u>	<u>Nov.</u> <u>'03</u>	<u>Dec.</u> <u>'03</u>	<u>Jan.</u> <u>'04</u>	<u>Feb.</u> <u>'04</u>	<u>Mar.</u> <u>'04</u>	<u>April</u> <u>'04</u>	<u>May</u> <u>'04</u>	<u>June</u> <u>'04</u>	<u>Total</u>
29	27	50	58	30	64	69	50	56	28	35	61	557

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Table 5-1: Tijuana River WURMP Revisions

Revision #	Date Revised	Section	Page #	Original Text	Revised Text
1	01/2005	N/A	Cover Page	Prepared by City of Imperial Beach (Lead) City of San Diego County of San Diego	Prepared by County of San Diego (Lead) City of San Diego City of Imperial Beach
2	01/2005	Executive Summary	5	Lead Agency: City of Imperial Beach	Lead Agency: County of San Diego
3	01/2005	Executive Summary	6	Activity: Tijuana River Watershed Copermittees shall collaborate on watershed and regional public participation activities (see Section 7.b.a for discussion). Completion: On-Going Lead Agency: City of Imperial Beach	Activity: Tijuana River Watershed Copermittees shall collaborate on watershed and regional public participation activities (see Section 7.b.a for discussion). Completion: On-Going Lead Agency: County of San Diego
4	01/2005	Executive Summary	6	Activity: As necessary, Tijuana River Watershed Copermittees will establish new/attend existing forums to solicit stakeholder input in the development/implementation of the Watershed URMP and other watershed management plans (see Section 7.b.2 for discussion). Completion: On-Going Lead Agency: City of Imperial Beach	Activity: As necessary, Tijuana River Watershed Copermittees will establish new/attend existing forums to solicit stakeholder input in the development/implementation of the Watershed URMP and other watershed management plans (see Section 7.b.2 for discussion). Completion: On-Going Lead Agency: County of San Diego
5	01/2005	1.c.	14	The Municipal Permit also designates the lead Copermittee in the Tijuana River watershed to be the City of Imperial Beach, who has agreed to fill this role for the Tijuana River watershed.	The Municipal Permit also designates that a lead Copermittee be selected, and the County of San Diego will fulfill the role of lead Copermittee in the Tijuana River watershed.

Revision #	Date Revised	Section	Page #	Original Text	Revised Text
6	01/2005	4.b.	36	Table 4-1: Constituents of concern measured in the Tijuana River.	Table 4-1: Constituents of concern measured in the Tijuana River*.
7	01/2005	4.b.	36	None	Added the following footnote to Table 4-1: * This table is updated in the respective Annual Reports and includes the most recent monitoring conducted.
8	01/2005	4.d.1.	38	4.d.1 303(d) Listed Water Bodies	4.d.1 1998 303(d) Listed Water Bodies
9	01/2005	4.d.1.	38	Table 4-3 303(d) Listed water bodies in the Tijuana River watershed.	Table 4-3: 1998 303(d) Listed water bodies in the Tijuana River watershed.
10	01/2005	4.d.2.	39	4.d.2 2002 Proposed 303(d) Listed Water Bodies	4.d.2 2002 303(d) Listed Water Bodies
11	01/2005	4.d.2.	39	Proposed listings in 2002 add dissolved oxygen to the pollutant/stressor list for the Tijuana River Estuary, and the Pine hydrologic subarea is listed due to findings of <i>Enterococci</i> levels above standards (Table 4). The 2002 proposed listings are associated with Municipal and Domestic (Water) Supply, Contact and Non Contact Recreational water use, and wildlife habitat.	Listings in 2002 add dissolved oxygen to the pollutant/stressor list for the Tijuana River Estuary, and the Pine hydrologic subarea is listed due to findings of <i>Enterococci</i> levels above standards (Table 4). The 2002 303(d) listings are associated with Municipal and Domestic (Water) Supply, Contact and Non Contact Recreational water use, and wildlife habitat.
12	01/2005	4.d.2.	39	Table 4-4: Proposed 303(d) listed water bodies in the Tijuana River watershed.	Table 4-4: 2002 303(d) listed water bodies in the Tijuana River watershed.
13	01/2005	4.f.	44	Table 4-7: Potential Water Quality Issues/Problems	Table 4-7: Potential Water Quality Issues/Problems*
14	01/2005	4.f.	44	None	Added the following footnote to Table 4-7: * This table is updated in the respective Annual Reports and incorporates water quality activities
15	01/2005	6.c.3.	59	To this end, the City of Imperial Beach, Tijuana River Watershed Lead Copermittee will establish	To this end, the County of San Diego, Tijuana River Watershed Lead Copermittee will

Revision #	Date Revised	Section	Page #	Original Text	Revised Text
				forums as it determines necessary to ensure effective communication with planning staff both jurisdictionally and on a watershed basis.	establish forums as it determines necessary to ensure effective communication with planning staff both jurisdictionally and on a watershed basis.
16	01/2005	7.a.	61	7.a <u>Public Participation To Date</u>	7.a <u>Public Participation</u>

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APPENDIX C

C.1 Brochure

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ATTACHMENT 1

13267 Technical Report

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**Technical Report in Response to the
Directive Issued Pursuant to California Water Code Section 13267
for Information on Implementation of the
Tijuana River Watershed Urban Runoff Management Program
(WPS:10-5000.02:hammp)**

January 31, 2005

Prepared by:
County of San Diego (Lead)
City of San Diego
City of Imperial Beach

Introduction and Purpose

The Tijuana River Watershed Copermitees (the Copermitees), have completed our review of your letter dated October 8, 2004 relaying the San Diego Regional Water Quality Control Board (SDRWQCB) Staff's comments on the Tijuana River Watershed Urban Runoff Management Program (WURMP) Annual Report for Fiscal Year (FY) 2002-2003, submitted in partial fulfillment of the requirements of SDRWQCB Order 2001-01 (WPS:10-5000.02:hammp). This Technical Report contains the responses to Regional Board Staff comments regarding the Annual Report. To facilitate your review of our responses, we have included **all** of your comments below with the Copermitees' response following. Where appropriate we have included references to the specific section(s) of the FY 2003-2004 WURMP Annual Report where the comments are addressed. All comments and responses are numbered to correspond with the review letter of 8 October.

**I. Program Implementation During the Annual Report's Reporting Period
(FY2002-2003)**

- 1. Section 1.5 of Section II discusses the sedimentation basin project at Goat Canyon, but does not discuss the Tijuana River watershed Copermitees' involvement with the project. In the next Annual Report, please provide a detailed description of the activities conducted by the Copermitees' as part of this project. If the Copermitees have not participated in this project, discussion of the project in future WURMP Annual Reports should be clear that it is not a Copermitee project.***

California State Parks, the State Coastal Conservancy, the Wildlife Conservation Board and the National Oceanic & Atmospheric Administration (NOAA) have jointly funded the Goat Canyon Enhancement Project. The purpose of the project is to capture sediment that flows into the United States from Mexico, thus protecting the valuable salt marsh habitat and allowing the park entrance road to be accessible throughout the year.

