



SANTA MARGARITA RIVER WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

FY 2003-2004 ANNUAL REPORT



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Prepared by

County of San Diego
Land Use and Environment Group

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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CERTIFIED STATEMENT(S)

Section M.3 (Universal Reporting Requirements) of the Municipal Permit directs the Copermittees to submit a signed certified statement for their individual Watershed Urban Runoff Management Program Annual Report(s). A signed certification statement for the County of San Diego (as sole Copermittee in the Santa Margarita Watershed) is located in Appendix A of this report.

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

This Annual Report represents the efforts of the County of San Diego during the Fiscal Year (FY) 2003/04 reporting period to develop and implement the Santa Margarita River (SMR) Watershed Urban Runoff Management Program (SMR Watershed URMP). Although the SMR Watershed encompasses a region that includes the incorporated cities of Temecula and Murrieta, the Fallbrook Naval Weapons Station, a portion of U.S. Marine Corps Base Camp Pendleton, and a portion of the unincorporated County of Riverside, as well as the County of San Diego, only the County of San Diego is a Copermittee under the Municipal Stormwater Permit Order Number 2001-01 (Municipal Permit). As such, this report, as well as other documents prepared as part of the Watershed URMP for the SMR, only addresses those activities and programs conducted by the County of San Diego under the Municipal Permit.

2.0 PROGRAM HIGHLIGHTS

Between July 2003 and June 2004, the County of San Diego made significant progress in developing and implementing programs aimed at improving surface stormwater quality in the lower reaches of the watershed. In addition, the County has made an effort to go above and beyond the requirements of the Municipal Permit to work with the jurisdictions in the upper reaches of the watershed to assist them in implementing programs, which are compatible with the goals and objectives of the Watershed URMP. A few of the highlights of this Program are found below:

- The SMR Watershed Management Plan. During the reporting period, the County of San Diego has continued to lead watershed-planning efforts conducted under funding from the State Water Resources Control Board, under the Costa-Machado Clean Water Act of 2000 (Proposition 13). Working with key stakeholders throughout the watershed, the County of San Diego is preparing a watershed management plan which will address long range plans for improvement of water quality, protection of habitat, water distribution and supply, and other related issues, and lay the foundation for future work by stakeholders in this area. The Draft Watershed Management Plan and Final Redrafted WMP are expected to be complete during the next reporting period.
- Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program. The County of San Diego has continued to take a leadership role in the development of the Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program; a modeling and monitoring program that encompasses the entire watershed. This project, under development through an agreement with the Bureau of Reclamation, US Marine Corps and several water districts within the Santa Margarita River, seeks to address issues relating to water quality and quantity in the surface and groundwater – especially as they relate to total maximum daily load (TMDL) development and assimilative capacity of the watershed. During this Reporting Period, the Program Participants (including the County of San Diego) met monthly to discuss issues relating to the development of a preliminary model to address the water quality issues and evaluate the effectiveness of the model for determining the assimilative capacity of the Santa Margarita River of the Program, and other topics related to the health of the Santa Margarita River Watershed.

- Implementation of the Lower Santa Margarita Watershed Survey. The County of San Diego, as sole Copermittee in the SMR Watershed, has developed and conducted public awareness surveys in order to develop effective public education programs founded upon community-based data. These surveys measure baseline knowledge of pollution prevention/source reduction activities in the watershed communities. The surveys were divided into three essential information components: behavioral, attitudinal, and knowledge/awareness. The County chose a scientifically valid telephone random sample survey (stratified by watershed). In the SMR Watershed Survey sampling was conducted in a single zip code (92018), which includes some residents of the San Luis Rey watershed. Due to the use of Random Digit Dial sampling protocol, it is impossible to segregate residents between these two watersheds. Due to the proximity of the residents in the unincorporated portions of these two watersheds, it is assumed that these residents share similar knowledge and awareness, attitudes and preferences, and behavior. The survey results are summarized in Section 2 of this Annual Report.

Above all, the SMR Watershed URMP and Annual Reports should be considered part of overall program development. The County feels strongly that it has 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 County continues to develop a better understanding of the complex issues affecting the SMR Watershed.

SECTION I - INTRODUCTION

1.0 PROGRAM APPROACH

In broad terms, the overall purpose of the SMR Watershed URMP is to address the surface stormwater quality issues and any degradation ongoing within the SMR Watershed. Fundamental to both establishing specific Watershed URMP goals and measuring achievement, is the understanding that long-term solutions to water quality issues will be more effective if the issues are correctly and comprehensively identified and characterized. Based upon the proper identification and targeted characterization, true “watershed-approach” solutions can in fact then be applied.

In order for a plan to be successful, clear goals and objectives must first be established and implemented by the County of San Diego (as sole Copermittee in the watershed). Otherwise, program activities and tasks could be adopted without an understandable purpose or clear direction. The following provides the program goal of the Watershed URMP and specific objectives that the County of San Diego will strive to meet as part of this effort.

TO POSITIVELY AFFECT THE WATER QUALITY OF THE SMR 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.

As outlined in the Watershed URMP, specific activities and programs have been identified in an effort to meet these objectives. The County of San Diego recognizes that it faces several significant challenges in developing and implementing this program. Further, the County considers this watershed based effort to be in its infancy and expect this program will be refined and augmented over the long term as a better understanding is gained of the complex issues affecting the watershed. Further, the County anticipates refinements and augmentation to occur in the program as joint opportunities to positively affect the water quality in the region are identified and pursued.

3.0 MUNICIPAL PERMIT REQUIREMENTS

Section M of the Municipal Permit requires that the watershed Copermittees within each watershed collaborate in developing a Watershed URMP Annual Report. Since the County of San Diego is the sole Copermittee within the watershed, the annual report is a documentation of the activities conducted by the County of San Diego during the previous annual reporting period to meet the requirements of all

components of the Watershed URMP section of the Municipal Permit. In accordance with the Municipal Permit, each Watershed URMP Annual Report contains, at a minimum, the following information:

- Comprehensive description of all activities conducted by the watershed member Copermittees. This requirement is addressed within Sections 1, 2, 3, 4, and 5 of this report.
- Public participation mechanisms utilized during the Watershed URMP implementation process. This requirement is addressed within Section 2 of this report.
- Mechanism for watershed based land use planning. This requirement is addressed within Section 2 of this report.
- Assessment of effectiveness of Watershed URMP. This requirement is addressed within Section 4 of this report.
- Proposed revisions to the Watershed URMP. This requirement is addressed within Section 5 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 2 of this report.
- Identification of water quality improvements or degradation. This requirement is addressed within Section 3 of this report.

The County of San Diego, as sole Copermittee in the Santa Margarita River Watershed, has successfully implemented all of the permit requirements to date. The reporting period for the Annual Reports must cover the previous fiscal year, and as such, this 2003/2004 Watershed URMP Annual Report covers the reporting period July 1, 2003 to June 30, 2004.

4.0 ORGANIZATION AND CONTENT OF THE REPORT

The Santa Margarita River Annual Report describes the watershed activities conducted by the County of San Diego during the FY 2003-2004 reporting period. This year's Annual Report was significantly revised to address the Regional Water Quality Control Board's (Regional Board) comments presented in the October 1, 2004 letter. The Regional Board's comments and the County's responses can be found as an Appendix of this Annual Report (Appendix B). As a group, the Municipal Permit Copermittees have reviewed the Regional Board's comment regarding the use of "boilerplate" text and collectively decided to move much of the "boilerplate" text and regional watershed activities to the Common Activities Annual Report. All implementation sections and text that are directly related to the Santa Margarita River watershed are included in the Santa Margarita River WURMP Annual Report, with appropriate references to the Common Activities Section of the Unified Document (as necessary).

In addition, the Copermittees have endeavored to stay close to the organization requirements of the Municipal Permit as possible. However, in some instances, the Copermittees felt that it made sense to consolidate sub-sections that are logically addressed together. Also, some activities covered multiple Municipal Permit requirements. To avoid unnecessary duplications and to simplify the annual report, any activity covering multiple requirements will only be discussed in the most relevant section of the annual report. The structure of the Annual Report is as follows:

- SECTION 1. Section 1 of the Annual Report provides a summary of the program approach to improving water quality, the regulatory requirements that the Copermittees must meet and a general overview of the organization and content of the report.
- SECTION 2. Section III of the SMR Watershed URMP (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 2 of the Annual Report provides a status report of the work completed on these activities and programs.
- SECTION 3. In our effort to assess the effects of urban runoff on receiving waters, 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. Section 3 of the Annual Report is designed to summarize the quality of the water in the SMR Watershed based upon data that was collected and analyzed between October 2001 and June 2004.
- SECTION 4. Section 4 provides an initial assessment of the implementation and effectiveness of the SMR Watershed URMP for the period of July 2003 and 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 5. Section 5 provides a summary conclusion of the Annual Report and makes recommendations for improving future reporting efforts.
- SECTION 6. Section 6 provides references used in this Annual Report.

SECTION 2 – IMPLEMENTATION

As required by the Municipal Permit, Copermittees with land use authority within each watershed were tasked with developing and implementing a watershed-based stormwater management plan. As discussed above, although the Santa Margarita River Watershed covers an area of land that contains all, or portions of several jurisdictions, the County of San Diego is the only jurisdiction with the Santa Margarita River Watershed that is a Copermittee under the Municipal Permit. As such, the County of San Diego is tasked with implementation of this Program.

To accomplish this task, the County has made a concerted effort to meet, on a regular basis, with the other jurisdictions with land use authority in the watershed, including: the U.S. Marine Corps Base Camp Pendleton, the U.S. Bureau of Reclamation, the City of Temecula, and the County of Riverside. This has been done principally as part of the County of San Diego Watershed Management Plan efforts under the grant received as part of the Costa-Machado Clean Water Act of 2000 (Proposition 13), and through other workgroups in the watershed. However, recognizing the need to coordinate efforts between the jurisdictions, regardless of Copermittee “status”, has been a priority for the County of San Diego.

Section III (Plan of Action) of the SMR Watershed URMP includes several activities the County of San Diego (as sole Copermittee) has implemented or intends to implement over the remaining life of the Municipal Permit in an effort to meet the four primary objectives of the program, which are:

- 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

This section summarizes the activities identified in the Watershed URMP and describes the actions taken by the Copermittees during the FY 2003-04 reporting period. Table 1, below, presents an overall list of the activities being conducted within the Santa Margarita Watershed. It should be noted that some activities have multi-faceted implementation strategies and include multiple program components (i.e. development of a monitoring program coupled with an educational outreach campaign. As, such the specifics of those activities may be discussed in multiple areas in this section. Furthermore, Table 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 Regional Board 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 Santa Margarita River Watershed have been moved to the Unified Document and noted in the appropriate sections of this report. The revisions to this section provide a concise format and outline how the Santa Margarita River Watershed Copermittees are complying with the permit requirements.

Table 1: Complete List of Water Quality Activities by Section

	WURMP Activity	Classification	Section for Discussion	Constituents of Concern
Water Quality Activities	Regional Integrated Pest Control Management Campaign	Revised*	Section 2, 3.2.4	Fertilizer, Pesticides: Diazinon, Chlorpyrifos, Malathion
	Data Collection and Management	Revised*	Section 2, 1.1 below	All*
	Standard Urban Storm Water Mitigation Plan (SUSMP)	WURMP Activity	Individual JURMPs	Sediment, Bacterial Indicators
	Water quality monitoring programs, determinations of possible sources, and reduction or elimination of the source	WURMP Activity	Section 3	All*
	Nutrient Management and Reduction Plan (NMRP)	WURMP Activity	Section 2, 1.2	Nutrients/phosphorous and TDS
	Rainbow Creek Total Maximum Daily Load (TMDL) Development	New	Section 2, 1.2	Nitrogen and phosphorous
	Santa Margarita Ecological Reserve (SMER) Remote Sensing Project	WURMP Activity	Section 2, 1.3.2	Potentially all*
	Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program	WURMP Activity	Section 2, 1.3.3	Potentially all*
Public Participation	Project Clean Water	WURMP Activity	Section 2, 4.3	Potentially all*
	Santa Margarita Project Website	New	Section 2, 4.4	Potentially all*
	Integration and Participation in Local Planning Activities	WURMP Activity	Section 2, 4.2	Potentially all*
	Stormwater Copermittee Collaboration and Community Workshops	WURMP Activity	Section 2, 4.1	Potentially all*
	Discretionary Project Review Process	WURMP Activity	Section 2, 2.2	Potentially all*
	Direct Interaction	WURMP Activity	Section 2, 4.5	Potentially all*
Educational Activities	Public Presentations and Media/Watershed Element	WURMP Activity	Section 2, 3.2	Potentially all*
	De Luz Ecology Center	WURMP Activity	Section 2, 3.2.3	Potentially all*
	Target Pollutants and Sources of Concern	WURMP Activity	Section 2, 3.2.8	All*
	Partners in Clean Water	WURMP Activity	Section 2, 3.2.9	Potentially all*
	Integrated Pest Management Campaign	Revised	Section 2, 3.2.4	Fertilizer, Pesticides: Diazinon, Chlorpyrifos, Malathion
	Project Clean Water	WURMP Activity	Section 2, 4.3	Potentially all*
	Community Events	WURMP Activity	Section 2, 3.2.10	Potentially all*
	Regional Watershed Poster	WURMP Activity	Section 2, 3.2.6	Potentially all*
	Watershed Surveys	New	Section 2, 3.1	Pesticides, bacteria, nutrients
Agricultural Water Quality Program	New	Section 2, 3.2.2	Sediment, Nitrate, Fertilizers, Pesticides, Diazinon, Chlorpyrifos, Malathion, bacteria	

	WURMP Activity	Classification	Section for Discussion	Constituents of Concern
Planning Activities	General Plan Updates	WURMP Activity	Section 2, 2.1.1	All*
	Current Inter-Jurisdictional Planning Collaborative Mechanisms	WURMP Activity	Section 2, 2.2	All*
	Watershed-based Water Quality Assessment, Information Sharing, and Jurisdictional Planning	WURMP Activity	Section 2, 2.3.1	Potentially all*
	Santa Margarita Watershed Management Plan	WURMP Activity	Section 2, 2.3.2	All*
	The Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program	WURMP Activity	Section 2, 1.3.3	Potentially all*
	Multiple Species Conservation Plan (MSCP)	New	Common Activities Section I.B.3.e of the Unified Annual Report	All*
Special Investigations	Nutrient Management and Reduction Plan (NMRP)	WURMP Activity	Section 2, 1.2	Nutrients/phosphorous and TDS
	Rainbow Creek Total Maximum Daily Load (TMDL) Development	New	Section 2, 1.2	Nitrogen and phosphorous
	Santa Margarita Ecological Reserve (SMER) Remote Sensing Project	WURMP Activity	Section 2, 1.3.2	Potentially all*
	Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program	WURMP Activity	Section 2, 1.3.3	Potentially all*

* Please refer to Table 28 in Section III for the list of Constituents of Concern and Table 27 for their priority level within the Santa Margarita River Watershed.

1.0 WATER QUALITY ACTIVITIES

Water quality activities identified in the first chapter of the Plan of Action 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 priority pollutants, 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 in order to provide a concise summary of water quality activities. 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: FY 2003-04 Implementation Efforts for WURMP Water Quality Activities

Water Quality Activity	Short and/or Long Term	Work Implemented during FY 03-04	Constituent of Concern addressed	Likely sources addressed	Implementation Schedule
Data Analysis and Management Project	Short Term	Data from Dry Weather Monitoring, Ambient Bay and Lagoon Monitoring, and Home 2 Ocean were incorporated into the 03-04 watershed assessments	All		Ongoing annually Completed for 03-04
	Short and Long Term	Guidelines for assessing data sets were developed	All		Completed
Regional IPM Campaign – PRISM Grant	Short and Long Term	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	SUSMP implementation is still required for designated priority projects in each jurisdiction	Turbidity/TSS	Construction sites, New Development/Redevelopment	Ongoing
Nutrient Management and Reduction Plan (NRMP)	Short and Long Term	October 2003 - Submitted a full proposal for the Rainbow Creek NRMP Concept proposal under the 319(h) Grant Program	Nutrients/phosphorous and TDS	Residential and Commercial Applications	Completed
		March 2004- Submitted additional revisions for the Rainbow Creek NRMP Concept Proposal under the 319(h) Grant Program	Nutrients/phosphorous and TDS	Residential and Commercial Applications	Completed
		August 2004 – 319(h) grant was awarded	Nutrients/phosphorous and TDS	Residential and Commercial Applications	On-going
Rainbow Creek TMDL Development	Short and Long Term	The Rainbow Creek TMDL remained in draft form. Once the Regional Board releases the re-drafted TMDL, the County will work closely to complete the development of the implementation chapter for this TMDL.	Nitrogen and phosphorous	Residential and Commercial Applications	On-going
SMER Remote Sensing Project	Short and Long Term	Severe cuts in staff and limits on available funding precluded County staff from pursuing this project.	Potentially all*		
The Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program	Short and Long Term	Program participants continued to meet monthly	Potentially all*		

* Please refer to Table 28 in Section III for the list of Constituents of Concern and Table 27 for their priority level within the Santa Margarita River Watershed.

1.1 Data Analysis and Management Project

A valid and comprehensive baseline assessment is imperative to quantify changes in water quality, and is the driving force behind responsible management decisions. To this end, each Watershed URMP was given the same activity, which was to develop a comprehensive water quality data management system for their watershed. Please refer to the Common Activities Section I.B.3.f of the Unified Annual Report for an update on the regional efforts for this activity.