The Goat Canyon project has been in development since about 1998. Plans began processing during Fall 2002 and construction began in September 2003. Due to environmental constraints, the construction season is limited to the months between September and March. By February 2004 the project was about 80% complete and expected to meet the target completion date of March 2004. However, a large storm occurred in March 2004, which caused extensive damage to the project. Emergency repairs were made and then construction was halted for the summer months with the exception of limited biological planting. The project is expected to complete construction and enter into a monitoring phase in the Spring 2005.

During FY 2002-2003, the County of San Diego participated in the Goat Canyon project by providing technical review and comments on the project drainage plans, while the City of San Diego conducted both discretionary and ministerial grading plan reviews. During the discretionary review, City staff compared the proposed grading plan to the project Environmental Impact Report (EIR) to ensure compliance and to ensure the proposed scope of work fit one of the alternatives proposed in the EIR. Upon completion of it, the City of San Diego issued a requisite grading permit for the Project. As the Project has entered the construction phase, the Copermittees no longer have an active role in the Project. As such, this project will not be discussed in future Tijuana River WURMP Annual Reports.

- 2. Section 2.2.1 of Section II states that a Memorandum of Understanding (MOU) was signed in 1991 to improve awareness of development projects near jurisdictional boundaries. In the next Annual Report, please provide a copy of the MOU and list the projects for which the MOU was specifically used in the Tijuana River watershed during the reporting period. In addition, since the MOU was signed prior to the adoption of Order 2001-01, please provide information regarding any changes or updates made to the MOU to address water quality and watershed-based issues.**

Jurisdictions perform land use planning in order to identify important community issues (such as new growth, housing needs, and environmental protection), project future demand for services (such as sewer, water, roads, etc.), anticipate potential problems (such as overloaded sewer facilities or crowded roads), and establish goals and policies for directing and managing growth. Each jurisdiction uses a variety of tools in the planning process including the general plan, specific

plans, zoning, and the subdivision ordinance. The 1991 MOU is one such tool used by Copermittees to review and comment on projects that may impact their independent jurisdiction, while not infringing on the land use authority of a neighboring jurisdiction.

As indicated in the FY 2002-03 Annual Report, the municipalities signed the MOU in 1991, with the intention to improve awareness of development projects near jurisdictional boundaries. The MOU established guidelines for notification regarding land use and development projects approved by the County of San Diego and the incorporated municipalities within the boundaries of the County of San Diego. As requested, a copy of the MOU is attached to this letter, and will be included as an attachment to the FY2003-2004 Tijuana WURMP Annual Report, which will be submitted to the SDRWQCB in January 2005.

Copermittees are implementing the requirements of the Order 2001-01 in their respective jurisdictions, including Standard Urban Stormwater Management Plans (SUSMP) requirements. As part of the development project review process, staff is assessing the impact of projects on their specific watersheds. A complete discussion of that review process is included in the individual Jurisdictional Urban Runoff Management Plans (JURMPs).

Although the MOU was signed in 1991, it remains in-force and is utilized by the jurisdictions that are party to it. The MOU has not been formally modified to specifically address watershed issues. Where appropriate, staff from each jurisdiction does, and will continue to, comment on projects that could potentially impact their jurisdictions. Because municipalities process thousands of applications annually, and the level of complexity between the applications varies dramatically, it is not feasible or beneficial to inform neighboring cities of ALL projects being reviewed or processed. As such, the MOU established notification parameters based on project size, location, and type.

The County of San Diego Department of Planning and Land Use (DPLU) maintains a listing of all "Inter-Jurisdictional Notices" received under this MOU, and distributes the list to its staff on a weekly basis via e-mail. A list of Inter-Jurisdictional Notices distributed by DPLU during the FY 2002-2003 is provided as an attachment to the Common Activities Section of the Unified Annual Report. Future WURMP Annual Reports will also include this listing.

At present, none of the Copermittees track the “Inter-Jurisdictional Notices” by watershed. Given the number of development projects reviewed in a given year, and staff and budget constraints, no cross-referencing of the “Inter-Jurisdictional Notices” list and specific projects within the Tijuana River watershed has been performed.

3. Section 3.2 of Section II states that the Copermittees are focusing their education efforts on priority pollutants of concern that span several watersheds (such as pesticides). In the next Annual Report, please identify and describe the education efforts that were conducted specifically within the Tijuana River watershed for pollutants of concern that span several watersheds.

As discussed in the Unified WURMP Annual Report, the Copermittees – in an effort to maximize the impact of educational outreach efforts while minimizing cost to the public – have been focusing their efforts on regional messages that address priority pollutants of concern affecting a number of watersheds. A discussion of this regional effort will be included as a discussion in the Unified WURMP Annual Report.

In the Tijuana River watershed, manure and sediment management education are emphasized through distribution of materials and demonstrative presentations during community events in areas such as Pine Valley and Dulzura. During the FY2002-2003 reporting period, the County Department of Agriculture, Weights, and Measures (AWM) developed a new manure management brochure for distribution to Equestrian Facilities. This new brochure will be used during outreach efforts to these facilities, as well as for distribution to the general public during the future reporting periods. The University of California Cooperative Extension has established a Manure Management Committee that includes members from the County Departments of AWM, Public Works, Planning and Land Use and Environmental Health. The Committee provides a strategic approach to establishing regulatory and outreach BMP guidance for both commercial and residential manure sources.

In addition, the Watershed Protection Program (WPP) developed a new “Here’s the Dirt” tip card during the FY2003-2004 reporting period. The tip card, which discusses sediment management practices, will be handed out to residents, and will be used at events and public presentations. Further, WPP staff will also use these brochures during residential complaint response activities as an additional outreach strategy. These

educational materials are available for use by all Copermittees in the watershed.

Furthermore, the County of San Diego, in cooperation with other Copermittees, is presently working on an Integrated Pest Management (IPM) Education and Outreach Project Grant, funded by the SDRWQCB, pursuant to the Proposition 13 Nonpoint Source Pollution Control Pesticide Research and Identification of Source and Mitigation (PRISM) Grant Program, to address pesticide issues in the San Diego Region. During the reporting period, the County executed the grant agreement with the SWRCB as well as subcontract agreements with the University of California Cooperative Extension and the City of San Diego. The Project will incorporate an IPM educational module into the regional Master Gardener's Program. Project outreach activities have not yet begun; however, outreach events are anticipated within all of the coastal watersheds, including the Tijuana River Watershed.

As requested, a discussion of these and other outreach efforts will be included in the FY 2003-2004 Annual Report, which will be submitted in January 2005.

- 4. *Table 2-5 does not provide sufficient information to exhibit that watershed concepts and Tijuana River watershed issues were addressed by the Public Service Announcements (PSAs) listed in the table. In the next Annual Report, please list only those PSAs that address watershed concepts and Tijuana River watershed issues, and list the content of the PSAs.***

It is not feasible to target large-scale media outreach activities, such as PSAs, to specific watersheds, since media distribution is in no way limited by watershed boundaries. As such, PSAs must be targeted to regional issues and general watershed topics.

Based on regional outreach activities, including public surveys, it is apparent that the general public is not "watershed savvy" enough to identify with specific watershed areas. Even the simplest of watershed-focused messages, such as "We all live downstream," are relatively new concepts for a public just being introduced to the idea of watershed boundaries. During the FY 2004-2005 reporting period, Integrated Pest Management PSAs will serve as in-kind support to the Proposition 13 PRISM Grant.

The Copermittees have agreed to discuss in future Annual Reports only those PSAs that address watershed concepts and/or target specific pollutants of concern and, where applicable, Tijuana River watershed issues. Discussions of PSAs that include general watershed information have been incorporated into Section I.B.3 of the Common Activities Section of the Unified Annual Report. Any PSAs specific to the Tijuana River watershed have been included in the FY 2003-2004 Tijuana River WURMP Annual Report Section II, Subsection 3.2.1. A discussion of content will be included for each PSA listed.

- 5. Section 3.3 of Section II discusses education activities that did not occur in the Tijuana River watershed and did not appear to address Tijuana River water quality issues. For example, Table 2-4 discusses education activities that occurred outside the Tijuana River watershed. In your next Annual Report, please identify only those education activities which specifically occurred in the Tijuana River watershed and/or addressed specific Tijuana River water quality issues.**

The land-use jurisdiction for both the County of San Diego and the City of San Diego span multiple watersheds. As such, educational activities are tracked by each jurisdiction and sorted prior to reporting to the lead Copermittee in each watershed. Due to an editing error, some of the education activities that appeared in the Tijuana River WURMP Annual Report did not occur in the Tijuana River watershed. The Copermittees will continue to make every effort to ensure that future Annual Reports are accurate, and that only education activities which specifically occurred in the Tijuana River watershed and/or addressed specific Tijuana River water quality issues are identified in the Tijuana River WURMP Annual Report with references to the Unified Document where appropriate.

- 6. Section 3.3.5 of Section II states that a draft Regional Watershed Brochure will be developed by July 2005. In your next Annual Report, please provide an update on this effort and explain why this extended length of time is necessary for the brochure to be developed.**

An update on the development of a regional watershed brochure will be included in the Unified Document. In summary, however, the Copermittees have concluded that the regional watershed brochure approach should be rejected in favor of an approach based on a Regional Geographic Information Systems (GIS) Watershed Map. The length of time anticipated for development of the brochure took into account

currently funded programs and availability of funding for alternative projects.

The regional watershed brochure was originally envisioned as an educational tool that would meet the needs of all watersheds within the region. The brochure, as well as other watershed educational tools, was discussed at length at the Project Clean Water Education TAC. After much discussion about watershed displays, the TAC concluded that, while a regional watershed brochure could address some common watershed elements, it could not address the unique features of a particular watershed. The TAC further concluded that, at this point in the educational program, developing watershed displays capable of addressing both common watershed elements and the unique characteristics of a particular watershed would better resonate with the public and stakeholders.

The Copermittees determined that the Regional GIS Watershed Map produced by the County of San Diego Department of Public Works SanGIS was/is superior to the regional watershed brochure for integrating watershed-based water quality concepts into regional outreach activities. This determination was based on direct observations of the map's use during outreach events. The watershed map has been tested at community events and has been favorably received.

The Copermittees have displayed the Regional GIS Watershed Map at community events and school presentations in the Tijuana River watershed. The map allows an audience member to find his/her street within the watershed and to determine the expanse, general topography, major water bodies and drainage outlet of the San Diego County portion of the watershed. The general public has shown much interest in these displays.

For the forgoing reasons, the Copermittees have opted to reject the regional watershed brochure approach in favor of displays using the Regional GIS Watershed Map and a watershed-specific brochure or an alternative watershed-specific education tool.

Stakeholders in the Tijuana River watershed, in collaboration with the Copermittees, have developed a bilingual watershed brochure entitled "Binational Vision Project for the Tijuana River Watershed, and a Tijuana River Watershed Resource Guide." This resource guide/brochure, specific to the Tijuana River watershed, can be used in conjunction with

the Regional GIS Watershed Map during watershed outreach activities. Where resources are available, the Copermittees will support the promotion of these materials through distribution at school and community outreach events in the Tijuana River watershed and any other areas as applicable.

- 7. Section 3.3.7 of Section II discusses the Tijuana River Estuary Education Program, but does not discuss the Tijuana River watershed Copermittees' involvement with the program. In the next Annual Report, please provide a detailed description of the activities conducted by the Copermittees' as part of this program. If the Copermittees have not participated in this program, discussion of the program in future WURMP Annual Reports should be clear that it is not a Copermittee program.**

Copermittee involvement in the Tijuana River Estuary Education Program is described in this WURMP annual report under Section 3.2.9. The Copermittees support the Tijuana River National Estuarine Research Reserve (TRNERR) through active participation in the South County Environmental Education Partnership bi-monthly meetings, held in conjunction with TRNERR Management Authority Education Committee meetings. The South County Environmental Education Partnership is described in the report section, "Partners in Clean Water – Partnerships in Action." The Copermittees act in an advisory capacity, providing services such as reviewing and commenting on the TRNERR 5-year plan and new curriculum as they are developed.

- 8. Section 4.4 of Section II identifies public participation activities that occurred outside the Tijuana River watershed and do not address the Tijuana River watershed. For example, presentations by the City of San Diego regarding Chollas Creek restoration should be included in the appropriate Annual Report, or it should be clarified how the presentations are related to the Tijuana River watershed. In your next Annual Report, please identify only those public participation activities which specifically occurred in the Tijuana River watershed and/or addressed specific Tijuana River water quality issues.**

As discussed above, the respective land-use jurisdictions of the County of San Diego and the City of San Diego each span multiple watersheds. As such, each agency tracks and sorts its outreach activities prior to reporting to the Lead Copermittee in each watershed. Due to an editing error, some of the activities discussed in the Tijuana River WURMP Annual Report did not occur in the Tijuana River Watershed. The Copermittees will continue

to make every effort to ensure that future Annual Reports are accurate, and that only activities which specifically occurred in the Tijuana River watershed and/or addressed specific Tijuana River water quality issues are identified in the Tijuana River WURMP Annual Report with references to the Unified Document where appropriate.