An effort that has applicability to the WURMP is the Watershed Management Plan for the Santa Margarita River Watershed (SMRWMP) currently being developed by the County of San Diego, and funded in part by the Costa-Machado Water Act of 2000 (Proposition 13). The SMRWMP is in the final stages of development. Included in this scope of work are a watershed analysis report, a watershed resource inventory, and watershed management goals and strategies report. Of special interest is the watershed analysis report that was completed during this reporting period. For this report, data was collected and compiled into a geographical information system (GIS) compatible database and plots and figures were generated. The data includes surface and subsurface water quality, ecology and habitat, hydraulics and hydrology and a prioritization of beneficial uses within the entire watershed. The County anticipates the use of the data obtained as part of this effort in future analyses conducted under the WURMP.

In addition, future efforts in the collection and analysis of water quality data will include San Diego Regional Water Quality Control Board Surface Water Ambient Monitoring Program (SWAMP) data, year-round monitoring data collected by the County of San Diego at strategic location within the watershed, and through partnerships with Riverside County Flood Control, Camp Pendleton, Local water districts and United States Bureau of Reclamation.

1.2 Activities Related to SMR Eutrophic Waterbodies

As discussed in the FY 2002-2003 Annual Report, four waterbodies within the Santa Margarita Watershed have been identified as eutrophic, and/or identified as having excessive levels of nutrients (nitrogen and phosphorus). Two of these waterbodies, Santa Margarita Lagoon and Rainbow Creek are located entirely within San Diego County.

1.2.1 *Santa Margarita Lagoon*

The Santa Margarita Lagoon resides within the jurisdiction of the Federal Government at the Marine Corps Base Camp Pendleton. County of San Diego staff contacted representatives of the Camp Pendleton Water Quality Program to determine if any efforts had been initiated in the Santa Margarita Lagoon area. Due to wartime efforts no progress has been made to date. The County of San Diego Watershed Protection Program will continue to attempt to inquire and report on any progress made to better define the water quality problems as they relate to the nutrients in the Lagoon.

1.2.2 *Rainbow Creek*

The County of San Diego Watershed Protection Program has been involved in the initiation/development of several projects and programs to address nutrification in Rainbow

Creek. The County of San Diego is committed to improving water quality in Rainbow Creek and anticipates working as the coordinating agency to bring all the available resources together to address the issue.

Rainbow Creek TMDL Development

During the previous reporting period (FY2002-2003), the Regional Board conducted a public hearing to consider amending the Basin Plan to include the Nutrient Total Maximum Daily Load (TMDL) and implementation plan. Public testimony was taken at the hearing and the Regional Board requested that additional time be given to the project to revise the staff report in response to public comments and to wait for the 2002 303(d) List Update to be adopted by the State Water Resources Control Board (SWRCB) and U.S. EPA. The 2002 303(d) List Update, approved by SWRCB in February 2003 and U.S. EPA in June 2003, revised the Rainbow Creek listing from a condition-based listing (eutrophic condition) to a pollutant-based listing (nitrogen and phosphorus).

During the FY 2003-2004 reporting period, the Rainbow Creek TMDL remained in draft form. Once the Regional Board releases the re-drafted TMDL, the County will work closely to complete the development of the implementation chapter for this TMDL.

Nutrient Reduction and Management Plan (NRMP)

As reported in the FY2002-2003 SMR WURMP Annual Report, in April 2003, the County submitted two concept proposals to the 2003 Consolidated Watershed Protection and Non-point Source Pollution Control Grants Program for the Santa Margarita Watershed. A proposal for Nutrient Reduction and TDS Management Plan for the Santa Margarita Watershed was submitted for Proposition 13 and 50 grant funds and a proposal for Nutrient Reduction in Rainbow Creek for 319(h) grant funds (included as attachments to this Annual Report). The County of San Diego was invited to submit a full proposal for the Rainbow Creek NRMP concept proposal under the 319(h) Grant Program.

The County of San Diego Watershed Protection Program Rainbow Creek Workgroup, made up of staff from the Department of Public Works, Department of Planning and Land Use, Department of Agriculture Weights and Measures, and the Office of County Counsel, met in October 2003 to discuss the full proposal. As a result of work of staff from these departments, the full proposal was developed and submitted in October 2003, with additional revisions made and submitted in March 2004. During the FY 2003-2004 Reporting Period, no additional news was received during this reporting period regarding the proposal.

It should be noted that a 319(h) grant was awarded to the County in August 2004, and, as such, progress on the grant will be included as a discussion item in the FY2004-2005 WURMP Annual Report, which will be submitted in January 2006.\

1.3 Activities Addressing "Medium" and "Low" Priority Issues

As indicated in the Santa Margarita River Watershed URMP, the County identified activities that went beyond the scope of the requirements of the Municipal Permit. These activities addressed issues not identified as "High" Priority Issues, and the County of San Diego committed to implementing these activities given available funding and staffing. The following provides a discussion of the status of these additional activities, which go beyond the scope of the requirements of the Municipal Permit.

1.3.1 *Regional Integrative Pest Management Campaign*

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

1.3.2 *SMER Remote Sensing Project*

The County of San Diego continues to work with staff and researches associated with the Santa Margarita Ecological Reserve (SMER) to examine how the SMER-developed technologies, including broadband, remote sensing systems can be best used to facilitate data collection within the watershed. As discussed in the FY 2002-2003 Annual Report, the County was examining the development of a small-scale pilot test of the SMER-developed technology. As also indicated in the FY2002-2003 Annual Report, deployment of such technology on any scale would be solely depended on the availability on funding and resource availability. During FY 2003-2004 severe cuts in staff and limits on available funding precluded County staff from pursuing this project. As such, no specific progress can be reported.

The County of San Diego continues to believe that the long-term application of this program could facilitate the long-term assessment of the watershed management strategies. Further, the County hopes to implement a small-scale pilot test of the system, prior to deploying such technology on a broader scale in the near-term. The County will continue to work with SMER, and other appropriate research institutions, to identify methods to improve long-term assessment methods using technological advances.

1.3.3 *The Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program*

As indicated in the Watershed URMP, the County of San Diego will continue to be involved with the development of the Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program; a modeling and monitoring program that encompasses the entire watershed. This project is being developed under an agreement with the Bureau of Reclamation, US Marine Corps and several water districts within the Santa Margarita River. With this program, issues relating to water quality and quantity in the surface and groundwater can be identified. Furthermore, the water quality modeling effort can address issues relating to total maximum daily load (TMDL) development and assimilative capacity.

During this Reporting Period, the Program Participants (including the County of San Diego) continued to meet monthly to discuss issues relating to the development of the Program, and other topics related to the health of the Santa Margarita River Watershed.

The County of San Diego was given the opportunity to work with the SMR EMT group as a sounding board for issues relating to the development of the Watershed URMP, as well as the Watershed Management Plan under preparation by the County for the Santa Margarita River. The County of San Diego will continue to remain involved with the project either as a funding partner, or simply as an affected party, depending on funding and staff availability.

2.0 LAND USE PLANNING ACTIVITIES

The Land Use Planning Context & Processes section of the Santa Margarita 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 Santa Margarita 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 General Plan Elements and Community Plans.

One foundation of the Land Use Element is the land-use designation map. At the present time, County Staff has completed the residential portion of this map and are working on the commercial and industrial land use designations, including the related portions of the Land Use Element. Once the Land Use Element is complete, the County will focus their work on revising the remaining elements required under state law.

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.

Given the size and scope of the general plan update effort, these activities have taken much longer than originally planned. At this time, the County anticipates that drafts of the elements would be available in Summer 2005. 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 Other Jurisdictions within the SMR Watershed

As indicated above, the Municipal Permit only identifies the County of San Diego as a Copermittee within the Santa Margarita Watershed. Further, the County's jurisdiction covers approximately 19% of the total area of the watershed (see Table 3). Efforts are underway, however, to facilitate such collaborative watershed-based land use planning with neighboring local governments and other stakeholders within the watershed. This cooperative effort is specifically discussed in Section 6.c. of the Watershed URMP.

Table 3: Percentage of Watershed by Major Jurisdiction

Jurisdiction	Acreage	% of Watershed
County of San Diego	89,838	18.9%
County of Riverside and Incorporated Cities within Riverside County (Murrieta & Temecula)	348,885	73.4%
U.S. Military Installations (Marines Corps Base Camp Pendleton and Fallbrook Naval Weapons Station)	36,703	7.7%
TOTALS	475,426	100%

While the San Diego Municipal Permit covers that portion of the SMR watershed located in San Diego County, the Riverside County, Santa Margarita Watershed, MS4 Permit Order Number 98-02 (Riverside Municipal Permit) covers that portion of the SMR watershed located in Riverside County. The Riverside Municipal Permit expired on November 30, 2003.

A draft of the revised Riverside Municipal Permit, which closely resembles the San Diego Municipal Permit, was issued on December 15, 2003. The Regional Board issued a public notice on December 20, 2003 in the Press-Enterprise, notifying the public that written comments on the document would be taken until March 10, 2004. On February 11, 2004, the Regional Board took testimony on the Riverside Municipal Permit. In addition, a public workshop was held on January 23, 2004 at the City of Temecula. Although not a part of the Riverside Municipal Permit, the County of San Diego attended the public workshop, and provided comments to the Regional Board staff at the workshop.

Written responses to the public comments on the new permit were issued on May 7, 2004. As of the close of the reporting period of this Annual Report, the new Riverside Municipal Permit had not been adopted.

It should be noted that the Regional Board adopted the new Riverside Municipal Permit (Order R9-2004-001) in July 2004. Although not required under the San Diego Municipal Permit, the County of San Diego will continue to work with the Copermittees in the Riverside portion of the Santa Margarita on issues of concern in the Watershed, including the potential for coordinating monitoring efforts under the two permits.

2.2 Current Inter-Jurisdictional Planning Collaborative Mechanism

Before certain discretionary projects are built, development proposals must be reviewed for conformance with local regulations, environmental effects and public testimony. Generally speaking, such review is conducted by all jurisdictions (there may be minor procedural differences between municipalities, but the review process is basically the same). In order to get a better feel for the planning process, the following sections briefly describe the inter-jurisdictional planning collaborative mechanism. It should be noted that the following is a general synopsis of the entitlement process and does not get into program specifics. Please refer to the County of San Diego JURMP for detail on new and redevelopment project processing requirements.

***Table 4: Inter-jurisdictional Planning Mechanisms
Used in the Santa Margarita River Watershed***

Inter-Jurisdictional Planning Mechanism	Short Term or Long Term	Location
Memorandum of Understanding (1991)	Long Term	Common Activities Section I.B.3.e and Section 2.2.1 below
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 and Section 2.2.2 below
Public Hearings	Long Term	Common Activities Section I.B.3.e and Section 2.2.3 below
The Multiple Species Conservation Program	Long Term	Common Activities Section I.B.3.e
Santa Margarita Watershed Management Plan	Short and Long Term	Section 2.3.2 below
Water Quality Assessment, Information sharing, and Jurisdictional Planning	Short and Long Term	Section 2.3.1 below

2.2.1 *Memorandum of Understanding*

The County of San Diego is currently working with the County of Riverside and the incorporated cities within the Santa Margarita River Watershed to coordinate cooperation within the watershed. At this time, no MOU has been adopted or pursued with jurisdictions within the Santa Margarita River Watershed that are outside the boundaries of the County of San Diego. As such, no specific mechanism, outside the notification procedures used during the California Environmental Quality Act process, has been developed to coordinate review by jurisdictions within the County of Riverside. Such an agreement may result in time.

2.2.2 California Environmental Quality Act

As part of its standard procedures, the County of San Diego routinely notifies adjacent jurisdictions (including the County of Riverside) of any project within 1 mile of its boundaries, or which “may substantially affect” that jurisdiction.

2.2.3 Public Hearings

For the SMR Watershed, five (5) proposed SUSMP projects went through the review process prior to being approved by the County of San Diego.

2.3 Watershed-Based Land Use Planning Mechanisms

The County of San Diego began the process of development of a system of practices to facilitate the integration of watershed data and information into the land use decision-making processes several years ago. The County recognizes that planning is an integral part in reducing pollutant levels resulting from new and redevelopment projects. As little new information on water quality was available during this reporting period, efforts have been largely targeted on staff training and education. The amount and type of training conducted can be found within each jurisdiction’s Jurisdictional URMP document. Additional watershed based planning efforts currently going on within the watershed include the following.

- Watershed-Based Water Quality Assessment, Information Sharing and Jurisdictional Planning
- The Santa Margarita Proposition 13 Watershed Management Plan
- Formal Agreement between Jurisdictions
- Additional Watershed Planning Activities

2.3.1 Watershed-based Water Quality Assessment, Information Sharing and Jurisdictional Planning

As stated in the SMR Watershed URMP, the County of San Diego is considering the role of land use planning during the development of the overall control strategies for 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 County of San Diego continues to work with its planning department to develop a system of practices to facilitate the integration of watershed data and information into the land use decision-making processes. The County recognizes that planning is an integral part in reducing pollutant levels resulting from new and redevelopment projects. The County’s efforts have continued to be largely targeted on staff training and education. The amount and type of internal training can be found within the County’s JURMP Annual Report.

Furthermore, as stated in the FY 2002-03 Annual Report, to assist in the education of land use professionals, the County of San Diego, in cooperation with the City of San Diego, began 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 received during internal review, and limitations on staffing and budget, no further work was completed on the Manual. Please refer to the Common Activities section of the Unified Annual Report for a complete discussion of the progress on the Manual.

2.3.2 Santa Margarita River Watershed Proposition 13 Watershed Management Plan

As indicated in the Watershed URMP, as part of efforts pursued under Costa-Machado Water Act of 2000 (Proposition 13) for watershed planning and other water quality projects, the County of San Diego with support from numerous stakeholders within the watershed, have been given the responsibility of developing a comprehensive watershed management plan for the Santa Margarita Watershed (SWRCB Contract #02-040-259-0). The plan components include developing a watershed management workgroup, stakeholder database development, watershed resource inventory, watershed analysis, management goals and strategies and ultimately, the watershed management plan (WMP). As part of the long and short-term strategies that will eventually be developed as part of the management plan, the feasibility of developing a mechanism to facilitate land use planning will be examined in order to potentially provide a vehicle in which the jurisdictions can work together to adopt the goals and polices outlined in the watershed management plan.

During the Reporting Period from July 1, 2003 to June 30, 2004, the County of San Diego continued the preparation of this stakeholder-guided WMP. Efforts by the County focused on stakeholder outreach, development of goals and strategies for the plan, identification of resources, and completion of the Watershed Analysis Report

Given the history of watershed planning efforts within the Santa Margarita Watershed, the County, and its subcontractors, continue to focus attention on developing and maintaining solid working relationships with key stakeholders within the watershed, including the County of Riverside, the U.S. Marine Corps, the U.S. Bureau of Reclamation, the U.S. Department of Forestry, the Santa Margarita Office of the Water Master, and the City of Temecula. The County of San Diego has committed to developing this WMP with the input of those agencies and organizations that have land use authority with in the watershed.

Quarterly and Monthly stakeholder workshops were held in the City of Temecula and the Community of Fallbrook to present information relating the WMP, and email groups have been utilized to allow email updates on a regular basis. In addition, the County of San Diego continues to use the project website to ensure the fastest dissemination of information to the stakeholder group. The website (www.SantaMargaritaProject.org) contains copies of all project deliverables, meeting minutes, meeting agenda, and other information important keeping stakeholders abreast of happenings within the watershed.

The Draft Watershed Management Plan and Final Redrafted WMP are expected to be complete during the next reporting period (FY 2004-2005). For specific information regarding the County's Watershed Management Planning efforts, visit the Project's website at www.SantaMargaritaProject.org.

2.3.3 Formal Agreement between Jurisdictions

A jurisdiction's land use authority does not reach beyond its physical boundaries. However, because maintaining water quality and preserving habitat for sensitive species are issues that transverse jurisdictional boundaries, cities and counties must find ways to work together in a coordinated fashion to address these concerns.

The County, in cooperation with other jurisdictions within the watershed, is utilizing several informal mechanisms to facilitate a watershed-based approach to land use planning. As part of this effort, a combination of practices is utilized to facilitate the integration of watershed data and information into their land use decision-making processes. This process is intended to ensure the protection of the water quality within the watershed and receiving water bodies. These informal collaborative mechanisms, which include workgroups, e-mails and regular participation in each other's programs, are discussed in various sections of the annual report. The County has committed to a continued outreach and cooperative effort to work with all the jurisdictions within the watershed, and may enter into a more formal agreement at some point in the future.

2.3.4 Additional Planning Activities.

The County of San Diego is in the process of developing working relationships with the other agencies with land use authority in the watershed, and partnering with them on watershed issues, including the development of the WARMF land-use Model, and the development of the County's Santa Margarita River Watershed Management Plan. These working relationships are intended to bolster and facilitate a Watershed-based approach to land use planning. As part of this effort, combinations of practices are utilized to facilitate the integration of watershed data and information into their land use decision-making processes. This process is intended to ensure the protection of the water quality within the watershed and receiving water bodies. The sections below summarize a few of these collaborative efforts.

Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program

As indicated in the Watershed URMP, and discussed in Section 1.3.3 above, the County of San Diego has continued to be involved with the development of the Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program (Program); a modeling and monitoring program that encompasses the entire watershed. The project, being developed under an agreement with the Bureau of Reclamation, US Marine Corps and several water districts within the Santa Margarita River, addresses several issues relating to water quality and quantity in the surface and groundwater within the watershed

In previous years, as part of our commitment to the Program, the County of San Diego joined the "Program Participants" as a funding partner, signing the Program's cost sharing agreement. During this Reporting Period, the Program Participants (including the County of San Diego) met monthly to discuss issues relating to the development of Phase 3A of the Program, and other topics related to the health of the Santa Margarita River Watershed.