- 9. *The Annual Report includes considerable amounts of generic or “boilerplate” text. This boilerplate text is often not necessary in order for the Regional Board to assess compliance and can at times prevent differences in watersheds from being distinguished. It also does not adequately describe how implementation of a particular program component is being implemented in a specific watershed. For your next Annual Report, please review the use of boilerplate text and consider reporting approaches to make the Annual Report more watershed-specific, such as moving boilerplate text to the Unified WURMP Annual Report document. In addition, please review all boilerplate text to ensure that it is directly applicable to the Tijuana River watershed. Also, please describe how the program components covered by the boilerplate text were specifically implemented within the Tijuana River watershed.***

In addition to serving as compliance documents, the WURMP Annual Reports are informational documents for public officials, management staff, and the general public who may be unfamiliar with the WURMPs. Moreover, the WURMPs were intended to be stand-alone documents. In an attempt to achieve consistency in language between WURMP documents across watersheds, the model WURMP Annual Report used “boilerplate” text.. Further, since the County of San Diego and City of San Diego serve as Lead Copermittees on eight (8) of the ten (10) watersheds in the San Diego Region, boilerplate text has been employed, particularly to discuss regional programs, in order to facilitate the reporting process, and ease the workload of staff,

The Copermittees have reviewed the information included in the FY 2002-2003 Annual Report to determine how the program components covered by the boilerplate text were specifically implemented within the Tijuana River watershed. A summary is included below:

- Data Analysis and Management Project. During the FY 2002-03 the Copermittees determined that this project would first need to be conducted on a Regional scale. The Copermittees have developed a Watershed Data Assessment Framework to describe how data collection and analysis will be conducted using data from other

existing data sources (such as ambient bay, lagoon, and coastal receiving water monitoring; citizen monitoring; outside agency monitoring; research monitoring; etc.). The Watershed Data Assessment Framework was developed in conjunction with MEC Analytical Systems, Incorporated/Weston Solutions, Incorporated (MEC/Weston) over a time period of more than one year. The final version was completed in June of 2004.

The Watershed Data Assessment Framework is intended to allow for uniform and consistent data assessment and management across watersheds in the county. One of the main goals of the document is to provide guidance as to how outside data can be incorporated into future watershed data assessments. The framework is designed to be adaptable to different circumstances in each watershed by describing the assessment strategy and providing an overview of the statistical tools available to conduct watershed data analysis. This was specifically utilized in the Tijuana River watershed to determine the feasibility of the inclusion of the dry weather monitoring, coastal outfall monitoring, and third party data into the Water Quality Assessment Section of the FY 2003-04 Annual Report. Therefore, during the project development in the FY 2002-03 this was a regional project that was then finalized and applied specifically to the Tijuana River watershed in the FY 2003-04. For a further description of the Watershed Data Assessment Framework please refer to the Common Activities section of the Unified Annual Report.

- Integrated Pest Management. During the FY 2002-03 reporting period the City of San Diego, as lead agency, applied for and was given preliminary approval for a pesticide mitigation grant from the SWRCB. This was a regional effort to secure regional grant funding that will then be applied to specific watersheds. During this reporting period, the County of San Diego, assumed the lead responsibility to develop and administer the grant. All progress made towards this activity was focused on the development of the scope of work and contractual agreements. A summary of the IPM strategy, approach and activity is presented in the Common Activities Annual Report. The Copermittees will support the project by in-kind contributions of additional educational materials, outreach activities, and sponsorship of workshops. In the future, activities related to this IPM project that are conducted within the Tijuana River Watershed and/ or which specifically relate to the

Tijuana River watershed will be reported in the respective section of the Tijuana River WURMP Annual Report.

- 1991 MOU/Public Hearings/CEQA. These specified inter-jurisdictional planning processes described in the FY 2002-03 Tijuana River WURMP Annual Report all allow for the Tijuana River Copermittees to be notified and participate in the project review process of projects that may impact or affect the watershed.
- Land Use Planners Manual. The County of San Diego and the City of San Diego, two of the three Copermittees in the Tijuana Watershed, developed land-Use Planner's Manual – During the FY2002-03 this project on a regional basis. Once completed this manual could be tailored to serve as a training tool for the Copermittees within the Tijuana River watershed.
- Water Quality Assessment. This section of the FY 2002-03 contained “boilerplate text” regarding the methods used for collection of data and assessment processes. The section also included the Tijuana River watershed specific data that was collected and assessed during the FY 2002-03. Therefore, the Copermittees have determined to move the “boilerplate text” to the Common Activities section of the Unified Annual Report or reference the San Diego County Municipal Copermittees 2003-2004 Urban Runoff Monitoring Report when applicable.

In an effort to streamline the reporting process, and facilitate review by SDRWQCB Staff, future annual reports will contain minimal boilerplate text and discussions of regional activities will be moved to the Common Activities Section of the Unified WURMP Annual Report. All implementation sections and text directly related to the Tijuana River watershed are included in the Tijuana River WURMP Annual Report.

10. The Water Quality Assessment conducted in Sections 2.0 and 3.0 of Section III is unclear in describing how “high priority water quality issues” are identified. For example, trash is identified as a water quality issue in Table 3-13, even though trash is not initially identified as a constituent of concern in Table 3-9. In your next Annual Report, please describe the process that will be used to identify constituents of concern and high priority water quality issues, and discuss how constituents of concern will be assessed in order to identify high priority water quality issues.

In future Annual Reports, the process used to identify constituents of concern and high priority water quality issues will be modified for clarity. While it may appear somewhat convoluted, the stepwise process used by the Copermittees is rather straightforward.

As part of the watershed-based water quality assessment, the following steps are generally taken in the data evaluation and analysis:

- (1) Identify potential constituents of concern that have been found to exceed administrative water quality reference standards and Basin Plan water quality objectives as well as the frequency, magnitude and duration of such exceedances;
- (2) Isolate potential constituents of concern shown to exceed reference values in a persistent and/or recurrent manner, consider bioassessment rankings and toxicity results;
- (3) Examine how any of the constituents of concern identified in step (2), above, may contribute to water quality degradation which would negatively impact designated beneficial uses;
- (4) Review and consider constituents on the Clean Water Act 303d list;
- (5) Compare the constituents of concern with third party data that does not meet the quality control/quality assurance standards of the regional monitoring program and, therefore, was not included in steps (1) and (2);
- (6) As a longer historical record is developed over multiple years of monitoring, assess constituent of concern data to see if there are any increasing or decreasing trends through time applying statistical analysis; and
- (7) Using steps 1 through 6 and best professional judgment, each Watershed Management Area identifies and prioritizes constituents of concern.

Details of the assessment procedure are presented in Section 3.4 of the San Diego County Copermittees 2003-2004 Urban Runoff Monitoring Report prepared on behalf of the Copermittees by MEC Analytical Systems/Weston (Regional Monitoring Report). Section 12 of the Regional Monitoring Report presents steps 1 through 6 for the Tijuana River

Watershed Management Area. Please also refer to Section 12 for data tables and additional discussion.

In 2002, the Copermittees used best professional judgment to identify constituents of concern because only limited data were available early in the permit cycle of the regional monitoring program.

In 2003 and 2004 (current reporting period), steps (1) and (2) were addressed by using a frequency of occurrence approach for benchmark value exceedances. This interim approach weighs cumulative wet weather mass loading data more heavily than the most recently available period of dry weather and coastal storm drain data because the mass loading data has a more comprehensive list of analytes and has been collected for a longer period of time. Additionally, the dry weather stations typically are located in storm drain conveyances and may not be representative of receiving water quality. However, the wider spatial distribution of dry weather data versus the other data sets may provide a link to potential sources.

The triad of data (storm water chemistry, storm water toxicity and rapid stream bioassessment data) collected under the regional monitoring program is also evaluated using the triad decision matrix. This triad of monitoring data is utilized in a 'weight of evidence' approach. Storm water chemistry and storm water toxicity data provide an indication of the pollutant loads during a storm event and potential impacts to aquatic organisms during storm events. The stream bioassessment provides information related to the ecological health of the watershed and an indication of stream health effects from urban runoff. Stream bioassessment data not only provide information about the benthic invertebrate community present in the watershed, but also the quality and condition of the physical habitat.

The triad decision matrix is primarily intended to direct changes in the monitoring program using a consistent and scientific approach. The triad decision matrix is used as one step in the process of identifying additional monitoring needs, such as performing a Toxicity Identification Evaluation (TIE) study to identify the constituents causing toxicity. Once the constituent is identified, then that constituent is considered as a constituent of concern.

Table 3-9 (referenced in the comment) is a summary of the preliminary list of constituents of concerns, and does not include the 2002 Clean Water

Act 303(d) List of Water Quality Limited Segments, which is considered in developing the final list of constituents of concern and the priority ranking presented in Table 3-13. As such, potential COCs may appear on one but not the other. The purpose of conducting this stepwise assessment is so that potential constituents not quantitatively evaluated in the Copermittee Regional Monitoring Program, such as trash, will still be considered as a potential constituent of concern.

Prioritization is based on examination of the evidence (i.e., “does the weight of evidence identify the COC as a problem?”) and the potential impact on beneficial uses in the watershed. In addition, the question is raised as to whether sufficient data was used to identify the COC. In the early stages of the permit, it was difficult to prioritize COCs due to a dearth of data. As more data becomes available, the prioritization process will become clearer and more accurate. Recognizing a COC as a watch item does not necessarily indicate that it is a high priority pollutant.

11. Table 3-13 groups various constituents of concern (Turbidity, TSS, Eutrophication, Dissolved Oxygen, and Nutrients) into one water quality issue. However, these constituents can have significantly different sources which may need to be addressed with different approaches. For example, Turbidity and TSS in the Tijuana River is likely to come from excessive erosion, while eutrophication, dissolved oxygen, and nutrients problems can stem from sources other than erosion. In your next Annual Report, please explain why these constituents have been grouped into one water quality issue, or explain how they will be addressed as two or more water quality issues in the future.

As requested, FY 2003-2004 Annual Report has been modified to separate turbidity and TSS from eutrophication, dissolved oxygen and nutrients into separate constituents in order to reflect the potential for different pollutant sources.

12. In your next Annual Report, please describe how the Tijuana River watershed Copermittees coordinated with other jurisdictions within the Tijuana River watershed, such as the United States Border Patrol and the Tijuana River National Estuarine Research Reserve.

As requested, the next Annual Report includes a discussion of how the Tijuana River watershed Copermittees coordinate with other jurisdictions within the Tijuana River watershed. This discussion can be found in Section II of the Annual Report, in Subsections 1.0 and 2.0.

One specific coordination effort is through the Binational Vision Project, conducted under contract with the SWRCB and spearheaded by the County of San Diego. Coordination with a number of government agencies on both sides of the border has been undertaken as part of this program; however, the Copermittees have made no specific efforts to coordinate with the U.S. Border Patrol.

During the FY 2002-2003 reporting period, the County of San Diego and the City of San Diego actively participated in Binational Watershed Advisory Committee (BWAC)/Binational Vision Project meetings. The City and County have agreed for the next reporting period to review and provide specific input on the education portions of the vision document, and related plans.

Copermittee involvement with the Tijuana River National Estuarine Research Reserve is addressed under Comment #7, above, and in the appropriate section of the Tijuana River WURMP Annual Report.

II. Program Implementation for Fiscal Year 2004-05

13. The Regional Board views the Water Quality Activities section as a key section which should be a primary focus of the Annual Report. As stated in Finding No. 31 of the Permit, the Regional Board finds that "it is essential for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies." To achieve this goal, the Copermittees must identify and implement activities to eliminate sources and reduce loading of the pollutants causing the identified high priority water problems within the watershed.

While the "water quality activities" identified in Section 2.0 of the Annual Report are a good first step, the activities do not address all of the high priority water quality problems within the watershed. The activities should be reassessed in light of the watershed's high priority water quality problems, and reworked and expanded where appropriate. In your response, please identify the short and long-term activities that will be conducted to specifically target likely sources of water quality problems in the Tijuana River watershed (include an implementation schedule). It is recommended that the Copermittees generate a list of activities which can be conducted to address the sources of the watershed's high priority water quality problems. The list can then be evaluated to identify effective and

efficient activities to be implemented. An example list is provided as Attachment 2.

The Copermittees agree that the Water Quality Activities Section is a key section of the Annual Report. It is important to note that SDRWQCB staff commented on the first annual report, which covered a limited, four (4) month implementation period. As such, there was limited time and resources available to both modify existing programs and implement the programs themselves.

The Copermittees have reviewed the RWQCB's example list, and are working toward reassessing, reworking, or expanding (where appropriate) the activities in light of the watershed's high priority water quality problems. In the Annual Report for the FY03-04 Annual Report, the Tijuana River Copermittees have included a table which identifies the short and long term activities that are anticipated to be conducted to address the sources of the watershed's high priority water quality issues.

The Copermittees will continue to evaluate the list based upon the effectiveness, activity efficiency, funding sources, and budget/staffing constraints. An anticipated implementation schedule has also been included in Annual Report. Each jurisdiction will need to implement the specific activities within their boundaries in order for the activities to become watershed activities.

14. Section 2.2 of Section II discusses several items meant to serve as mechanisms for inter-jurisdictional planning collaboration. However, these items are essentially short-term pre-existing notification procedures, rather than mechanisms through which long-term inter-jurisdictional collaboration on watershed issues occurs. In your response, please provide any information on other methods that the Copermittees within the Tijuana River watershed will be using to implement long term inter-jurisdictional collaborative planning.

As indicated in the response to Comment No. 2 above, jurisdictions perform land use planning in order to identify important community issues (such as new growth, housing needs, and environmental protection), project future demand for services (such as sewer, water, roads, etc.), anticipate potential problems (such as overloaded sewer facilities or crowded roads), and establish goals and policies for directing and managing growth. Each jurisdiction uses a variety of tools in the planning process including the general plan, specific plans, zoning, and the

subdivision ordinance. These requirements, and the specific legal limitations, are codified into state law.