Although funding limitations precluded continue participation as a funding partner in this project during FY 2003-2004, the County of San Diego continues work as an active participant in the Program.

The Cities and County of Riverside Storm Water/Clean Water Protection Program

The County of Riverside and the incorporated cities within the boundaries of the County of Riverside have formed the Storm Water/Clean Water Protection Program. This program, much like the County of San Diego Copermittee Workgroups, provides an arena for the Copermittees within the County of Riverside who are subject to Riverside Municipal Stormwater Permits issued by both the San Diego Regional Board and the Santa Ana Regional Water Quality Control Board, to develop regional educational and outreach programs, and discuss implementation of programs and requirements under their respective municipal permits.

As part of this program, a Technical Committee was formed to address issues within the Northern Santa Margarita River Watershed. Due to staffing limitations, the County of San Diego was unable to send representatives to the meetings of this workgroup during FY2003-2004. However, as indicated elsewhere, the County continues to maintain working relationships with several of the jurisdictions within the watershed that are a part of this workgroup, and is committed to continuing work with the technical committee during the next reporting period.

3.0 EDUCATIONAL ACTIVITIES

This section describes actions taken by the County of San Diego during this reporting period to enhance the general public's understanding of basic watershed principles and sources of water pollution. Making all San Diegans aware of the importance of individual actions in protecting our water resources and promoting watershed stewardship are crucial components of this educational program. The following sections demonstrate how the Copermittee is complying with Objective #3 of the Santa Margarita Watershed URMP (to enhance public understanding of sources of water pollution within the watershed) and the Municipal Permit requirements.

The Copermittees have refined current education programs in order to integrate watershed-based components. Basic watershed principles have been threaded into all programs. This education was generally focused, with emphasis added in order to meet the needs of different sub-regions and associated land uses within the watershed. Suitable Best Management Practices (BMPs) were incorporated into the education efforts as determined appropriate to the targeted community.

The watershed educational strategy focuses on three key principles:

- What is a watershed?
- We all live in a watershed
- Watershed stewardship (all individual actions within our watersheds add up in a cumulative way to influence the health of our water resources)

3.1 Summary of Watershed Education and Outreach Conducted

The following is a description of the four-prong approach utilized during the reporting period:

- Incorporate core watershed principles into existing educational programs
- Promote watershed stewardship in communities
- Develop educational strategies to target priority pollutants within the watershed
- Achieve milestones as determined through annual assessments

The key principles continue to be incorporated into current educational efforts such as community event demonstrations, clean-up days, citizen monitoring activities and school presentations. Building on these efforts, the watershed stewardship focus has been strengthened to establish community ownership of our water resources. Children continue to be a strong focus, not only to provide a foundation for future stewardship, but as a vehicle to promote behavior change by bringing their parents into events and taking information home to them from school presentations. Through various watershed programs that are described below, the connection is made between "our backyard", effects downstream, and watershed pollution prevention.

The third element of this approach focuses on priority pollutants within specific watersheds. The Regional Copermittees are currently focusing on priority pollutants common to multiple watersheds. As general watershed education is implemented in the Santa Margarita River Watershed, emphasis is given, where possible, on the constituents of concern specific to this watershed. For example:

- Bacteria, Nutrient, Sediment: Watershed model demonstrations address how runoff becomes contaminated with bacteria, nutrients, and sediment, as well as other contaminants with emphasis placed on both the residential and the agricultural areas of the model. In addition, citizen monitoring efforts include sampling for bacteria, TDS, nitrates and phosphates.
- Pesticides: Potential pesticide impacts are being addressed through the San Diego Regional IPM Education and Outreach project funded by a Proposition 13 PRISM grant, which will be discussed in the Unified Document. This project will be implemented to include some coordination with the Prop 13 PRISM Grant project awarded to the County of Orange and will, therefore, benefit the entire watershed. In the future, education programs will be refined to further address specific constituents of concern depending on the results of ongoing assessment of education and outreach programs throughout the San Diego region. Statistics from watershed specific survey data may be used to create an education piece(s) such as tip cards for each watershed.

The fourth and final prong in the approach is the evaluation of program effectiveness. The Copermittees have received the results of public awareness surveys conducted in the last reporting period. We have begun to incorporate this community-based data into the development of locally tailored 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.

Within the Santa Margarita River Watershed, the survey results showed the following specific trends:

- The gender of the respondents was almost equal and of the people surveyed in this watershed, 13% preferred to be surveyed in Spanish.
- Nearly 83% of those surveyed have a lawn and/or outdoor plants.
- 62% of Santa Margarita watershed residents who have lawns or outdoor plants are responsible themselves for their maintenance. Another 31% use a combination of self-maintenance and part-time garden services - thereby, IPM and over-irrigation impacts should be targeted primarily at the residents themselves.
- Of those that use pesticides, herbicides or fungicides, of the watersheds surveyed, Santa Margarita watershed residents use them just slightly less than the average (57%) and 73% of this group apply the pesticides themselves. Promoting the positive behavior may help reduce these uses.
- Santa Margarita watershed residents make the greatest use of hazardous waste disposal sites for unused pesticides than the other watersheds surveyed (19%) but an equal percentage of these residents reported they put unused pesticides in the trash. Therefore, increased education of proper disposal and source reduction is warranted.
- Among Santa Margarita watershed residents who own a pool or spa (21%), the majority maintain their pool or spa themselves (79%) and does not use a professional service.
- The percentage of Santa Margarita watershed residents who rarely or never pick up their dog droppings (24%) was the second highest of the watersheds surveyed.
- Only 12% of Santa Margarita residents reported having horses or other livestock, the lowest of the watersheds surveyed.
- 35% of Santa Margarita watershed residents said that they did not consider any water bodies in San Diego County to be part of their community. Of all the water bodies in San Diego County, the most identified body of water in the Santa Margarita watershed community is the Pacific Ocean, which 52% reported they visit most frequently. Related is that 34% do not visit any body of water in San Diego County for recreational use. It appears that community ties are related to recreational uses above all else, but that either a significant segment of this population identifies with water bodies in the watershed that are not located in San Diego County or that a strong watershed connection remains to be made.

3.2 Education Action Plan

The following discussion provides progress reports on each specific educational activity identified in the program's Education Action Plan for the Santa Margarita River Watershed.

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. The public presentations listed are aimed at professional organizations and industry-specific associations. Please refer to the following tables 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 Santa Margarita River watershed and do not specifically address the Santa Margarita River watershed are identified in the Common Activities Section of the Unified Document.

Table 5: Public Presentations and Media Events – County of San Diego

Date of Presentation	Target Audience	No. Attendees	Event /Info Presented
9/30/03	Fallbrook Village Rotary Meeting	40	Watershed Awareness presentation with video, 'Only Drain in the Storm Drain' brochures, and Project Clean Water Strategic Plans and promotional items.

Table 6: Community Events – County of San Diego

Date	Event Title	Location	Audience	Event Info Presented
4/24/04	Fallbrook Avocado Festival	Fallbrook	Residential/general public	County of San Diego, Public Works staffed booth with Watershed Protection Program brochures and promotional items and Recycling Program information

3.2.2 Agricultural Water Quality Program

The County of San Diego in cooperation with the Regents of the University of California, Division of Agriculture and Natural Resources, Cooperative Extension conduct workshops throughout San Diego County and produce educational materials as part of the education and outreach for the Agricultural Water Quality Program – Reduction of Agricultural Nonpoint Source Pollution in the Coastal Watersheds of San Diego County. There were seven (7) workshops conducted during this reporting period. Many individuals within the Santa Margarita River watershed attend the workshops. A summary of the workshops and attendees is included below.

Workshop: How to Control Gophers, Ground Squirrels, and Other Burrowing Rodents

Seventy-three people attended our October 21, 2004 workshop at the San Diego County Farm Bureau office in Escondido. This workshop was filled to capacity. The UC Cooperative Extension San Diego County office decided to offer another workshop to accommodate those who could not fit into our October event, because the list of people hoping to attend was overwhelming. County Director and Wildlife Specialist Dr. Terrell Salmon from UC Cooperative Extension San Diego County explained how burrowing rodents can create erosion problems, allowing sediments to wash into waterways. The use of baits, traps, and habitat modification were discussed as methods to control these

rodents. We distributed 27 Self-Assessment Questionnaires to workshop attendees, 8 for Greenhouses and Container Crops and 19 for Tree Crops. Of the 58 people completing the survey, 71 percent found the workshop “very useful” or “moderately useful” for minimizing runoff from their property. Ninety-seven percent of those surveyed indicated they would attend future Ag Water Quality Program events. Please see the summary box below for more detailed information about the attendees:

Table 7: Workshop Summary: January 21, 2004

Involvement In Ag	Type Of Agriculture	Watershed
41 Grower	33 Tree crops	14 San Luis Rey
9 Landscaper	11 Nursery crops	1 Santa Margarita
3 Agency (Non-regulatory)	12 Landscape	5 San Dieguito
11 Hobbyist	8 Field or row crops	2 Carlsbad
	1 Animal agriculture	3 Penasquitos
	8 Other	1 San Diego
	2 Not applicable	4 All

Workshop: Managing Chemicals with Irrigation – Equipment, Safety, and Materials

Thirty-one people attended our February 26, 2004 irrigation workshop at Quail Botanical Gardens in Encinitas. This workshop featured Irrigation Specialist Larry Schwankl from Cooperative Extension UC Davis and David Shaw from UC Cooperative Extension San Diego County. Larry Schwankl discussed chemigation hardware, safety devices, and system clogging. These are issues involved with injecting chemicals through an irrigation system. David Shaw discussed the basics of irrigation equipment to maximize irrigation efficiency and minimize runoff. We distributed 26 Self-Assessment Questionnaires to workshop attendees, 9 for Greenhouses and Container Crops and 17 for Tree Crops. Of the 21 people completing the survey, 95 percent found the workshop “very useful” or “moderately useful” for minimizing runoff from their property. Eighty-six percent of those surveyed indicated they will attend future Ag Water Quality Program events. Please see the summary box below for more detailed information about the attendees:

Table 8: Workshop Summary: February 26, 2004

Involvement In Ag	Type Of Agriculture	Watershed
16 Grower	15 Tree crops	14 San Luis Rey
1 Landscaper	6 Nursery crops	1 Santa Margarita
2 Agency	4 Landscape	2 San Dieguito
4 Hobbyist	3 Field or row crops	3 Carlsbad
	1 Animal agriculture	2 Penasquitos
	4 Home Gardening	2 San Diego
		1 All

Workshop: San Diego Agricultural Runoff Regulations – How to Train Your Employees

Twenty-eight people attended our workshop on March 17, 2004. David W. Fritz, Senior Agricultural Inspector for San Diego County Department of Agriculture/Weights and Measures, and Environmental Issues Advisor Dr. Valerie Mellano from UC Cooperative Extension County of San Diego were the two featured speakers. This workshop was held at Pala Casino, Resort, and Spa in Pala. Inspector David Fritz provided an overview of the water quality inspection process and requirements for nurseries and greenhouses. Dr. Valerie Mellano discussed how to train agriculture operation employees and provided training materials. A robust question and answer session finished off this workshop. No surveys were distributed during this workshop in order to allow the attendees as much time as possible to ask their questions. A total of 14 Greenhouse and Nursery Crops Self-Assessment Questionnaires and 12 Tree Crops Self-Assessment Questionnaires were distributed to attendees of this workshop. Please see the summary box below for more detailed information about the attendees:

Table 9: Workshop Summary: March 17, 2004

Involvement In Ag	Type Of Agriculture	Watershed
5 Grower	6 Nursery crops	7 Carlsbad
3 Allied industry business	3 Tree crops	10 San Luis Rey
3 Student	2 Field/row crops	1 San Dieguito
	1 Landscape	3 Santa Margarita
	2 All	1 Penasquitos
		5 All

Workshop: What is Your Irrigation Pump Doing to You?

Thirteen people attended this workshop on April 7, 2004 at the San Diego Farm Bureau in Escondido. Blaine Hanson, Irrigation Specialist with the UC Davis Department of Land, Air, and Water Resources, was the featured speaker. He explained how to evaluate and improve irrigation pump efficiency. We distributed 14 Self-Assessment Questionnaires to workshop attendees, 5 for Greenhouses and Container Crops and 9 for Tree Crops. Of the 10 people completing the survey, 100 percent found the workshop “very useful” or “moderately useful” for understanding irrigation pumps. Eighty percent of those surveyed indicated they will attend future Ag Water Quality Program workshops. Information about the characteristics of the workshop attendees are provided in the following summary box:

Table 10: Workshop Summary: April 7, 2004

Involvement In Ag	Type Of Agriculture	Watershed
5 Grower	3 Tree crops	5 San Luis Rey
3 Allied Industry Business	3 Nursery/Greenhouse crops	4 All

Involvement In Ag	Type Of Agriculture	Watershed
1 Not applicable	7 Not known	2 San Dieguito
4 Not known		1 Carlsbad
		1 Not known

Note: The three columns in the table above may not contain the same total number because one attendee may represent multiple properties. The properties can include multiple types of agriculture and/or multiple watersheds.

Workshop: Avocado Irrigation Put Simply

This workshop was held on April 15, 2004 and attracted 121 participants. The well attended workshop was held in Escondido at the Castle Creek Country Club. There were three featured speakers for this workshop. Dr. Gary Bender, Farm Advisor for UC Cooperative Extension, San Diego County discussed simple and sophisticated irrigation scheduling. Andrea Souther, Agricultural Water Management Program Director for the Mission Resource Conservation District, spoke about correcting common avocado irrigation problems. Dr. Valerie Mellano, Environmental Issues Advisor for Cooperative Extension, San Diego County addressed San Diego agriculture runoff issues. A total of 10 Tree Crops Self-Assessment Questionnaires were handed out at this workshop. No handouts were given during this workshop. Of the 23 people completing the survey, 96 percent found the workshop “very useful” or “moderately useful” for understanding avocado irrigation. One hundred percent of those surveyed indicated they will attend future Ag Water Quality Program workshops. Please see the summary box, below, for more detailed information about the attendees:

Table 11: Workshop Summary: April 15, 2004

Involvement In Ag	Type Of Agriculture	Watershed
113 Grower	113 Tree crops	38 San Luis Rey
2 Allied Industry Business	8 Not applicable	15 San Dieguito
2 Educator		11 Santa Margarita
3 Agency		10 Carlsbad
1 Not applicable		1 Penasquitos
		6 All
		20 Not applicable

Note: The three columns in the table above may not contain the same total number because one attendee may represent multiple properties. The properties can include multiple types of agriculture and/or multiple watersheds.

Workshop: Managing Pesticides in Nursery Runoff

Fourteen people attended our May 27, 2004 workshop at the San Diego County Farm Bureau office in Escondido. Jay Gan, Associate Professor/Water Quality Specialist from UC Riverside and John Kabashima, Farm Advisor for UC Cooperative Extension Orange County, discussed pesticides in nursery runoff. Jay Gan covered the sources of pesticides in nursery runoff and factors that control pesticide movement in runoff. John Kabashima spoke about mitigation and best management practices. We distributed 14 Self-Assessment Questionnaires to workshop attendees, 10 for Greenhouses and Container Crops and 4 for Tree Crops. Of the 8 people completing the survey, one hundred percent

found the workshop “very useful” or “moderately useful” for managing pesticides in nursery runoff. One hundred percent of those surveyed indicated they will attend future Ag Water Quality Program events. Please see the summary box below for more detailed information about the attendees:

Table 12: Workshop Summary: May 27, 2004

Involvement In Ag	Type Of Agriculture	Watershed
9 Grower	12 Nursery crops	4 San Luis Rey
1 Landscaper	1 Landscape	2 Santa Margarita
2 Agency	1 Not applicable	4 San Dieguito
1 Allied Industry		2 Carlsbad
1 Not applicable		1 Not applicable
		1 All

Note: The three columns in the table above may not contain the same total number because one attendee may represent multiple properties. The properties can include multiple types of agriculture and/or multiple watersheds.

Workshop: Agricultural Materials and Waste Management

Twenty-eight people attended our June 15, 2004 irrigation workshop at the San Diego Farm Bureau in Escondido. This workshop featured four speakers. Nestor Silva, Agricultural Inspector for the Department of Agriculture, spoke about pesticide and fertilizer storage, hazardous materials business plans, and farm equipment and vehicle storage. Environment Health Specialist Lisa Leondis from the Department of Environmental Health spoke about waste oil generators and underground fuel tanks. Jay Taylor, Recycling Specialist for the Department of Public Works discussed the agricultural materials and waste that can be recycled, composted, or taken to a landfill. Scott Weldon with the Department of Environmental Health explained how septic tanks work and why regular maintenance is important. We distributed 20 Self-Assessment Questionnaires to workshop attendees, 6 for Greenhouses and Container Crops and 14 for Tree Crops. Of the 14 people completing the survey, 93 percent found the workshop “very useful” or “moderately useful” for waste management. One hundred percent of those surveyed indicated they will attend future Ag Water Quality Program events. Please see the summary box below for more detailed information about the attendees:

Table 13: Workshop Summary: June 15, 2004

Involvement In Ag	Type Of Agriculture	Watershed
9 Grower	5 Tree crops	16 San Luis Rey
3 Agency	8 Nursery crops	1 Santa Margarita
4 Allied industry	2 Not applicable	2 San Dieguito
12 Not known	11 Not known	3 Carlsbad
		2 San Diego
		4 All

Note: The three columns in the table above may not contain the same total number because one attendee may represent multiple properties. The properties can include multiple types of agriculture and/or multiple watersheds.