The Watershed Copermittees have developed the following table, included in the Fiscal Year 2003-2004 Tijuana River WURMP Annual Report, which summarizes all of the methods that the Tijuana River watershed Copermittees use to implement short and long term interjurisdictional collaborative planning. If a more detailed discussion of a collaborative planning method is desired please refer to either the Common Activities Section of the Unified Annual Report or the Fiscal Year 2003-2004 Tijuana River WURMP Annual Report as noted in the last column of the table.

Table 1-1: Summary of Current Inter-Jurisdictional Planning Mechanisms

Inter-Jurisdictional Planning Mechanism	Short Term or Long Term	Location
Memorandum of Understanding (1991)	Long Term	Common Activities Section I.B.3.e
Memorandum of Understanding (2001)	Short Term	Common Activities Section I.B.3.e
California Environmental Quality Act	Long Term	Common Activities Section I.B.3.e
Public Hearings	Long Term	Common Activities Section I.B.3.e
The Multiple Species Conservation Program	Long Term	Common Activities Section I.B.3.e
Binational Vision Project for the Tijuana River Watershed	Short and Long Term	FY 2003-04 Tijuana River WURMP Annual Report Section II, 2.3.2
Tijuana River Watershed URMP Workgroup	Short and Long Term	FY 2003-04 Tijuana River WURMP Annual Report Section II, 2.3.3
Water Quality Assessment, Information sharing, and Jurisdictional Planning	Short and Long Term	FY 2003-2004 Tijuana River WURMP Annual Report Section II, 2.3.1

1991 Memorandum of Understanding (1991 MOU). The 1991 MOU is a specific tool used by the Copermittees to specifically review and comment on projects that may impact their independent jurisdiction, without infringing on the land use authority of a neighboring jurisdiction. This includes reviewing and commenting on updates and modifications to General Plans, reclassifications of land (i.e., modifications to a jurisdiction's specific zoning ordinance), as well as individual projects. The 1991 MOU established guidelines for notification regarding land use and development project approvals by the County of San Diego and

incorporated municipalities within the boundaries of the County of San Diego. The Copermittees will continue to use the 1991 MOU as a central tool for reviewing and commenting on projects and programs that may affect the watershed as a whole.

2001 Memorandum of Understanding (2001 MOU). All of the Copermittees, including the County of San Diego and the Cities of San Diego and Imperial Beach, signed a MOU on December 3, 2001. The 2001 MOU serves as a short-term planning process in that it requires the respective jurisdictions within each watershed to work collaboratively in addressing the issues within each watershed for the life of the municipal permit.

CEQA. Pursuant to CEQA, before a public agency can approve a discretionary project (e.g. development proposal, ordinance amendment, general plan update, etc.) the project must undergo some form of environmental review. CEQA requires that, prior to approval by a hearing body, an environmental document must be made available for public review for a period ranging from 20 to 45 days. Most jurisdictions utilize CEQA notification policies that incorporate notification procedures in addition to procedures required under law (e.g. directly notifying local and state agencies, organizations who may have an interest, etc.).

Public Hearings. Most projects will require a notified public hearing prior to approval of the project. This hearing usually follows environmental review. State law requires that all owners of real property located within 300 feet of the project receive notification of the hearing via mail at least 10 days prior to the hearing. The hearing notification must also be published in at least one paper of general circulation.

MSCP. The MSCP is a cooperative effort by the County of San Diego, other local jurisdictions, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. These public partners are working with various private landowners, conservation groups, community planning groups, developers and other stakeholders in assembling a habitat and open space preserve.

Implementation of the MSCP requires coordinated actions among the participating local jurisdictions, other take authorization holders, the wildlife agencies, and the private sector. The MSCP Plan establishes a framework for such action, while allowing each jurisdiction the flexibility to implement the MSCP through its own subarea plans and implementing agreements. The MSCP provides for sequential adoption of subarea plans by the jurisdictions or other take authorization holders. Subarea plans and implementing agreements are

also severable so that future actions or inactions of any one jurisdiction will not affect other take authorizations, except for the effects on the list of covered species and federal and state assurances that are specified in the subarea plans or implementing agreements.

Binational Vision Project for the Tijuana River Watershed. The County of San Diego, with support from numerous stakeholders within the watershed, has been given the responsibility of developing a Binational Vision (Vision) for the Tijuana River Watershed (Costa-Machado Water Act of 2000 – Proposition 13). This successful effort has brought together more than 40 representatives from both sides of the border, including representatives of academia, local agencies (including the three watershed Copermittees), state and federal agencies, non-profit organizations, labor groups, industry groups and interested individuals.

Tijuana River WURMP Workgroup. In order to implement the Tijuana River Watershed URMP, the watershed Copermittees continue communication with other jurisdictions and with the Tijuana River WURMP Workgroup (Workgroup).

15. Section 2.3.1 of Section II states that the draft Land Use Professional's Manual is to be available in spring 2004. If this document is available, please provide us with a copy and the date the document will be finalized. In addition, in your response to this letter, please clarify if planners within the Tijuana River watershed will be required to implement the manual, and if the manual will contain watershed-specific sections to ensure that planners are appropriately addressing the watershed-based water quality concerns of the Tijuana River watershed.

The Copermittees believe it is essential for land use professionals to thoroughly understand first, how land use development affects water quality, and second, why some tools are generally more effective than others at protecting water quality. During the 2003-2004 reporting period, the County of San Diego, in cooperation with the City of San Diego completed an internal draft Land Use Professional's Reference Manual (the Manual), as discussed in Section 2.3.1 of Section II of the FY 2002-03 Annual Report.

It is important to note that the document is not intended to be a policy document. The Manual was intended to provide educational materials for land use professionals (e.g. planners, engineers, architects, etc.), as well as decision makers, to assist them in identifying the major types of stormwater pollution, possible sources of stormwater pollution, the adverse impacts such pollutants have on the environment, and a listing of the tools

land use professionals have at their disposal to address development-related water quality issues. The Manual was intended to be a quick reference document for the land use professional. It was not intended to identify all possible pollutants found within a watershed, nor to identify the “best” structural Best Management Practice (BMP) for a specific development situation.

The internal draft was released to a select group of land use professionals, both within the County’s Department of Planning and Land Use and from the outside (e.g. consultants). The County received comments on the document in late January 2004. Based on the comments received, it was clear the Manual did not meet the needs of the land use professionals it was intended to assist, and was not the “quick reference” document it was originally intended to be. Further, it was apparent to all involved that the document needed a substantial overhaul in order to be useful for the planning community.

As a result of staffing changes at both the City and the County, and due to budgetary concerns, no additional work was completed on the Manual after the “peer review group” comments were received. Assuming staff availability and identification of an appropriate funding source(s), the Copermittees hope to revisit the Manual by Fall 2005. The City and the County are currently re-evaluating the scope of the Manual project, and are considering whether to hire a consultant team to move the project forward. However, no specific timeline has been identified for the completion of the project. The City and the County intend to seek grant funding in order to complete the project, although the specific costs for completing the project are unknown at this time. At such time as a draft of the Manual is made publicly available, copies of the document will be provided to the SDRWQCB Staff.

As indicated above, the document is not intended to be a policy document; it is merely a tool for training land use professionals to review projects with watershed concepts in mind. No specific jurisdiction will be required to implement the Manual. However, the Copermittees have agreed to utilize the Manual to train their respective planning staffs in watershed planning concepts.

16. Section 3.2 of Section II states that the Copermittees are focusing their education efforts on priority pollutants of concern that span several watersheds prior to focusing on watershed-specific pollutants. Please identify and describe the upcoming education efforts specifically within the

Tijuana River watershed that will be conducted for pollutants of concern that span several watersheds. Also please identify when education efforts on watershed-specific pollutants will begin in the Tijuana River watershed. Include information on the anticipated form, content, and location of the watershed-specific education efforts

As requested, watershed-specific education efforts are documented in the WURMP Annual Report. The outreach strategy for FY 2004-2005 and how it is to be specifically implemented within each watershed will be described in the Unified Document. The form and location of watershed-specific education efforts are subject to change from year to year and will be documented in future WURMP Annual Reports.

17. Please describe how data collection and analysis will be conducted using data from other existing data sources, such as coastal storm drain monitoring, ambient bay, lagoon, and coastal receiving water monitoring, citizen monitoring, outside agency and research institution monitoring, and Copermittee special investigations.

Since the Copermittees began to develop the individual WURMPs, we have been studying the utility of, and the mechanisms for, incorporating data sources outside of our historic and current Regional Wet Weather Monitoring Program. In this regard, we share the concern expressed by the Regional Water Quality Control Board in their comments. The Copermittees have developed a Watershed Data Assessment Framework document to specifically describe how data collection and analysis will be conducted using data from other existing data sources (such as ambient bay, lagoon, and coastal receiving water monitoring; citizen monitoring; outside agency monitoring; research monitoring; etc.).

The Copermittees developed the Framework document with the assistance of MEC Analytical Systems, Inc. /Weston Solutions, Inc. over a time period of more than 1 year. The final version was completed in June 2004 and made accessible to the public through the Project Clean Water Webpage:

(http://www.projectcleanwater.org/html/wg_monitoring_datawurmp.html).

The watershed data assessment strategy presented in the Framework document represents the current approach in San Diego County and closely resembles the "Model Storm Water Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California" developed by the Stormwater Monitoring Coalition's (SMC) Model Monitoring Technical Committee (2004). The Watershed Assessment

Framework document has been developed to be consistent with other San Diego region and statewide guidance documents.

The Copermittees intended that the Watershed Data Assessment Framework was intended to allow for uniform and consistent data assessment and management across watersheds in the County. One of the main goals of the document is to provide specific guidance as to how outside data can be incorporated into future watershed data assessments. The Framework document is designed to be adaptable to different circumstances in each watershed by describing the assessment strategy and providing an overview of the statistical tools available to conduct watershed data analyses.

The Framework document is designed to be a living document, and is expected to evolve as new scientific developments in watershed water quality assessment occur, and in response to changing regulatory requirements. The document details: the importance of defining core management questions; data quality standards for watershed data collection and testing; watershed data assessment methodologies; and lists the most commonly used statistical tools for watershed data assessment.

The Framework document may be used by individual watershed management groups to develop core management questions specific to the goals and needs of the stakeholders in the watershed. The data and information assessment guidance presented will assist the Copermittees in developing their action plans and watershed activities on a continuous basis. The assessment process starts with data selection and ends with action planning.

To augment the assessment of water quality, the Copermittees have begun to identify other monitoring programs (that collect data and perform analysis) to help answer core management questions. As the WURMP efforts move forward, data management is designed to make use of additional data sets, such as ambient bay, lagoon, and coastal receiving water monitoring; citizen monitoring; outside agency monitoring; research monitoring; and Copermittee special investigations.

18. Please describe how the concepts outlined in the Copermittee document titled "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs" will be used in assessing the

effectiveness of the Tijuana River Watershed Urban Runoff Management Plan.

While the October 2003 document, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs," does not explicitly address the application of effectiveness assessment principles or methods at the watershed level, the concepts presented in it were intended to be applicable at any geographic or programmatic scale. Since the completion of that document, the Copermittees have gained experience in applying these principles both jurisdictionally and by watershed. An important result of these efforts has been the realization that the selection and application of individual assessment approaches is very much dependent not only on the intended geographic scale of analysis, but also on the nature of the program element and specific activities subject to analysis. As such, watershed assessment currently has a very different emphasis than jurisdictional assessment, primarily because these activities are driven by water quality results to a much higher degree. This distinction should become less pronounced over time as the integration of these two management approaches continues, and therefore, as jurisdictional programs become increasingly tailored to water quality-driven priorities.

Activities conducted by watershed Copermittees may incorporate any of six hierarchical levels of targeted outcomes described in the Framework Document.

- Level 1: Compliance with Activity-Based Permit Requirements
- Level 2: Changes in Knowledge / Awareness
- Level 3: Behavioral Change / BMP Implementation
- Level 4: Load Reductions
- Level 5: Changes in Discharge Quality
- Level 6: Changes in Receiving Water Quality

For further discussion, these methods are divided into two groups. The first group (Levels 1, 2, and 3) includes Outcome Levels already applied to the assessment of activities identified in existing WURMPs and Annual Reports. The second group includes levels (4, 5, and 6) that the Copermittees anticipate will play an expanded role in future assessments.

1. Level 1, 2, and 3 Assessment

As a general rule, watershed-scale collaboration presents opportunities for two types of activity to which these outcome types can be applied. The first of these are the “Planned Actions” identified in individual WURMPs / WURMP Annual Reports. The second includes those for which Jurisdictional implementation of specific activities may be prescribed, reported, or assessed in response to established watershed priorities. Both types of activity address specific watershed concerns, but they differ in their respective approaches.

a. Planned Actions (or “Projects”; Permit Section J.2.d)

In the first years of Permit implementation WURMPs have primarily focused on the identification and implementation of “planned actions”, that is group activities or projects intended to complement or build upon work already being conducted at the jurisdictional level. The nature of these activities varies considerably, ranging from those intended to foster continued program refinement or development (e.g., “Bacterial Indicators Source Identification Project” or “Promote Trans-border Collaboration”), to specific and tangible projects to provide public education (e.g., “Integrated Pest Management Campaign”). By and large, these activities are assessed at Outcome Level 1, and in terms of actual completion (i.e., yes or no) or progress toward completion (i.e., completion of milestones or % complete for the entire activity or project). In other instances where a specific commitment has not been made, e.g., the activity is dependent on receiving grant funding, progress may not be quantifiable.

b. Strategies for Programmatic Refinement

The second set of activities includes those designed to redirect or refine existing Copermittee implementation strategies to address priority issues identified for the watershed. These activities may be conducted collectively or by individual Copermittees, but as a whole are intended to foster watershed-wide consistency of approach in addressing common issues and concerns. As required by the Permit, several types of program activity are specifically called out in the WURMPs.