Educational Materials Produced

The Agricultural Water Quality Program also developed and revised education materials during the FY 2003-2004 reporting period to use in association with the workshops conducted. A description of some of the educational materials is included below:

- ***Ag Water Quality Program PowerPoint Presentations*** – PowerPoint presentations are available on our website located at <http://cesandiego.ucdavis.edu>. These presentations cover the topics of septic systems, irrigation pumps, mitigation of pollution in nursery runoff, agricultural materials storage, and agricultural waste management. Website visitors can download these presentations.
- ***Employee Training Materials*** – These materials are being translated into Spanish and will be made available on our website and by mail from our office. They will also be available to those participating in workshops, tours, or site visits. The materials are being translated into Spanish to accommodate a wider audience.
- ***Best Management Practices for Stormwater Issues and Recycling*** – The publication entitled “Management Options for Nonpoint Source Pollution: Greenhouse and Container Crop Industries” is being revised. It will be updated for stormwater issues and recycling.

Individual Consultations

Along with workshops conducted during the respective reporting period the Agricultural Water Quality Program also made 114 contacts with agricultural producers via telephone calls, e-mail/mail correspondence, and site visits from January 2004 – June 2004. New growers continue to contact us with questions about water regulations and storm water inspections. Other topics discussed during these contacts include the use of weather data in irrigation scheduling, options to prevent standing water, and material recycling and disposal, runoff management, erosion control, and storage of fuel and wastes. Please see the summary box below for more detailed information about the contacts:

Table 14: Contacts Summary: January – June 2004

Type Of Agriculture	Size Of Operation	Watershed
77 Greenhouse/Nursery crops	38 Small (1-9 acres)	39 Carlsbad
8 Row crops	38 Medium (10-49 acres)	56 San Luis Rey
13 Tree crops	32 Large (49 plus acres)	13 Santa Margarita
5 Tree crops/Nursery	6 Not known	1 San Dieguito
4 Landscape/Nursery		1 San Diego
1 Animal Agriculture		1 Penasquitos
6 Not known		0 Carlsbad/San Luis Rey
		2 Multiple watersheds
		1 Not known

Of the 114 contacts made from January 2004 to June 2004, 49 were site visits. Please see the summary box below for more detailed information about the grower operations where we conducted site visits during this time period. The site visits often include the solving of problems such as irrigation equipment, runoff collection, nitrate testing in runoff, waste management, spill management and secondary containment, erosion control, and horse ranch management.

Table 15: Site Visit Summary: January – March 2004

Type Of Agriculture	Size Of Operation	Watershed
34 Greenhouse/Nursery crops	19 Small (1-9 acres)	20 Carlsbad
3 Row crops	16 Medium (10-49 acres)	31 San Luis Rey
3 Tree crops	13 Large (49 plus acres)	7 Santa Margarita
1 Tree crops/Nursery	1 Not known	1 San Dieguito
3 Landscape/Nursery		
3 Animal Agriculture		
2 Not known		

3.2.3 De Luz Ecology Center

Due to limitations in staff funding and availability, the County was unable to incorporate watershed presentations into the environmental educational program for the De Luz Ecology Center during this reporting period. It is hoped that given available funding and/or grant opportunities, the County will be able to take a more active role in this important outreach opportunity in the upcoming period.

3.2.4 *Integrated Pest Management Campaign*

Although this regional watershed education activity affects the Santa Margarita Watershed, it is a regionally focused activity, and as requested by Regional Board staff, discussion is provided in the Common Activities Section I.B.1.d of the Unified Annual Report.

3.2.5 *Regional Watershed Poster: What Watershed Do You Live In?*

Although this regional watershed education activity affects the Santa Margarita Watershed, it is a regionally focused activity, and as requested by Regional Board staff, discussion is provided in the Common Activities Section I.B.1.d of the Unified Annual Report.

3.2.6 *Regional Watershed Brochure: What is a Watershed?*

Although this regional watershed education activity affects the Santa Margarita Watershed, it is a regionally focused activity, and as requested by Regional Board staff, discussion is provided in the Common Activities Section I.B.1.d of the Unified Annual Report.

3.2.7 *School Presentations: Water Quality and Watersheds*

School children are a responsive audience, and often bring information and influence on the "right thing to do" home to their family members. During this reporting, Copermittees' staff continued to conduct school presentations as available. The existing general stormwater presentations were enhanced with watershed-focused content such as:

- Change in focus of materials and discussion from 'storm drains' to 'watershed' importance through use of slogan, "We All Live Downstream". (This slogan was the most recognized among all participants in survey results).
- Incorporate core watershed principles via the Enviroscope (watershed) model demonstration;
- Identify concepts "What is a Watershed" and "We all live in a watershed";
- Emphasize constituents of concern per watershed from the Project Clean Water website and associated source land uses via the Enviroscope (watershed) model demonstration;
- Identify various watershed habitats;
- Distribute best management practice literature and promotional items; and,
- Use social marketing techniques such as student-made badges and pledges to promote stewardship, retention of watershed principles and assist in the development of social norms.

The Copermittees conducted three (3) formal presentations that reached 26 students and teachers in the Santa Margarita River watershed. The efforts have targeted the

elementary grade levels (K-8). The presentations are interactive in order to increase learning and concept retention through hands-on demonstrations. In addition to 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.

In the next fiscal year, more focus will be placed on increasing school education events, and in promoting better integration of watershed education into existing curriculum. Additional educational outreach efforts conducted during this reporting period include the continued support and promotion of school presentations by the Mission Resource Conservation District, as well as other regional school education efforts that deserve special attention and are highlighted below. All school presentations in the Santa Margarita River watershed are listed in Table 16

Table 16: FY2003-2004 School Presentations in the Santa Margarita Watershed

Date	Event Title	Comments	Attendance#	Site Name
9-30-03	Stormwater Pollution Prevention Presentations	Watershed Model Demo; Stormwater related activities with Phinneus J. Frog and Fancy Fin Fish. County Stormwater P2 Brochures: Only Rain in the Storm Drain, Pet waste, Pools/Spas, Yard Waste & Horses/Livestock; Wild On Watersheds Brochures; Project Clean Water Strategic Plans & promotional items	21	Mary Fay Pendleton
10-1-03	Stormwater Pollution Prevention Presentations	See Above	21	Mary Fay Pendleton
10-3-03	Stormwater Pollution Prevention Presentations	See Above	21	North Terrace Elementary
10-10-03	Stormwater Pollution Prevention Presentations	See Above	21	Mary Fay Pendleton
10-15-03	Stormwater Pollution Prevention Presentations	See Above	23	Bonsall Elementary

Date	Event Title	Comments	Attendance#	Site Name
11-7-03	Stormwater Pollution Prevention Presentations	Watershed Model Demo; Stormwater related activities with Phinneus J. Frog and Fancy Fin Fish. County Stormwater P2 Brochures: Pet waste, Pools/Spas, Yard Waste & Horses/Livestock; Wild On Watersheds Brochures; Project Clean Water Strategic Plans & promotional items	21	Santa Margarita Elementary
11-12-03	Stormwater Pollution Prevention Presentations	See Above	25	Bonsall Elementary
11-14-03	Stormwater Pollution Prevention Presentations	See Above	21	Mary Fay Pendleton
11-21-03	Stormwater Pollution Prevention Presentations	See Above	21	Mary Fay Pendleton
12-2-03	Stormwater Pollution Prevention Presentations	See Above	21	Mary Fay Pendleton
12-13-03	Stormwater Pollution Prevention Presentations	See Above	10	CP Girl Scout Troop
2-20-04	Stormwater Pollution Prevention Presentations	See Above	21	Pauma Elementary
3-5-04	Stormwater Pollution Prevention Presentations	See Above	21	Mary Fay Pendleton
6-08-04	Watershed Awareness Presentation	NPS Watershed Model Demo, Badge-making, Journey Of the Blob and We Live Downstream Videos and inter-active discussion on residential stormwater best management practices with emphasis on nutrients, sediment, bacteria and IC/ID reporting.	26	Palomar Mountain ES/MS

Environmental Camps and After School Programs

No specific activities relating to this program occurred within the Santa Margarita River watershed to during this reporting period.

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 in the Santa Margarita River watershed were completed at this time.

Resource Conservation District Collaboration

The County of San Diego collaborated with the Mission Conservation District (MRCD) and the Resource Conservation District of Greater San Diego (RCDGSD) through the Project Clean Water Education Technical Advisory Committee communication and information distribution list. The County of San Diego assisted the MRCD with watershed education presentations to schools in unincorporated areas of the Santa Margarita watershed by providing educational materials to supplement their presentation program. Materials included story/coloring books, activity sheets, brochures, pencils and magnets.

In past reporting periods, Mission Resource Conservation District (MRCD) utilized grant money to provide stormwater pollution prevention presentations in K-8th grade classes in the Camp Pendleton, Oceanside and Fallbrook School Districts. Interactive presentations allow students to see first-hand the affects of land use practices on plants, animals, people and the environment. Students learn how water becomes polluted within the watershed, how polluted stormwater can harm wildlife and jeopardize the use of our waterways for drinking and recreation, and how to protect and keep our local waterways clean by preventing stormwater pollution. Teachers receive a packet of educational materials and students take home a goody bag filled with fun educational activities and materials for their parents provided in part by the County of San Diego. During this reporting period, MRCD reported no school presentations were conducted in Fallbrook schools due to decreased funding but was able to continue presentations to Camp Pendleton schools through a separate funding source. Presentations are listed in the following table.

San Diego County Office of Outdoor Education

The County purchased the services of the San Diego County Office of Outdoor Education Splash Science Mobile Lab (Splash Lab) for school presentations in early 2004. Although this regional watershed education activity affects the Santa Margarita Watershed, it is a regionally focused activity, and as requested by Regional Board staff, a description of Splash Lab curriculum can be found in the County of San Diego JURMP Annual Report.

3.2.8 Target Pollutants and Sources of Concern

As discussed elsewhere in this report, one of the principal constituents of concern in the SMR Watershed is high levels of nitrogen and phosphorus linked to beneficial use impairments in the watershed. During this reporting period, the County of San Diego together with its project partners, Mission Resource Conservation District (MRCD), San Diego State University's Santa Margarita Ecological Reserve (SMER), and San Diego Supercomputer Center (SDSC) have put together a grant proposal to seek funding to aid in the implementation of best management practices (BMPs) for commercial nurseries (both greenhouse and container crops), crop growers, horse stables, and septic systems, believed to be principal sources of TDS and nutrient loads in the SMR Watershed. The funding is being sought to implement the proposed Santa Margarita Nutrient Reduction Project to improve surface water and groundwater quality. The County and its project partners intend to protect, enhance, and restore beneficial uses and biological health within a portion of the lower Santa Margarita Watershed. In particular, nutrient reduction will be achieved through increased coordination with government agencies and watershed groups, encouragement of BMP implementation by providing technical expertise,

development of a TDS management plan, and the implementation of a comprehensive outreach program. All efforts will be coordinated to complement the Santa Margarita Watershed Management Plan currently being developed by the County Department of Planning and Land Use using Proposition 13 grant funds (see discussion above).

As part of this effort, funding will be utilized for the implementation of a focused outreach and education effort in the watershed. MRCD will administer all outreach activities with support from staff and volunteers. The educational program will encompass three major components: (1) educating watershed residents about BMPs for septic systems, and explaining how proper maintenance can minimize impacts to surface water and groundwater quality, (2) educating watershed residents and businesses that maintain orchards and nurseries on the use of BMPs, the impact of irrigation runoff on receiving waters, and the advantages of improving water quality in our streams, and (3) educating watershed residents and businesses that maintain horses about proper manure management and its impact on improving water quality. A quality outreach program will encourage the implementation of improved management practices, which in turn will reduce the levels of bacteria, suspended solids, nutrients, and biochemical demand in surface waters.

3.2.9 Partners in Clean Water – Partnerships in Action

To maximize effectiveness, the Copermittee pursues partnerships and cooperative activities to enhance regional stormwater activities. These partnerships are described in the Jurisdictional URMP annual report. Details on watershed stakeholder partnerships, above and beyond those identified in the JURMP annual report are described below.

San Diego Citizen Watershed Monitoring Steering Consortium

The San Diego Citizen Watershed Monitoring Steering Committee was changed to the San Diego Citizens Watershed Monitoring Consortium during this reporting period. This Consortium continues to foster watershed stewardship through project-based learning by encouraging knowledge and resource sharing between groups performing watershed-monitoring activities in San Diego. The Consortium, with San Diego Baykeeper serving as lead, coordinated the first annual World Water Monitoring Day (WWMD) on October 17, 2003 and Coast-wide Snapshot Day (CSD) on May 1, 2004. The County of San Diego of San Diego participated in both activities, which are discussed in Section 5 of the County's JURMP.

In addition, a 2003 Consolidated Grants Program proposal was developed by consortium members and awarded to San Diego State University Foundation, as the lead agency, to coordinate, evaluate, improve and expand citizen-monitoring programs in the San Diego region. During this reporting period the grant work focused on contract development. Implementation of citizen monitoring activities under the grant is anticipated to begin during the next reporting period. A more detailed discussion of the Consortium is located in the Unified Document.

3.2.10 Community Events –Local Water Body – Striving toward Stewardship

During this reporting period, Merle O'Neill, the director of Communities Alive in Nature (CAN), and acting chairperson for the Carlsbad Watershed Network functioned as the Co-

chairperson of the Project Clean Water EdTAC. The EdTAC is discussed in the Common Activities section of the Unified Annual Report. There were no activities with CAN in the Santa Margarita River watershed to report this period.

4.0 PUBLIC PARTICIPATION ACTIVITIES

Public participation during the development and implementation of the Watershed URMP has been, and will continue to be, encouraged to ensure that stakeholder interests and creative solutions are considered. The watershed approach calls upon agencies to engage diverse stakeholders in the process. In the SMR Watershed, where the jurisdictions with the largest amount of responsibility for land-use decisions in the watershed are not subject to the Municipal Permit, broad stakeholder participation is critical to further development and implementation of the watershed program. Further, all participating municipalities must recognize that no single agency has the capacity to address water quality issues on its own and broad partnerships are essential to positively affect the water resources in the watershed. It is only through a collaborative approach that we will develop a better understanding of these issues and processes affecting water quality in our watersheds and subsequently select and address priorities.

The following sections summarize the activities and efforts made by the County of San Diego, as sole Copermittee in the SMR Watershed, 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 Watershed URMP. The County has worked with stakeholders on efforts such as grant applications and water quality data collection. The Copermittees (as a group) felt that it was not necessary to reiterate these activities in this chapter, if such public involvement and interaction was already discussed in the proceeding chapters.

4.1 Stormwater Copermittee Collaboration and Community Workshops

As discussed above, and elsewhere in the document, the County of San Diego is the sole Copermittee in the SMR Watershed. As such, unlike other watersheds subject to the Municipal Permit, no Watershed URMP workgroup exists. However, as also indicated above, the County has made a concerted effort to work with all the jurisdictions with land-use authority in the watershed through other, non-permit related watershed planning efforts. This has involved attending workgroups for other watershed related projects in the SMR Watershed, and in many cases taking an active role in these groups (see discussion in Section 2.0 above).

As discussed above, the County of San Diego has taken an active role in the U.S. Bureau of Reclamation led Santa Margarita River Executive Management Team (SMREMT), the project group for the Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program, and was given the opportunity to use the project group as a sounding board for issues relating to the development of the Watershed URMP and the SMR Watershed Management Plan (WMP). In addition, the Watershed Management Workgroup for the County's SMRWMP has provided input on the WURMP and various Annual Reports. Although no written comments were received on this Annual Report, suggestions made by agency staff within the watershed have been considered and where possible incorporated into the document.

The County will continue to utilize similar workgroups in the SMR to help provide feedback on the Santa Margarita WURMP implementation.

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 Watershed URMP development and implementation cannot be overstated since both efforts address complementary issues that rely on public participation for success.

The County of San Diego, in cooperation with several key stakeholders in the SMR Watershed, is in the process of developing a watershed management plan 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.

In addition, the County of San Diego has begun to take an active role in the meetings of those jurisdictions in the northern reaches of the SMR Watershed who are subject to Riverside County, Santa Margarita Watershed, MS4 Permit Order Number 2004-01(Riverside Municipal Permit) which covers that portion of the SMR watershed located in Riverside County. Through the County's involvement with this workgroup, it is hoped that implementation of watershed plans within the SMR Watershed will develop in a consistent manner.

For more information on these specific activities, please refer to Subsection 2 – Land Use Planning Activities of this document for more information.

4.3 Project Clean Water – SMR 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 Watershed URMP 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 Santa Margarita Watershed which include:

- ✓ SMR Watershed Summary Page
- ✓ SMR Watershed Plan Page
- ✓ SMR Watershed Project Page
- ✓ SMR Watershed Activities Page

During FY 2003-04, the Santa Margarita Watershed web page received a total of 1,765 hits. A monthly breakdown of the hits is included in the tables below:

Table 17: Number of 'Hits' on the Project Clean Water Santa Margarita River Watershed Website

2003						2004						Total
Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	
105	86	130	110	79	128	119	124	104	73	101	112	1271

Table 18: Number of 'Hits' on the Project Clean Water Santa Margarita River WURMP Website

2003						2004						Total
Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	
31	30	51	32	30	54	56	40	59	30	35	46	494

4.4 Santa Margarita Project Website

During this reporting period, the County of San Diego, as part of its Proposition 13-funded Santa Margarita Watershed Management Plan, developed and implemented the Santa Margarita Project Website, www.santamargaritaproject.org. This website provides stakeholders in the watershed with information on the County's watershed management planning efforts, including contact information and background data sources provided by non-profit organizations, non-governmental organizations, and land use agencies within the Santa Margarita Watershed, but not subject to the Municipal Permit.

4.5 Direct Interaction

In addition to those methods already described, the County of San Diego 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 a 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.

SECTION 3 – 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 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 APPROACH FOR ESTABLISHING WATER QUALITY ISSUES/PROBLEMS

2.1 Data Sets

The Regional Monitoring Workgroup with MEC /Weston designed a uniform assessment strategy to link disparate monitoring programs to provide an evaluation of watershed conditions. At the present time, urban runoff is assessed and evaluated in a comprehensive fashion for wet weather impacts (chemistry, toxicity) and indicators of relative watershed health from an ecological perspective (rapid stream bioassessment). Other monitoring programs conducted by individual Copermittees (such as the dry weather or the coastal outfall monitoring programs) were folded into the assessment strategy in 2003. This year, citizen monitoring data from the Home2Ocean was qualitatively assessed and the results compared to the Copermittees' data assessment as a check for consistency. Finally, for the first time, ambient bay and lagoon data were reported, and a summary of the data are provided, although not used to identify potential constituents of concern, as this program is in its infancy. The collection period and constituents measured in each program are outlined in Table 19.

Table 19: 2004 Watershed Assessment Data

Program	Collection Period	Constituents
Mass Loading Stations	October 1, 2001 – March 31, 2004	Toxicity, Chemistry
Dry Weather Stations	May 1, 2003 – September 30, 2003	Chemistry
Coastal Storm Drain Stations ¹	April 2003 – March 2004	Bacteria
Rapid Stream Bioassessment	October 2003 and May 2004	Benthos
Ambient Bay and Lagoon Monitoring	June and July 2003	Sediment Chemistry, Toxicity, Benthos
Home2Ocean Citizen Monitoring	July 29, 2003 – June 29, 2004	General Chemistry and Bacteria

N.B. No Coastal Storm Drains are monitored in Santa Margarita Watershed Management Area

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 Santa Margarita Watershed.

2.2 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 Santa Margarita River Watershed is included in the Table 20 below. For a description of this process please refer to the Common Activities Section I.B.3.g of the Unified Annual Report.

Table 20: Matrix of Findings for Santa Margarita Watershed Management Area

Constituents With Any Wet Weather (MLs) or Dry Weather Exceedance	MLS (Wet Weather) Results								Dry Weather Results		Frequency of Occurrence	Criterion No.
	2001/2002		2002/2003		2003/2004		Cumulative		2003/2004			
	#/1	%	#/2	%	#/2	%	#/5	%	#/8	%		
Conventionals												
COD	0	0	2	100	0	0	2	40			?	9
Total Dissolved Solids	1	100	0	0	1	50	2	40			?	9
Total Suspended Solids	0	0	2	100	1	50	3	60			??	5
Turbidity	0	0	2	100	1	50	3	60	0	0	??	5
Bacteriological												
Fecal Coliform	NA	NA	2	100	2	100	4	100	1	13	???	1
Wet Chemistry												
Nitrate as N	0	0	0	0	0	0	0	0	3	38	?	8
Pesticides												
Chlorpyrifos	0	0	0	0	1	50	1	20	0	0	-	-
Total Metals												
Chromium	0	0	2	100	0	0	2	40			?	9
Copper	0	0	1	50	0	0	1	20	0	0	-	-
Zinc	0	0	1	50	0	0	2	40	0	0	?	9
Toxicity											Evidence Of Persistent Toxicity?	
<i>Ceriodaphnia</i> 7 day reproduction	0	0	2	100	0	0	2	40			No	
Hyalella 96-hr	0	0	1	50	0	0	1	20			No	
Bioassessment											Evidence Of Benthic Alteration?	
IBI Rating	-		Poor		Fair		Poor				No	

NA = Not Assessed

- = Constituent results are below the defined requirements for a Low Frequency of Occurrence rating.

? = Low Frequency of Occurrence rating. ?? = Medium Frequency of Occurrence rating. ??? = High Frequency of Occurrence

3.0 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 Santa Margarita Watershed.

3.1 Mass Loading Station and Dry Weather Site Data

The constituents of concern identified for the Santa Margarita watershed for the 2002, 2003, and 2004 assessments are summarized in Table 21. The Regional Monitoring Report describes in detail how the COCs for 2004 were developed.

Table 21: Summary of constituents of concern assessment comparison.

	Bact. Indicators/ Fecal Coliform	Nitrate	Chemical Oxygen Demand Chlorpyrifos	Total Dissolved Solids	Turbidity	Total Suspended Solids	Chromium, Zinc	Total Copper
Santa Margarita 20021				??	?			
Santa Margarita 20031	???2	?	???	??	??		?	?
Santa Margarita 2004	???2	?3	?	?4	??	?	?	

???- Higher frequency of occurrence ??- Medium frequency of occurrence ?- Lower frequency of occurrence

1 - Based on Table 14 of the 2002-2003 Annual Report for the Santa Margarita River Watershed URMP.

2 - Using best professional judgement, fecal coliform was considered a low priority water quality problem because a sewage spill occurred upstream of the mass loading station on the day of sample collection and may have increased the levels in 2002-2003, and the levels in 2003-2004 indicated a decreasing trend. Additionally, bacterial indicators were only quantified in two of the four storms sampled.

3 - Using best professional judgment, nitrate will be identified in a Section 5.0 to be a constituent of concern of high priority, and phosphorus will be added based on the 303(d) listings for both nitrate and phosphorus in Rainbow Creek and the eutrophic listing for Santa Margarita Estuary

4 - Using best professional judgment, TDS will be identified in a Section 5.0 to be a constituent of concern of medium priority

In this Report higher, medium and lower frequencies of occurrence set the high, medium, and low priorities, respectively, for COCs. When the current 2003-04 constituents of concern for the Santa Margarita watershed were compared to last year's water quality assessment (2002-03) as shown in Table 21, the following changes were noted for the Santa Margarita River in 2003-04.

- COD and TDS are less apparent as COCs. Total copper was not identified as a COC. Total suspended solids are identified for the first time as a COC with a low frequency of occurrence.
- The remaining COCs were unchanged for Santa Margarita River WMA in 2003-2004.

Santa Margarita MLS has only five storms monitored over three years compared to nine storms at nearly all of the other mass loading stations in the County of San Diego. Because less data are

available, COCs may not be as apparent and other factors will be considered in developing and prioritizing the water quality issues in Section 5.0.

3.2 Rapid Stream Bioassessment Data

The Santa Margarita River WMA was sampled at a total of six monitoring sites, including four reference sites. All of the sites had mostly undisturbed conditions, and the Index of Biotic Integrity quality ratings were mostly Fair or Good. The Santa Margarita River monitoring site on Camp Pendleton had the highest taxa richness of all of the urban affected sites in San Diego County, and the IBI scores were close to some of the reference site scores. Biological metric values and water quality measures (pH and specific conductance) indicated that this watershed is one of the least impacted in San Diego County.

3.3 Ambient Bay and Lagoon Monitoring (ABLM) Program

Sediments in Santa Margarita 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 Santa Margarita River Estuary were ranked against the same parameters for the other embayments monitored in the ABLM Program (see Section 4.4 of the Regional Monitoring Report for a complete discussion).

The Santa Margarita River Estuary ranked highest for sediment quality among the coastal embayments in San Diego County and is among the least impacted by anthropogenic contaminants. The results of chemistry indicated that only six metals were found in sediment, all at very low concentrations. Sediment toxicity was also low and not significantly different from that of a control sample. Benthic community indices suggested that biotic community in sediment were similar to other embayments in the County. Future monitoring will help determine the strength of these relationships.

3.4 Home2Ocean Citizen Monitoring

Three sites were monitored from July 29, 2003 to June 29, 2004. These sites were located in the Santa Margarita River's main stem on the Santa Margarita Ecological Reserve (SMER), Rainbow Creek, and Stone Creek. Water samples were collected and analyzed every two weeks. Water quality parameters measured included temperature, dissolved oxygen, conductivity, turbidity, nitrate, phosphate, and indicator bacteria (total coliform and *E. coli*).

The Home2Ocean data 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 Copermittees June 2004). The data collected was considered semi-quantitative and compared to the benchmark water quality objectives used at the mass loading station for comparative purposes. The results indicated that COCs were nitrate, TDS, and indicator bacteria and provide additional support for these COCs already identified in Table 21. The data used is presented in Table 22, below.

Table 22: Home2Ocean Water Quality Data in Santa Margarita WMA

Date	Location	Temp (oC)	DO (mg/L)	pH	TDS (mg/L)	Turbidity (NTU)	PO4-P (mg/L)	NO3-N (mg/L)	Total Coliform (MPN/100 mL)	E. coli (MPN/100 mL)
7/29	Rainbow C.	26.77	6.59	7.73	1284	0.53	0.97	12.13	5172	46.5
8/12	Rainbow C.	19.70	8.50	7.83	1293	0.52	5.40	9.20	>24192	31
8/26	Rainbow C.	20.10	7.77	7.70	1329	0.42	1.20	9.87	NS	NS
9/9	Rainbow C.	23.87	7.11	7.50	1289	0.37	0.53	14.17	6630	20
9/23	Rainbow C.	18.57	8.35	7.60	1329	1.17	0.73	13.10	7701	4352
10/7	Rainbow C.	21.00	7.67	7.35	1320	0.48	0.53	11.70	11199	10.8
10/21	Rainbow C.	17.33	8.49	7.40	1293	0.45	0.70	13.90	4352	18
11/4	Rainbow C.	14.87	8.80	7.10	1258	0.15	0.60	13.30	1920	68
11/18	Rainbow C.	14.70	8.90	7.10	1267	0.32	0.50	11.33	2370	63
12/2	Rainbow C.	12.97	9.13	7.63	1302	0.00	0.53	12.43	1050	10.9
12/16	Rainbow C.	13.60	8.82	7.67	1267	0.00	0.20	14.03	1510	30
1/13	Rainbow C.	13.50	10.18	7.60	1249	0.00	0.70	10.93	1160	44
1/27	Rainbow C.	11.20	10.81	7.60	1236	0.00	1.70	8.17	2300	39
2/10	Rainbow C.	11.90	10.76	7.57	1222	0.03	0.53	7.43	2000	43
2/24	Rainbow C.	13.23	10.15	7.70	1014	3.08	1.03	13.87	1970	870
3/9	Rainbow C.	16.23	10.49	7.53	1213	0.00	1.33	10.60	3870	73
3/23	Rainbow C.	15.33	9.45	7.90	1241	11.49	0.57	9.03	>24200	888
4/6	Rainbow C.	15.30	8.85	7.50	1277	0.03	0.83	11.10	4350	280
4/20	Rainbow C.	20.77	7.88	7.37	551	0.00	0.40	10.13	810	112
5/4	Rainbow C.	17.53	8.46	7.57	1279	0.02	0.50	11.63	4610	40.3
5/18	Rainbow C.	19.20	8.08	7.63	1277	0.00	1.00	10.93	8664	686
6/1	Rainbow C.	16.63	8.89	7.67	1265	0.00	0.40	10.67	15500	380
6/15	Rainbow C.	17.30	8.69	7.53	1277	0.50	0.33	12.57	8664	163
6/29	Rainbow C.	17.73	8.24	7.60	1262	0.20	0.80	12.13	112	112
7/13	Rainbow C.	18.33	8.29	7.40	1262	0.82	0.60	9.50	6867	119
7/27	Rainbow C.	19.00	8.32	7.40	1262	1.37	0.60	10.60	5012	824.2
8/24	Rainbow C.	17.20	8.69	7.57	1267	1.17	0.53	11.67	5794	224.9
9/7	Rainbow C.	18.40	8.34	7.50	1286	0.82	1.73	12.27	6867	7.2
9/21	Rainbow C.	17.47	8.31	7.60	1296	0.25	0.10	13.73	1400	22
7/29	SMR main	24.17	8.29	7.80	730	2.55	0.07	0.76	14136	24.3
8/12	SMR main	26.57	6.92	8.10	734	2.23	0.14	0.37	>24192	20
8/26	SMR main	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/9	SMR main	24.13	7.09	7.70	693	1.87	0.11	0.38	7230	<10
9/23	SMR main	22.20	7.67	7.60	707	2.63	0.08	0.57	15531	47.4
10/7	SMR main	22.43	7.29	7.47	742	1.43	0.16	0.59	15531	14.8
10/21	SMR main	21.80	7.33	7.30	716	1.70	0.13	0.75	12033	28
11/4	SMR main	14.90	9.72	7.30	836	0.57	0.13	1.40	2480	52
11/18	SMR main	13.43	9.23	7.33	880	16.00	0.40	1.87	5170	35
12/2	SMR main	10.67	11.03	7.80	849	0.88	0.05	1.01	2050	17.5
12/16	SMR main	8.80	11.42	7.83	827	0.59	0.06	1.06	622	22

Date	Location	Temp (oC)	DO (mg/L)	pH	TDS (mg/L)	Turbidity (NTU)	PO4-P (mg/L)	NO3-N (mg/L)	Total Coliform (MPN/100 mL)	E. coli (MPN/100 mL)
1/13	SMR main	10.47	11.12	7.80	836	1.62	0.10	0.92	530	33
1/27	SMR main	11.27	10.45	7.60	822	1.00	0.07	0.74	1460	11
2/10	SMR main	9.04	10.32	7.43	811	2.20	0.09	0.88	702	21
2/24	SMR main	12.07	10.08	7.50	440	98.33	0.63	0.49	10500	1190
3/9	SMR main	16.43	9.88	7.80	827	3.93	0.08	1.32	4880	52
3/23	SMR main	17.70	8.38	7.70	801	1.67	0.26	0.85	>24200	52
4/6	SMR main	17.40	8.20	7.43	790	0.97	1.13	1.44	2250	76
4/20	SMR main	17.07	8.13	7.60	773	0.93	0.06	0.90	2090	60.1
5/4	SMR main	21.40	6.34	7.47	844	1.73	0.10	0.85	>24192	48.7
5/18	SMR main	20.50	6.56	7.53	858	1.47	0.00	0.71	12997	12.1
6/1	SMR main	21.30	6.34	7.50	865	2.17	0.12	0.75	12000	26.6
6/15	SMR main	20.90	7.33	7.60	908	2.40	0.09	0.79	>24192	115
6/29	SMR main	21.70	7.42	7.62	915	1.89	0.05	0.67	14136	19
7/13	SMR main	23.23	5.45	7.40	898	2.30	0.07	0.73	10462	6.3
7/27	SMR main	23.13	7.07	7.40	858	0.85	0.04	0.70	545.2	16.8
8/24	SMR main	21.00	7.32	7.53	801	5.00	0.06	0.59	6488	10.5
9/7	SMR main	22.63	6.76	7.63	790	1.13	0.15	0.51	7270	16.1
9/21	SMR main	19.40	8.07	7.70	816	0.67	0.03	0.61	1300	50
7/29	Stone Creek	21.07	6.14	7.53	631	2.49	0.09	0.06	6867	95.9
8/12	Stone Creek	20.77	4.16	8.23	599	5.61	0.07	0.00	NS	NS
8/26	Stone Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/9	Stone Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/23	Stone Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/7	Stone Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/21	Stone Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS
11/4	Stone Creek	NS	NS	NS	NS	NS	NS	NS	NS	NS
11/18	Stone Creek	14.90	4.19	6.53	591	0.00	0.16	0.10	NS	NS
12/2	Stone Creek	14.67	2.25	7.20	596	2.37	0.21	0.03	208	<1
12/16	Stone Creek	13.40	4.67	7.10	560	0.00	0.16	0.05	51	<1
1/13	Stone Creek	13.73	5.25	6.93	556	0.01	0.25	0.08	397	10
2/10	Stone Creek	11.80	5.90	6.60	551	0.00	0.10	0.05	2170	42
2/24	Stone Creek	13.53	5.82	7.27	551	0.00	0.14	0.05	170	25
3/9	Stone Creek	14.53	5.16	7.13	577	0.01	0.09	0.01	2420	<1
3/23	Stone Creek	15.80	5.20	7.20	574	0.02	0.09	0.05	2140	318
4/6	Stone Creek	15.20	5.12	7.10	574	0.00	0.08	0.05	989	23
4/20	Stone Creek	14.00	5.44	7.30	584	0.00	0.12	0.11	645	9.7
5/4	Stone Creek	18.23	2.08	7.10	596	3.30	0.11	0.01	1400	1
5/18	Stone Creek 2	16.50	8.27	7.40	716	1.00	0.09	0.40	846.2	<1
6/1	Stone Creek 2	14.80	8.55	7.47	709	0.17	0.13	0.33	1220	<1
6/15	Stone Creek 2	16.90	8.31	7.23	714	0.40	0.13	0.38	501.2	4.1
6/29	Stone Creek 2	17.20	8.36	7.63	707	0.27	0.07	0.32	712	<1

Date	Location	Temp (oC)	DO (mg/L)	pH	TDS (mg/L)	Turbidity (NTU)	PO4-P (mg/L)	NO3-N (mg/L)	Total Coliform (MPN/100 mL)	E. coli (MPN/100 mL)
7/13	Stone Creek 2	17.40	8.65	7.40	709	0.37	0.13	0.25	866.4	8.2
7/27	Stone Creek 2	17.93	8.40	7.50	704	0.00	0.08	0.38	6294	8.15
8/24	Stone Creek 2	16.23	8.85	7.60	697	0.12	0.09	0.33	960	4.1
9/7	Stone Creek 2	19.87	7.89	7.70	716	0.95	0.09	0.41	1276.8	21
9/21	Stone Creek 2	16.23	7.07	7.70	719	0.20	0.09	0.49	170	2

3.5 Special Studies

The County of San Diego Watershed Protection Program developed a monitoring program in Rainbow Creek in an attempt to characterize and assess water quality conditions. Physicochemical properties were measured at various sites in Rainbow Creek. Up to Twelve sites were monitored monthly in 2004. All these sites were selected to cover the main stem of and important tributaries to Rainbow Creek. Field measurements and laboratory analyses were conducted for sites where surface water existed. *In-situ* measurements were made for pH, conductivity, turbidity, temperature, and dissolved oxygen using a Horiba multi-parameter water quality probe. Ammonia, nitrate, and orthophosphate were measured in the field using CHEMetrics test kits as needed. Water samples were collected for laboratory analysis of ammonia, nitrate, nitrite, TKN, orthophosphate, and total phosphorus. Since the data collected as of July 1, 2004 is limited and the data collection is ongoing, the results are presented in tabular form for this annual report. Data analysis and integration into water quality assessment will be included in the FY 04-05 annual report.