- Public Participation (Permit section J.2.f)
- Watershed Education (Permit section J.2.g)
- Land Use Planning (Permit section J.2.h)
- Other Activities (generally to be determined in future years)

(1) Public Participation (Permit section J.2.f).

Each WURMP and corresponding Annual Report identifies the strategies that Copermittees have elected to implement, either individually, as a group, or both, to ensure that the public has sufficient opportunity to provide input into the development and ongoing implementation of WURMP activities. Public participation is generally assessed according to Level 1 outcomes, i.e. quantification of numbers of meeting attendees, people notified of meetings, etc. To some degree, Copermittees may also qualitatively describe how such public input has influenced the development of their programs. Outcome Levels 2 and 3 are not appropriate for assessing the public participation process because its objective is to incorporate, rather than change, the knowledge or behavior of participants. It is also important to note that evaluating trends in public participation may be of limited value, except, for example, to demonstrate increased participation in early years, or as a general indication that reasonable levels of participation are being sustained.

(2) Watershed Education (Permit section J.2.g)

Each WURMP also describes a strategy for conducting watershed education. Since each participating Copermittee already implements a jurisdictional education program, this element complements those efforts by refining the content and delivery of educational messages as they relate to a particular watershed and its priorities. It is important to note that while watershed education may be pursued through jointly funded and implemented programs, much of this activity is geared toward coordinating and integrating multiple, individual efforts into an effective whole. Considerable "overlap" should therefore be expected between activities conducted regionally, jurisdictionally, and by watershed. Effectiveness assessment should therefore focus on the degree to which this "mix" of activities presents a coherent and effective message for the particular watershed.

Outcomes Levels 1, 2, and 3 each have an important role to play in evaluating the success of watershed education. Level 1 Outcomes provide a general indication of the adequacy of the effort (# of events, number reached, etc.), while Levels 2 and 3 describe the degree to which targeted knowledge and behavioral changes are achieved and sustained. Jurisdictionally- and watershed-based surveys are the most straightforward and often used tools for establishing baselines and assessing these changes, but this may change as other valid approaches are identified and tested over time.

(3) Land Use Planning (Permit section J.2.h)

Each WURMP also includes a description of the methods that will be used to facilitate “watershed-based” land use planning, i.e., process or programmatic changes that will ensure that watershed principles and priorities are adequately considered during land use planning and decision-making processes (e.g., General Plan updates, CEQA reviews, project approvals). As with education, these activities are best assessed through a combination of measures at Outcome Levels 1,2, and 3. Examples of Level 1 Outcomes include the development of inter-jurisdictional agreements to share applicable information during CEQA review, the completion of reviews and/or revisions to individual General Plans, or providing watershed-specific training to land-use planning staff. As above, Level 1 Outcomes provide a good indication of the types and levels of effort expended toward this objective, but actual measures of changes in practice or the knowledge of staff tasked with land use reviews and decision-making should ultimately be sought. Such outcomes will likely have greater applicability as these program approaches continue to evolve.

(4) Other Activities (to be determined in future years)

While Copermittees have initially focused their efforts on types of activity explicitly called out in Permit Section J, WURMP priorities will increasingly play a role in refining the objectives of jurisdictional programs. Although this will naturally result in changes to the nature or “mix” of jurisdictional activities implemented, the types of outcomes and measures to be used in their assessment should be very similar to those described above.

2. Level 4, 5, and 6 Assessment

Future assessments will likely place a heavier emphasis on Level 4 (Load Reductions), Level 5 (Changes in Discharge Quality), and Level 6 (Changes in Receiving Water Quality) Outcomes. The Copermittees’ first Long-term Effectiveness Assessment, to be completed in August 2005, will represent their first attempt to address these three levels in detail. While the report will specifically include watershed-level analysis, it is not expected that results will be especially instructive or conclusive since most available data sets are limited to less than three years. Moreover, the Copermittees have little experience in attempting to correlate water quality results to program implementation, and there is little in the way of

applicable guidance for doing so. To the extent that specific activities can be translated to load reductions, Level 4 analysis may be the most fruitful of the three Outcome Levels. The continued improvement of Level 4 approaches depends in great part in the concurrent refinement of data management capabilities to support these objectives. The August 2005 report should be especially helpful in mapping out future approaches because working through load reduction estimates as a group will allow the Copermittees to pool their available data, as well as their collective knowledge and experience. Likewise, this experience should also aid in fine-tuning general approaches to exploring the relationship of programmatic and water quality outcomes. Results of the report will therefore describe the most up-to-date Copermittee thoughts on how these three Outcome Levels can best be incorporated into future watershed assessments.

- 19. *As the Tijuana River watershed program develops and changes, the WURMP should be amended to reflect those changes. New education activities, planning activities, water quality activities, etc. should be added to the WURMP, while discontinued activities should be removed. Please provide updated WURMP sections which have been amended in order to reflect changes to the Tijuana River watershed program.***

The Copermittees agree with the Commenter that the WURMPs should be a living document, with the program adapting based on new developments and information. As indicated previously, it is important to note that SDRWQCB staff commented on the first annual report, which covered a limited, four (4) month implementation period. In that Annual Report, no specific changes were made to the Programs given the limited amount implementation time.

As more information has become available, the WURMPs themselves have been modified. Further, the Copermittees will continue to modify and re-focus their programs, as appropriate, on specific watershed issues.

The FY 2003-2004 Annual Report for the Tijuana River Watershed will include a summary of the updated WURMP sections that have been amended in order to reflect changes to the Tijuana River watershed program.

Concluding Comments

The County of San Diego appreciates the opportunity to provide the SDRWQCB Staff with clarifications regarding our implemented watershed program in compliance with the

requirements of Order 2001-01. If there are any questions regarding these responses, the Tijuana WURMP, or any of the Tijuana River Annual Reports, please contact Ms. Kelly Barker with the Department of Planning and Land Use Watershed Planning Program at (858) 694-2482, or by email at kelly.barker@sdcounty.ca.gov.



County of San Diego

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1600 PACIFIC HIGHWAY, SAN DIEGO, CALIFORNIA 92101-2472

January 31, 2005

RE: STATEMENT OF CERTIFICATION
Directive Issued pursuant to California Water Code Section 13267 for
Information on Implementation of the Tijuana River Watershed Urban
Runoff Management Program

I certify under penalty of law that the Technical Responses to the Directive Issued pursuant to California Water Code Section 13267 for the Tijuana River watershed was 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 knowingly submitting false information, including the possibility of fine and imprisonment for knowing violations.

A handwritten signature in black ink, appearing to read "R. Copper", written over a horizontal line.

ROBERT R. COPPER
Deputy Chief Administrative Officer
County of San Diego

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