Table 23: Water Quality Data Collected from Rainbow Creek Prior to July 1, 2004

Site ID	Date	Time	FIELD MEASUREMENT									LABORATORY ANALYSIS				
			Discharge (cfs)	pH	EC (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (C°)	NH ³ -N(mg/L)	NO ³ -N (mg/L)	PO ⁴ -P (mg/L)	NH ³ -N (mg/L)	NO ³ -N (mg/L)	NO ² -N (mg/L)	PO ⁴ -P (mg/L)	TP (mg/L)
HST01	5/26/04	9:05	0.055	8.39	1.59	0	8.59	16.7	0.3	19.64	0.21	NM	NM	NM	0.29	0.31
HST01	6/22/04	14:40	0.020	8.96	1.19	2	7.05	22.7	0.3	7.90	0.15	NM	NM	NM	ND	0.23
RBC01	4/30/04	10:00	0.182	6.96	1.83	2	4.14	17.8	0.9	2.71	0.15	NM	NM	NM	0.18	0.32
RBC01	5/26/04	8:30	0.064	6.81	1.79	0	1.75	18.0	1.5	1.58	0.07	NM	NM	NM	0.16	0.16
RBC01	6/22/04	15:25	0.026	7.10	1.83	5	4.12	21.9	1.2	7.34	0.11	NM	NM	NM	0.12	0.4
RBC03	4/30/04	10:30	0.910	7.88	2.06	15	7.12	18.5	0.9	21.67	1.03	NM	NM	NM	NM	NM
RBC03	5/26/04	9:10	0.510	7.57	1.98	11	5.63	17.3	5.5	35.21	0.87	NM	NM	NM	NM	NM
RBC03	6/22/04	14:30	0.138	8.60	1.56	1	10.03	24.1	0.4	31.83	0.72	NM	NM	NM	NM	NM
RBC05	4/30/04	11:00	0.963	8.18	2.26	1	14.13	19.5	0.3	27.09	0.69	NM	NM	NM	0.69	0.72
RBC05	5/26/04	10:10	0.896	7.74	1.98	0	8.38	17.1	2.5	35.21	0.74	NM	NM	NM	NM	NM
RBC05	6/22/04	14:00	0.223	8.76	1.70	5	12.26	20.4	0.3	11.29	0.54	NM	NM	NM	NM	NM
RBC06	4/30/04	14:30	1.440	7.62	1.87	0	8.70	18.7	0.2	9.93	0.15	NM	NM	NM	0.2	0.21
RBC06	5/26/04	13:00	2.900	8.14	1.82	0	8.42	18.0	0.1	25.06	0.25	NM	NM	NM	NM	NM
RBC06	6/22/04	11:30	1.980	8.12	1.73	0	7.74	17.6	0.1	19.64	0.16	NM	NM	NM	NM	NM
RGT01	4/30/04	12:00	0.126	7.79	1.53	0	7.70	16.5	0.2	4.51	0.05	NM	NM	NM	0.3	0.3
RGT01	5/26/04	10:50	0.103	7.90	1.47	0	7.12	15.6	0.1	3.84	0.02	NM	NM	NM	0.25	0.26
RGT01	6/22/04	13:20	0.113	8.03	1.39	0	6.65	18.2	0.1	3.27	0.03	NM	NM	NM	0.25	0.72
SMG03	7/24/03	14:00	NM	7.62	1.43	8	4.60	24.9	0.2	14.90	0.08	NM	NM	NM	NM	NM
SMG03	9/5/03	14:45	NM	7.18	1.42	3	1.23	24.7	0.2	4.40	0.39	0.1	2.8	0.11	0.52	0.47
SMG03	5/25/04	9:20	0.483	7.63	1.96	1	7.15	16.8	0.4	29.80	0.83	NM	NM	NM	NM	NM
SMG05	5/12/03	9:40	0.756	8.10	1.74	1	9.40	14.6	0.4	10.84	0.21	0.3	NM	ND	0.24	0.51
SMG05	7/25/03	14:55	0.278	7.63	1.96	15	7.40	21.9	0.2	8.01	0.23	NM	NM	NM	NM	NM
SMG05	9/4/03	11:30	0.030	7.58	1.76	1	6.91	20.2	0.2	11.29	0.23	ND	8.8	ND	0.24	0.2
SMG05	4/30/04	14:55	0.550	7.69	1.84	0	9.03	17.8	0.1	4.85	0.25	NM	NM	NM	0.27	0.31
SMG05	5/25/04	12:05	1.565	7.94	1.81	0	8.83	17.0	0.2	21.67	0.25	NM	NM	NM	NM	NM

SANTA MARGARITA RIVER WATERSHED

Site ID	Date	Time	FIELD MEASUREMENT									LABORATORY ANALYSIS				
			Discharge (cfs)	pH	EC (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (C°)	NH ³ -N(mg/L)	NO ³ -N (mg/L)	PO ⁴ -P (mg/L)	NH ³ -N (mg/L)	NO ³ -N (mg/L)	NO ² -N (mg/L)	PO ⁴ -P (mg/L)	TP (mg/L)
SMG05	5/26/04	13:30	0.850	8.12	1.83	0	8.88	18.0	0.2	18.96	0.29	NM	NM	NM	0.56	0.63
SMG05	6/22/04	12:00	0.292	7.90	1.72	0	7.31	17.8	0.4	11.96	0.21	NM	NM	NM	0.35	0.72
SMG06	5/12/03	10:35	3.031	8.10	1.86	0	8.30	14.9	0.4	12.75	0.16	ND	NM	ND	0.15	0.32
SMG06	7/25/03	13:50	2.015	7.80	1.82	40	7.50	20.9	0.2	13.77	0.16	NM	NM	NM	NM	NM
SMG06	9/4/03	10:40	0.660	7.84	1.74	27	8.31	19.4	0.2	15.12	0.20	ND	15.8	ND	0.17	0.19
SMG06	4/30/04	13:45	2.400	7.79	1.88	0	9.12	17.5	0.3	15.58	0.18	NM	NM	NM	0.24	0.36
SMG06	5/25/04	11:15	1.538	7.91	1.78	0	8.22	16.1	0.1	18.40	0.13	NM	NM	NM	NM	NM
SMG06	5/26/04	12:20	4.662	8.05	1.82	0	8.39	16.8	0.1	22.57	0.18	NM	NM	NM	0.3	0.32
SMG06	6/22/04	10:30	1.839	8.00	1.73	0	7.84	17.3	0.1	18.96	0.13	NM	NM	NM	0.29	0.37
VMT01	4/30/04	13:30	0.800	7.86	1.99	1	9.40	17.4	0.2	17.38	0.05	NM	NM	NM	0.12	0.16
VMT01	5/26/04	11:50	0.326	8.11	1.84	0	8.09	16.4	0.1	18.74	0.03	NM	NM	NM	0.21	0.21
VMT01	6/22/04	10:45	0.801	8.19	1.79	2	8.88	17.1	0.2	15.35	0.03	NM	NM	NM	0.18	0.39

NM=None Measured

ND= Non Detected

This data set was not considered in this water quality assessment as the sampling program was started late in the reporting period. However, as funding is available, additional samples will be collected and assessed in the next reporting period. A 319(h) grant awarded to the County of San Diego for Rainbow Creek is anticipated to begin early in 2005 and will include a water quality monitoring component.

4.0 IDENTIFICATION OF WATER QUALITY ISSUES – REGULATORY MECHANISMS

4.1 303(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 State Water Resources Control Board upon approval by USEPA. Table 24 summarizes the 303(d) listings for the Santa Margarita watershed. Additionally, for informational purposes, the State Water Resources Control Board Monitoring List is also included. The Monitoring List is not recognized by USEPA, and therefore, is not a regulatory requirement. The monitoring constituents are not considered highly significant in the 2004 water quality assessment.

Table 24: Table 3-7. Water bodies on the SWRCB monitoring list and/or CWA 303(d) list in the Santa Margarita watershed.

Water Body Name	Hydrologic Sub Area (HSA)	HSA #	Pollutant/Stressor	Monitoring List/ 303(d) List
Santa Margarita Lagoon	Lower Ysidora	902.11	Eutrophic	303(d)
Oceanside Harbor	Lower Ysidora	902.11	Dissolved Copper	Monitoring
Lower Santa Margarita River	Lower Ysidora	902.11	Iron, Manganese, Sedimentation/ Siltation, Sulfates, TDS	Monitoring
Fallbrook Creek	Upper Ysidora	902.13	Iron, Manganese, Phosphorus	Monitoring
De Luz Creek	De Luz Creek	902.21	Sulfates, TDS	Monitoring
Rainbow Creek	Gavilan	902.22	Sediment Toxicity, Sulfates, TDS, Trash	Monitoring
Rainbow Creek	Gavilan	902.22	Nitrogen, Phosphorus	303(d)
Upper Santa Margarita River	Gavilan	902.22	Iron, Manganese, Sedimentation/ Siltation, Sulfates, TDS	Monitoring
Upper Santa Margarita River	Gavilan	902.22	Phosphorus	303(d)
Sandia Creek	Gavilan	902.22	Lead, Sulfates	Monitoring
Sandia Creek	Gavilan	902.22	TDS	303(d)
Murrieta Creek	Wolf	902.52	Iron, Manganese, TDS	Monitoring
Murrieta Creek	Wolf	902.52	Phosphorus	303(d)

Source: SWRCB 2002

4.2 Beneficial Uses Designated for the Santa Margarita 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 25. 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 25: Beneficial uses within the Santa Margarita 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	●		●	●
Ground Water Recharge	○		●	
Navigation				
Contact Water Recreation	●	●	● ¹	
Non-Contact Water Recreation	●	●	●	
Commercial and Sport Fishing				
Warm Freshwater Habitat	●		●	
Cold Freshwater Habitat	●		●	
Biological Habitats of Special Significance				
Estuarine Habitat		●		
Wildlife Habitat	●	●	●	
Rare, Threatened, or Endangered Species	●	●	●	
Marine Habitat		●		
Migration of Aquatic Organisms		●		
Shellfish Harvesting				
Aquaculture				
Spawning, Reproduction and/or Early Development				

● = Existing; ○ = Potential

¹ Shore and boat fishing only. Other REC1 uses prohibited.

Source: Basin Plan September 8, 1994 (Tables 2-2, 2-3, 2-4, 2-5)

4.3 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 Santa Margarita 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 Santa Margarita watershed MLS for 2003-04 and supplemental data, as detailed in Section 3.0, yields one high frequency COC and one medium frequency COC and six (6) low frequency COCs. In addition, the regulatory mechanisms detailed in section 4.0 yield four (4) potential COCs, although two are also identified from the watershed data assessment. Table 26 below provides a summary of the COCs identified during this Assessment.

Table 26: COCs from Watershed Data and Regulatory Mechanisms

High Frequency of Occurrence COCs from Watershed Data	Medium Frequency of Occurrence COCs From Watershed Data	Low Frequency of Occurrence COCs from Watershed Data	Potential COCs from 303d List
Bacterial indicators – Fecal Coliform 1	Nitrate 2	Total dissolved solids 3	Nitrate
		Chemical oxygen demand	Total dissolved solids
		Turbidity	Eutrophication
		Total suspended solids	Phosphorus
		Chromium, Copper	

1 – Using best professional judgment, fecal coliform was considered a low priority water quality problem because a sewage spill occurred upstream of the mass loading station on the day of sample collection and may have increased the levels in 2002-2003, and the levels in 2003-2004 indicated a decreasing trend. Additionally, bacterial indicators were only quantified in two of the four storms sampled.

2 – Using best professional judgment, nitrate will be identified to be a constituent of concern of high priority, and phosphorus will be added based on the 303(d) listings for both nitrate and phosphorus in Rainbow Creek and the eutrophic condition listing for Santa Margarita Estuary

3 – Using best professional judgment, TDS will be identified to be a constituent of concern of medium priority.

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 Santa Margarita watershed has resulted in elevating nitrate and phosphate to high priority water quality issues based on the water quality assessment and the 303d listing of total nitrogen and total phosphorous for Rainbow Creek and eutrophic conditions for Santa Margarita Estuary. Eutrophic conditions commonly are associated with high nitrate or high phosphate levels. Based on a review of the dry weather data and regulatory drivers, best professional judgment suggests that TDS is a water quality problem in this watershed, and therefore, TDS will be a medium priority constituent of concern. Table 27 summarizes the prioritization of water quality problems for 2004 and 2003 in the Santa Margarita watershed.

Table 27: Prioritized COCs from Watershed Data, Regulatory Mechanisms and Best Professional Judgment

Constituent(s) of Concern	FY 2002-2003 Priority	FY 2003-2004 Priority
Nitrate, phosphorus and eutrophication	High	High
Bacterial indicators – Fecal coliform	Low	Low
Total dissolved solids	Medium	Medium
Chemical oxygen demand	Low	Low
Turbidity	Low	Low






Constituent(s) of Concern	FY 2002-2003 Priority	FY 2003-2004 Priority
Total suspended solids	Low	Low
Total zinc	Low	None
Chromium, copper (Toxic substances-other)	Low	Low
Toxic Substances- Diazinon	Low	None
Trash	Low	None
Ammonia	Low	None


Compared to the 2003 list of priority water quality issues/problems, this year's assessment has the following changes:

- Copper, Diazinon, and ammonia were removed from the priority list as additional chemical collection at the mass loading station indicated that each was not persistent.
- Trash was listed in 2003 based on the State Water Resources Control Board Monitoring List. This list is not a binding regulatory list, therefore, trash has been removed from the 2004 priority list, but will be re-evaluated in the future, as appropriate.

The County of San Diego will track other potential water quality issues and re-evaluate in 2005. The evaluation of all identified water quality issues for Santa Margarita River WMA and planned activities are presented in Table 28. As additional sampling data becomes available, the exact sources of COCs will be identified with greater accuracy over the next few years

Table 28: Evaluation of All Identified Water Quality Issues or Problems for Santa Margarita WMA

Potential Water Quality Issue(s)	Constituents of Concern Addressed	Priority	Potential Sources	Comments / Activities
Limited habitat value of water bodies	Nitrogen, Phosphorus, and Eutrophication	 High	Agricultural operations, nurseries; residential inputs poor manure management; accidental sewer discharges, and leaking septic systems	The 303(d) listed water bodies include the Santa Margarita Lagoon (eutrophic conditions), and Rainbow Creek (total nitrogen and total phosphorous) and the Upper Santa Margarita River (total phosphorous). Activity: Support for the TMDL development and implementation of nutrients in Rainbow Creek, including water quality monitoring, source identification, and public education. Use funds from a 319(h) grant scheduled to begin in 2005 to help implement these programs.
Limited use of municipal and agricultural water supplies	Total dissolved solids	 Medium	Agricultural operations, residential inputs, commercial nursery facilities, imported water, and natural sources due to geology.	Water bodies throughout the watershed may be impacted by TDS and its component constituents (e.g., sulfate, iron, and manganese). Activity: The County of San Diego shall collaborate with other organizations on issues involving water quality in the Santa Margarita River Watershed to improve source identification.
Limited recreation opportunities in inland and coastal waters due to potential for pathogens	Bacterial Indicators: Fecal coliform	 Low	Agricultural operations, nurseries; residential; natural sources such as wild fowl and animals; poor manure management; accidental sewer discharges and leaking septic systems.	The Copermittees and the Regional Board have identified bacteria as a regional priority. Only 4 storms have been monitored for bacteria and all results have exceeded the fecal coliform guideline of 400MPN/100 mL. Activity: Continue water monitoring programs and evaluate if persistent.
Limited habitat value of water bodies	Chemical oxygen demand	 Low	Agricultural operations, nurseries; residential inputs poor manure management; accidental sewer discharges, and leaking septic systems	COD exceeded water quality objective guideline at wet weather mass loading station in 2002-2003, but not in 2003-2004. Activity: Continue water monitoring programs and evaluate if persistent.
Limited habitat value of water bodies	Total suspended solids and turbidity	 Low	Agricultural operations, orchards, erosion and sedimentation, and construction activities	Turbidity and TSS exceeded water quality objective guidelines in three of the last four storms monitored at wet weather mass loading station. Activity: Continue water monitoring programs and evaluate if persistent.

Potential Water Quality Issue(s)	Constituents of Concern Addressed	Priority	Potential Sources	Comments / Activities
Limited habitat value of water bodies	Total chromium and total copper	 Low	Automobiles or industrial wastes; pesticide chemicals used residentially, agriculturally, and/or commercially.	Both exceeded water quality objective guidelines at wet weather mass loading station in 2002-2003, but not in 2003-2004. Activity: Continue water quality monitoring programs and evaluate if persistent.

SECTION 4 – 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 Watershed URMP 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 Santa Margarita River WURMP.

1.0 PROGRAMMATIC ASSESSMENT

A large part of the 2003-2004 effectiveness assessment for the Santa Margarita River Watershed focused on a programmatic assessment of how to best integrate regional, watershed, and jurisdictional concepts into both Jurisdictional and Watershed programs. The Regional Copermitees 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 Regional Copermitees 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 Regional Copermitees 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 Regional Copermitees 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. In the Santa Margarita Watershed, the resolution of this issue is of greater difficulty, given that the specific requirements of the Municipal Permit apply only to a single jurisdiction, the County of San Diego

Because traditional watershed planning methods are more difficult to implement within multiple jurisdictions, the County of San Diego has developed alternate mechanisms to address the issue. Examples of these alternative mechanisms include the Santa Margarita 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 County of San Diego 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 Santa Margarita 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 Watershed URMP goals and objectives is outlined below.

Activities conducted by the SMR Copermittee 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 Santa Margarita 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 29: Level 1 Targeted Outcomes

Permit Requirements	Objective	Activities	Status
The Santa Margarita River 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
		Please refer to Table 28 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 Santa Margarita 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 in Section II of this Annual Report for a list of FY 03-04 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
		Integration/Participation in Land Use Planning	Ongoing
		Santa Margarita Watershed Management Plan	Ongoing
Watershed-based education program	#3 - Enhance public understanding of sources of water pollution	Public Presentations and Media/Watershed Element	Ongoing
		IPM Campaign	Ongoing
		Project Clean Water	Ongoing

Permit Requirements	Objective	Activities	Status
		Santa Margarita River website	Ongoing
Mechanism to facilitate collaborative "watershed based" land use planning	#2 – Integrate watershed principles into land use planning	General Plan updates	Ongoing
		Information sharing/planning forums	Ongoing
		Santa Margarita Watershed Management Plan	Ongoing
		Multiple Species Conservation Plan	Ongoing
Long-term strategy for assessing the effectiveness of the WURMP	#1 – Develop/expand methods to assess and improve water quality within the watershed	Development of Framework Document	Completed
		Implementation of Framework Document	On-going
Revise the WURMP as necessary	#1 – Develop/expand methods to assess and improve water quality within the watershed	See Section 5	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	Nutrient Reduction Management Plan	On-going
		Rainbow Creek TMDL Development	On-going
		SMER Remote Sensing Project	On-going
		The Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program	On-going
Identification of water quality improvements and degradations	#1 – Develop/expand methods to assess and improve water quality within the watershed	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
- Santa Margarita Watershed Management Plan
- IPM Campaign
- 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 Santa Margarita 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 Santa Margarita River Watershed. On a watershed scale, jurisdictional SUSMP implementation has contributed to a visible change in BMP implementation. There has been a significant visible change in the number construction and post construction BMPs being implemented within the Santa Margarita River Watershed. 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 Regional Board in August 2005.

SECTION 5 – CONCLUSIONS AND RECOMMENDATIONS

As stated in the Watershed URMP, 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 closing comments on this reporting period.

1.0 FY 02-03 PROPOSED AMENDMENTS TO THE SANTA MARGARITA RIVER WATERSHED URMP

Based upon the updated water quality data discussed on Section 3 of the Annual Report and the activity effectiveness assessment completed in Section 4 of the Annual Report, the County of San Diego proposes the following changes/revisions to the Watershed URMP program.

1.1 Proposed Changes to Water Quality Priorities

As indicated in Table 27 nitrate, phosphorous and eutrophication remain high priority water quality issues in the SMR watershed. The watershed assessments conducted during this reporting period have identified the following changes:

- Copper, Diazinon, and ammonia were removed from the priority list as additional chemical collection at the mass loading station indicated that each was not persistent.
- Trash was listed in 2003 based on the State Water Resources Control Board Monitoring List. This list is not a binding regulatory list; therefore, trash has been removed from the 2004 priority list, but will be re-evaluated in the future.

The County of San Diego, as sole Copermittee in the Santa Margarita Watershed, will track other potential water quality issues and re-evaluate in 2005.

1.2 Proposed Changes to Activities

The following activities/program improvements have been identified by the County of San Diego (as sole Copermittee in the watershed), and will be addressed in the upcoming reporting periods:

1.2.1 *Water Quality Activities*

- The County of San Diego was awarded a 319(h) grant for the Rainbow Creek NRMP concept proposal in August 2004. Progress on this grant will be included as a discussion item in future Annual Reports.
- The County identified the Rainbow Creek Total Maximum Daily Load (TMDL) Development as a new WURMP water quality activity. a new water quality activity. Information and updates on this activity will continue to be included in future Annual Reports.

- In order to expand monitoring within the SMR Watershed, and identify gaps in data sources, without unnecessary duplication of monitoring activities, the County of San Diego must continue to work with the other jurisdictions in the watershed to integrate, wherever possible, their data into a watershed-wide assessment.
- The County 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.

1.2.2 Land Use Planning Activities

- Obtain a funding source and complete development of a watershed planning reference manual for land use professionals use during project development and long-range planning activities.
- Work on development of formal inter-jurisdictional cooperative agreements with the agencies with land-use jurisdiction in the northern reaches of the watershed.
- Take an active role in commenting and reviewing the upcoming draft Municipal Permit for the Riverside County portion of the SMR Watershed, to identify gaps and inconsistencies with the County's Municipal Permit to avoid situations where the two permits may conflict with one another.
- While the Multiple Species Conservation Program was completed in 1998, it was included as a planning activity utilized by jurisdictions during this reporting period. Please refer to the Common Activities section of the Unified Annual Report for a further description on this program and its relation to watershed planning.

1.2.3 Educational Activities

- In future assessments, the Copermittees will compare watershed awareness with changes in behavior by comparing watershed survey results with water quality data

1.2.4 Public Participation Activities

- The County is 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 County will continue to add new participation opportunities through the parallel programs such as the Watershed Management Plans.
- The County will continue to elicit assistance from large stakeholder workgroups such as the Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program and work to maximize publicity and public participation through teaming efforts with other jurisdictions in the watershed, and their media and public outreach efforts.

2.0 COPERMITTEE CLOSING COMMENTS

Between July 2003 and June 2004, the County of San Diego, as sole Copermittee with land-use authority within the SMR Watershed, made significant progress in developing and implementing programs aimed at improving surface stormwater quality in the watershed. A few of these highlights are found below:

- The SMR Watershed Management Plan. During the reporting period, the County of San Diego has continued to lead watershed planning efforts conducted under funding from the State Water Resources Control Board, under the Costa-Machado Clean Water Act of 2000 (Proposition 13). Working with key stakeholders throughout the watershed, the County of San Diego is preparing a watershed management plan which will address long range plans for improvement of water quality, protection of habitat, water distribution and supply, and other related issues, and lay the foundation for future work by stakeholders in this area. The Draft Watershed Management Plan and Final Redrafted WMP are expected to be complete during the next reporting period.
- Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program. The County of San Diego has continued to take a leadership role in the development of the Santa Margarita Watershed Water Supply Augmentation, Water Quality Protection and Environmental Enhancement Program; a modeling and monitoring program that encompasses the entire watershed. This project, under development through an agreement with the Bureau of Reclamation, US Marine Corps and several water districts within the Santa Margarita River, seeks to address issues relating to water quality and quantity in the surface and groundwater – especially as they relate to total maximum daily load (TMDL) development and assimilative capacity of the watershed. During this Reporting Period, the Program Participants (including the County of San Diego) met monthly to discuss issues relating to the development of a preliminary model to address the water quality issues and evaluate the effectiveness of the model for determining the assimilative capacity of the Santa Margarita River of the Program, and other topics related to the health of the Santa Margarita River Watershed.
- Implementation of the Lower Santa Margarita Watershed Survey. The County of San Diego, as sole Copermittee in the SMR Watershed, has developed and conducted public awareness surveys in order to develop effective public education programs founded upon community-based data. These surveys measure baseline knowledge of pollution prevention/source reduction activities in the watershed communities. The surveys were divided into three essential information components: behavioral, attitudinal, and knowledge/awareness. The County chose a scientifically valid telephone random sample survey (stratified by watershed). In the SMR Watershed Survey sampling was conducted in a single zip code (92018), which includes some residents of the San Luis Rey watershed. Due to the use of Random Digit Dial sampling protocol, it is impossible to segregate residents between these two watersheds. Due to the proximity of the residents in the unincorporated portions of these two watersheds, it is assumed that these residents share similar knowledge and awareness, attitudes and preferences, and behavior. The survey results are summarized in Section 2 of this Annual Report. Above all, the SMR Watershed URMP and Annual Reports should be considered part of overall program development. The County of San Diego has 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 and implementing 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 SMR 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 Regional Board 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.

SECTION 6 - REFERENCES

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APPENDIX A

Signed Certification Statement

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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
(Santa Margarita River Watershed)**

I certify under penalty of law that the 2003/04 Watershed Urban Runoff Management Program Annual Report for the Santa Margarita 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.



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

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APPENDIX B

Technical Report in Response to the Directive Issued Pursuant to California Water Code Section 13267 for Information on Implementation of the Santa Margarita Watershed Urban Runoff Management Program (WPS:10-5000.02:hammp), dated January 31, 2005

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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
Santa Margarita Watershed Urban Runoff Management Program
(WPS:10-5000.02:hammp)**

January 31, 2005

Prepared by:
County of San Diego

Introduction and Purpose

The County of San Diego as sole Copermittee in the Santa Margarita River Watershed, has completed the review of the letter dated October 1, 2004 relaying the San Diego Regional Water Quality Control Board (Regional Board) Staff's comments on the Santa Margarita River Watershed Urban Runoff Management Program (WURMP) Annual Report for Fiscal Year (FY) 2002-2003, submitted in partial fulfillment of the requirements of Regional Board 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 Copermittees' response following. Where appropriate we have included references to the specific section(s) of the FY2003-2004 WURMP Annual Report where the comments are addressed. All comments and responses are numbered to correspond with the review letter of 1 October.

Comments and Responses

1. The Annual Report relies heavily on generic or "boilerplate" text. The intent of the Annual Report is to report on and develop watershed-specific approaches to water quality problems. Watersheds may share similar characteristics and issues, but they are also significantly different from one another. Use of boilerplate documents and approaches fails to account for these differences and may result in inappropriate actions for a given watershed and identified constituents of concern. The use of boilerplate text should be reduced in future Annual Reports to more accurately reflect conditions of the Santa Margarita 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 are intended to be stand-alone documents. As such, the model WURMP Annual Report used "boilerplate" text in an attempt to achieve consistency in language between WURMP documents across watersheds. In addition, it should be noted that the County of San Diego is a Copermittee in eight (8) of the ten (10) watersheds in the San Diego Region, serving as Lead Copermittee in two (2) of the eight (8), as well

as Principal Copermittee under the Municipal Permit. In order to facilitate the reporting process, and ease the workload of staff, some boilerplate text has been employed, particularly to discuss regional programs and activities.

It is important to note that Regional Board staff commented on the first annual report. The first Annual Report covered a limited, four (4) month implementation period. During the bulk of FY2002-2003, Copermittees were focused on the development of their Watershed Programs under the new municipal permit. As such, there was limited time and resources available to both modify existing programs and implement the programs themselves. Further, the Copermittees had already committed funds and staff to existing regional programs. As the County of San Diego, as sole Copermittee within the Santa Margarita River Watershed identifies major pollutant sources and to integrate outreach approaches within current programs and with other agency/stakeholder partnerships, we will continue to modify and re-focus our programs, as appropriate, on specific watershed issues.

In an effort to streamline the reporting process, and facilitate review by Regional Board 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 Annual Report. All implementation sections and text that are directly related to the Santa Margarita River Watershed are included in the WURMP Annual Report.

2. The Annual Report does not describe how planned water quality activities are designed to target the existing and potential water quality problems identified in the water quality assessment for the Santa Margarita watershed. Future annual reports shall describe how specific activities target identified water quality problems.

Future annual reports will describe how specific activities target identified water quality problems. As stated in the first paragraph of the Regional Board comment letter, this watershed is unique in that upstream portions and downstream portions of the watershed are not under the jurisdiction of the County of San Diego, and are therefore, outside the purview of the Municipal Permit. Although the County of San Diego has no jurisdiction outside of its boundaries, it is committed to continuing its working relationships with other parties on common issues.

3. Other than preparing grant proposals for the Rainbow Creek TMDL implementation activities, what outreach or other water quality activities to address nutrients occurred in the Santa Margarita watershed?

As indicated above, it is important to note that Regional Board staff commented on the first annual report, which covered a limited, four (4) month implementation period. As such there was a limited amount of time in which to focus on nutrient specific issues identified in the WURMP. However, the County of San Diego did conduct specific water quality activities during FY 2002-2003 that addressed nutrients in the Santa Margarita Watershed. Some of these activities were not reported in the FY2002-2003 Annual Report due to an editorial error. This has been corrected in the FY2003-2004, and discussions will be included in future Annual Reports. A description of the specific activities relating to nutrients and their sources in the Santa Margarita Watershed is included below:

Monitoring Activities

Specific monitoring activities for nutrients conducted in the Santa Margarita Watershed during the FY 2002-2003 reporting period included the collection of nutrients at the Regional Monitoring mass loading station at Camp Pendleton during two wet weather events, and seven (7) site visits that included analytical monitoring for nutrients as part of their Dry Weather Monitoring Program.

Inspection Activities

One of the largest groups of sources who could potentially contribute to nutrient loading in the watershed is commercial agricultural operations and greenhouses, and golf courses. As such, the County of San Diego Department of Agriculture, Weights and Measures, Agricultural Water Quality Program (AWM-WQP), which implements Municipal Permit activities at agricultural facilities within the unincorporated areas of the County, began the development of a compliance inspection/reinspection program at 18 nurseries and greenhouses, and one golf course in the Santa Margarita Watershed. This program includes comprehensive inspections to assess compliance with the County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO). As reported in the County of San Diego JURMP, submitted to Regional Board staff in 2003, the WPO was developed specifically to implement the requirements of the Municipal Permit. When Notices of Non-compliance are issued during the inspections, facilities are generally provided 30 or 60 days to attain compliance. The variance in time allotted to attain compliance reflects the complexity and scale of the noncompliance(s) and is intended to provide adequate time to ensure compliance at the time of reinspection.

During the FY2002-2003 reporting period covered in the first annual report, only a handful of sites were visited. Due to an editorial oversight this information was not provided in the FY 2002-2003 Annual Report. During the FY 2003-2004 reporting

period, the AWM-WQP conducted a total of 27 compliance inspections/reinspections at the 18 nurseries and greenhouses, and one golf course in the Santa Margarita watershed. This is discussed in the FY2003-2004 Annual Report, and discussions will be included in future reports.

Outreach Activities

In addition to the stormwater and irrigation runoff compliance inspections instituted in January 2003, the AWM-WQP includes outreach activities to the operations included in their inspection program. The department has found varying levels of awareness and compliance with the County's WPO during the course of these inspections. As such, AWM inspectors work closely with the USDA-Natural Resources Conservation Service staff in Fallbrook and the U.C. Cooperative Extension Farm and Home Advisors to facilitate awareness and compliance. The department routinely refers clients to the NRCS for technical assistance and EQIP funding to implement structural BMPs.

In addition, the AWM-WQP communicates via an email outreach effort to a list of approximately 50 agricultural sector subscribers regarding compliance strategies and resource information. The distribution list includes organizations such as the Farm Bureau, San Diego Flower and Plant Association and several agricultural vendors, all of whom forward the communiqué to their clients many of them with facilities and activities in the Santa Margarita Watershed.

4. Section 2.2.1 states that a Memorandum of Understanding (MOU) was signed in 1991 to improve awareness of development projects near jurisdictional boundaries. Since the County of San Diego is the sole Copermittee within the Santa Margarita watershed area, please explain if and how the MOU can be used as a planning tool in this area.

The 1991 MOU is a specific 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. This includes the review and comment of updates and modifications to General Plans, reclassifications of land (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 projects approved by the County of San Diego and the incorporated municipalities within the boundaries of the County of San Diego.

The County of San Diego uses the notification principles contained in this MOU for notification efforts beyond the MOU signatories. In particular, the County has developed a strong working relationship with the U.S. Marine Corps Base Camp Pendleton and the County of Riverside. Although these entities are not signatories

to the existing MOU, the County continues to work with them on specific projects that affect the watershed as a whole, including multiple species/habitat conservation programs and associated land acquisition projects.

In addition, the County of San Diego is presently discussing the potential development of a Watershed Council in the Santa Margarita River Watershed, which would include the County of Riverside, Riverside County Flood Control, Camp Pendleton, and the City of Temecula, as well as other jurisdictions in the watershed.

This long-range activity was identified as a watershed need as part of the County of San Diego Santa Margarita Project, funded in part by funds from the Costa-Machado Water Act (Proposition 13). Although the specifics regarding the formation of this Council have not been drafted, the County envisions the development of an MOU that would include similar language to the 1991 MOU as part of the formation document.

5. Section 2.1.1 provides an overview of San Diego County's planning goals and current or proposed revisions to their General Plans. It is not clear, however, how the revisions will address water quality concerns or issues within the Santa Margarita watershed. For example, the section states, "water quality protection principles should be more centralized within the General Plan," but does not state what these principles are or how they relate to the Santa Margarita watershed. In your response to this letter, please provide specific information on changes that have been implemented or are proposed for each General Plan, how the changes will address water quality issues within the Santa Margarita watershed, and how the various General Plans accommodate a watershed approach.

Jurisdictions use a variety of tools in the planning process including the general plan, specific plans, zoning, and ordinances. The general plan is the official jurisdictional policy regarding the location of housing, business, industry, roads, parks, and other land uses, protection of the public from noise and other environmental hazards, and for the conservation of natural resources.

The general plan is the basic planning document and serves as the blue print for future development. It represents the jurisdiction's view of its future; a constitution made up of the goals and policies upon which a City Council or Board of Supervisors can base their land use decisions. The general plan and its diagrams have a long-term outlook, identifying the types of development that will be allowed, the spatial relationships among land uses, and the general pattern of future development. Following adoption of a general plan, the jurisdictions may also prepare specific plans and community plans that have a finer level of detail than that provided by the general plan for particular geographic areas. The jurisdiction's

corporate and policing powers, and zoning and subdivision ordinances are the primary tools used to implement the general plan.

Government Code §§65800 et seq. provides that jurisdictions can adopt and administer zoning laws, ordinances (including pollution control ordinances), and rules and regulations to implement the general plan. Many jurisdictions adopt ordinances to protect the general health, safety, and welfare of their inhabitants. Common types include flood protection, historic preservation, design review, hillside development control, growth management, impact fees, traffic management, sign control, and watershed protection. In San Diego County, an example applicable to watersheds is the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance 9518.

Local ordinances may also be adopted in response to state requirements. Examples include local coastal programs (California Coastal Act), surface mining regulations (Surface Mining and Reclamation Act), earthquake hazard standards (Alquist-Priolo Special Studies Zone Act), and hazardous material disclosure requirements. These regulations are generally based on applicable state law.

Once ordinances and/or regulations have been adopted by the jurisdictions, staff then facilitates the administration of the ordinances within their jurisdiction including the portions of watersheds in which their jurisdiction lies.

Therefore, it is not the General Plan that would address water quality issues within the Santa Margarita watershed (or any watershed for that matter). The ordinances, municipal codes, regulations, etc. that developed pursuant to the goals and policies within the General Plan would address water quality issues and watershed approaches within a jurisdiction. The General Plan updates of many jurisdictions establish goals or policies to encourage inter-jurisdictional coordination with cities having jurisdiction over portions of watersheds that extend beyond city (and County) jurisdictional limits. It is this inter-jurisdictional component which facilitates a watershed approach, while not limiting the specific policing powers granted to jurisdictions under State law.

As part of the Jurisdictional Urban Runoff Management Programs (JURMPs) and as required by the Municipal Permit, and submitted to the RWQCB, every jurisdiction within the County of San Diego has assessed their General Plan and considered all of the factors stated in Section F.1.a. of the Municipal Permit. Each Copermittee made revisions and/or recommendations to/for their General Plan to include water quality and watershed protection principles and policies, and to direct land-use decisions and require implementation of consistent water quality protection measures for development projects.

The Regional Land Use Element of the County of San Diego's existing General Plan sets as its overall goal the requirement that planning in the County will "accommodate population growth and influence its distribution" in such a way as to "protect and use scarce resources wisely" and to "preserve the natural environment". The County's Regional Land Use Element also states that one of its Government Structure Goals (Goal 5.4) is to "coordinate planning efforts within the cities of the region...to develop compatible land use strategies".

As part of the General Plan (GP2020) update, the County of San Diego is developing specific land use goals and polices that are intended to maintain a built environment that is compatible with and sensitive to its natural setting and retains communities and country towns of unique local character. Appropriately identified land uses should enhance, serve, and contribute to an existing community's character as well as protect natural resources while maintaining the public safety and public and private property rights of landowners. Specifically, staff from the County's Watershed Protection and Watershed Planning Programs are presently involved in developing specific "watershed protection" language (including Goals and Policies) to be incorporated into GP2020.

6. Sections 1.31 and 3.3.3 identify pesticides as a region-wide pollutant of concern and states that pesticides are being addressed under the education strategy. Chollas Creek is specifically mentioned as a target, but there is no mention of how the Santa Margarita watershed has been or will be targeted. In your response, please identify specific education activities that were implemented, or planned for implementation, to address pesticides within the Santa Margarita watershed.

As discussed in the FY2003-2004 Annual Report and Common Activities Section of the Unified Document, potential pesticide impacts are being addressed through the San Diego Regional IPM Education and Outreach project funded by a Proposition 13 PRISM grant. As part of the activities funded under the grant, the County will be providing workshops for Master Gardeners' through the U.C. Cooperative Extension Farm and Home Advisors, a partnership with the County of San Diego. Once trained these Master Gardeners will attend community events in Fallbrook, Rainbow areas, and will spread the message of integrative pest management, by encouraging alternatives to residential usage of toxic pesticides.

As discussed in the Response to Comment 3, above, the AWM-WQP includes outreach activities to the agricultural operations and golf courses included in their inspection program. Given the varying levels of awareness and compliance with the County's WPO during the course of these inspections, AWM inspectors also work closely with the USDA-Natural Resources Conservation Service staff in Fallbrook

and the U.C. Cooperative Extension Farm and Home Advisors to facilitate awareness and compliance.

AWM-WQP also communicates outreach efforts via email, including organizations such as the Farm Bureau, San Diego Flower and Plant Association and several agricultural vendors, all of whom forward the communiqué to their clients many of them with facilities and activities in the Santa Margarita Watershed. The County utilizes this outreach effort to continue education regarding alternatives to toxic pesticide usage.

7. Section 3.0, Education Activities, is too general. Tables 2 and 3 list public presentations and events that occurred outside of the Santa Margarita Watershed. It is not clear what, if any, events occurred within the Santa Margarita Watershed. In your response, please identify only those public participation events that specifically occurred within and/or close by the Santa Margarita watershed and/or addressed specific Santa Margarita water quality issues.

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. As requested, future WURMP Annual Reports will only contain educational activities (public presentations, media releases and community events) that were specifically conducted within the watershed. Regional activities will be included in the Common Activities Section of the Unified Document, and referenced in the Annual Report when appropriate.

Educational activities (public presentations, media releases and community events) that specifically occurred in the Santa Margarita River Watershed and/or addressed specific Santa Margarita River Watershed water quality issues are identified below:

**Table 1: FY 2002-2003 Community Events, Mail-outs,
and Presentations in the Santa Margarita River Watershed**

Date	Event Title (Location ¹)	Comments	Audience	Estimated Attendance
7/13/02	Camp Pendleton Community Family Day (MCB Camp Pendleton)	Provided materials for event organizers (Mission Resource Conservation District)	General Public	500

¹ Given its location, events held in the Community of Fallbrook may involve residents from both the San Luis Rey and Santa Margarita Watersheds. In addition, some regional activities which drew attendees from commercial operations in the Santa Margarita are also included here.

Date	Event Title (Location ¹)	Comments	Audience	Estimated Attendance
8/22/02	Keep Fallbrook Clean Committee (MRCO Offices, Fallbrook)	Provided materials to event organizers	General Public	15
9/14/02	Household Haz Waste Collection Event (Fallbrook High School)	Prepared bags of stormwater outreach materials for event participants	General Public	500
9/21/02	Coastal Clean Up Day (Unnamed Creek, Fallbrook)	Participated in clean-up and distributed materials	General Public	150
9/21/02	Coastal Clean Up Day (Rainbow Valley Fire Station)	Participated in clean-up and distributed materials	General Public	10
9/28/02	Community Watershed Awareness Day (MCB Camp Pendleton)	Staffed booth	General Public	500
10/9/02	California Agricultural Production Consultants Association	Overview of stormwater regulation, agribusinesses impacts on stormwater, BMPs, IPM, etc.	Ag - Pest Control Operators and Ag Industry Personnel	65
10/17/02	Regional Ag/Landscapers Workshop (Vista)	Overview of stormwater requirements, review of industry BMPs, Q & A period	Ag - Landscapers, Nurseries, Golf Courses	20
12/2/02	California Agricultural Production Consultants Association Laws & Regulation Seminar	Overview of Permit, Ordinance, and training for Ag Consultants Association	Ag - Pest Control Operators and Ag Industry Personnel	40
12/19/02	2nd Annual Agricultural Stormwater Regulatory Update (Escondido)	Update on stormwater ordinance prohibitions, stormwater fees, compliance tips, and resources for more information	Ag - Nurseries, Greenhouses, Golf Courses, Cemeteries, Pest Control Businesses	3600
3/12/03	Clean Water Outreach (Fallbrook Public Library, Fallbrook)	Stocked library in County Water Quality educational & promotional items, including "We Live Downstream" video	General Public	100
4/8/03	Clean Water Outreach (Fallbrook Public Library, Fallbrook)	Stocked library in County Water Quality educational & promotional items, including "We Live Downstream" video	General Public	100

Date	Event Title (Location ¹)	Comments	Audience	Estimated Attendance
4/13/03	Fallbrook Avocado Festival (Fallbrook)	Distribution of materials.	General Public	500

8. Section 3.3.6 discusses school presentations and other education activities that did not occur in the Santa Margarita watershed. In your response, please identify education activities that specifically occurred within and/or close by the Santa Margarita watershed and/or addressed specific Santa Margarita water quality issues.

In addition to the public presentations and community events identified in Table 1 above, there were several educational (School) presentations held by the County of San Diego or held with the assistance of the County of San Diego in the Santa Margarita Watershed or in the vicinity of the watershed.

Table 2: FY 2002-2003 School Presentations and Activities in the Santa Margarita River Watershed

Date	Event Title (Location)	Comments	Audience	Estimated Attendance
10/4/2002	Water Quality and You (Mary Faye Pendleton School, Fallbrook)	Multiple presentations by City of Oceanside, through support of County, including PCW materials, Water Quality brochures and promotional items	School (Grade 1)	135
10/10/2002	Water Quality and You (Mary Faye Pendleton School, Fallbrook)	Multiple presentations by City of Oceanside, through support of County, including PCW materials, Water Quality brochures and promotional items	School (Grade 2)	22
10/18/2002	National Water Monitoring Day (Ivy Continuation High School, Fallbrook)	Students participating in National Water Monitoring Day water monitoring, data reporting, & legislative history, supported with County Water Quality materials	School (Grades 9-12)	100
1/08/2003	Water Quality and You (Live Oak School, Fallbrook, Fallbrook)	Multiple "Water Quality" presentations over the course of 1 day by MRCD, supported with County Materials	School (Elementary)	132

Date	Event Title (Location)	Comments	Audience	Estimated Attendance
1/14/2003	Water Quality and You (Frazier Elementary School, Fallbrook)	Multiple "Water Quality" presentations over the course of 1 day by MRCD, supported with County Materials	School (Elementary)	168
1/29/2003	Water Quality and You (Fallbrook Street School)	Multiple "Water Quality" presentations over the course of 1 day by MRCD, supported with County Materials	School (Elementary)	85
2/13/03	Water Quality and You (Mary Faye Pendleton School, Fallbrook)	Multiple presentations, including "We All Live Downstream" Video, over the course of 1 day.	School (Grade 5)	70
2/13/2003	Water Quality and You (Mary Faye Pendleton School, Fallbrook)	Multiple "Water Quality" presentations, including "We All Live Downstream" Video, over the course of 1 day.	School (Grade 5)	70
6/18/2003	MSCP & Clean Water (Fallbrook Elementary)	Presentation on the effects of storm water pollution and MSCP program.	School (Elementary)	18

As requested, future WURMP Annual Reports will only contain educational activities (public presentations, media releases and community events), which were specifically conducted within the Watershed. Regional activities will be included in the Common Activities Section of the Unified Document, and referenced in the Annual Report when appropriate.

- Table II-2 does not provide sufficient information to exhibit that the Public Service Announcements listed in the table addressed watershed concepts and issues. In your response, please include a summary of the content of the Public Service Announcements and describe how those announcements were related to watershed concepts and issues.

Since it is extremely difficult to specifically target large-scale media outreach activities, such as Public Service Announcements (PSAs), to specific watersheds, because media distribution is not in anyway limited by watershed boundaries, 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.

In FY 2002-2003, the City of San Diego with funding from Caltrans – District 11, the County of San Diego, and Port of San Diego, developed and aired a series of three PSAs that exposed basic facts and messages about beach pollution, its causes and how the storm drain system operates. The imagery and messages in the PSAs captured the attention and concern of residents across the region, and the PSAs were aired on television and radio for both English and Spanish speaking audiences.

The details of the specific PSAs (which were listed in the FY2002-2003 Annual Report), and a description of the imagery used are as follows:

- Water Babies: This PSA ties water pollution to children’s health using an image of babies playing immersed in water looking into the camera as “contaminated beach warning” signs are reflected above them.
- Fowl Water: This PSA uses rubber yellow ducks to explain the connection of storm systems and beaches in San Diego. The ducks represent pollutants and are shown traveling from our homes, yards, cars and businesses onto San Diego beaches surrounding surfers, children and others at the beach.
- Roads to Beaches: Ties the pollutants and litter from our roadways to beach contamination and pollution. There are two versions of this ad. The second is a hip MTV version that targets a younger audience.

In addition to the PSAs listed in the Annual Report, during FY 2002-2003, the County Television Network, CTN, aired several programs that in whole or in part directly related various environmental issues to water quality. These specific programs and their approximate airing dates are listed in Table 3, below. These programs, in connection with the water quality specific PSAs are intended to begin the process of introducing the public to watershed concepts.

**Table 3: Environmental/Water Quality Programs
Aired on CTN During FY 2002-2003**

CTN Program	Program Description	Airing Dates (Month Year)
Earth Café “Urban Natural Resources”	Episode 22: This segment focuses on natural resources, including water, within the urban setting. Includes information on prevention of pollution.	July, 2002 November, 2002 March, 2003

CTN Program	Program Description	Airing Dates (Month Year)
Earth Café "Water Cycle"	Episode 2: Award winning segment provides information on how people get their water, and includes information on water treatment systems and looks at wetlands and marshes as natural water purifiers.	July, 2002 August, 2002 September, 2002 February, 2003
Earth Café "Recycling"	Episode 3: A futuristic peek at recycling via a 1950's sitcom approach. Information tied to landfills and their impact on water quality.	July, 2002 August, 2002 September, 2002 February, 2003
Earth Café "Water Quality"	Episode 4: Episode provides information on water usage for everyday activities, and the amount that is used in understandable contrasts. Included in the episode is information on low-water plants, pesticide usage, and water management.	July, 2002 August, 2002 September, 2002 February, 2003
Earth Café "Land Toxins"	Episode 8: Eco Hero award winning segment on land fill and hazardous waste handling and how protection of water quality through RCRA.	July, 2002 September, 2002 October, 2002 February, 2003
Earth Café "Common Sense Solutions"	Episode 9: Segment discusses recycling and use of environmentally friendly products. Included in the segment is a discussion of pollution prevention practices at manufacturing facilities.	July, 2002 September, 2002 October, 2002 February, 2003
Earth Café "Ecosystems"	Episode 10: Review of ecosystems including a look at the Platte River ecosystem.	July, 2002 September, 2002 October, 2002
Earth Café "Environmental Protection"	Episode 12: This segment spends time looking at environmental protection practices, including the use of bioremediation at a contaminated soils location (including impacts to groundwater quality)	July, 2002 October, 2002 February, 2003
Clean Water Summit	CTN Segment covering the July 2002 Clean Water Summit held at Point Loma Nazarene, and hosted by Project Clean Water.	July, 2002 August, 2002 September, 2002 October, 2002
Focus – San Diego County Project Clean Water	CTN Focus segment of the County's Project Clean Water Program. Program provides information on the County's monitoring, outreach programs, as well as website information.	October, 2002 November, 2002 January, 2003
Earth Café "Clean Water Act"	Episode 20: Coverage of the Federal legislation known as the Clean Water Act including a look at 25 years of changes. Featured is a look at how water is cleaned up and what needs to be done to protect resources.	November, 2002 March, 2003
Clean Water and You	County of San Diego produced video presenting water quality, watersheds, and what the individual can do to protect both. Presented in both English and Spanish.	January, 2003 February, 2003 March, 2003 April 2003 May 2003 June 2003

In future Annual Reports, the County will include only those PSAs and programs that address watershed concepts and/or target specific pollutants of concern and, where applicable, Santa Margarita River watershed issues. Discussions of PSAs and/or other media programs that include general watershed information have been incorporated in the Unified Annual Report, and can be found in Section I.B. Any PSAs specific to the Santa Margarita River Watershed have been included in the FY '03-'04 WURMP. For each PSA listed, a discussion of the PSAs content will be included.

10. Section 3.3.5 states that a draft Regional Watershed Brochure will be developed by July 2005. Please 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 Common Activities Section of the Unified Document. In summary, the regional watershed brochure was originally envisioned as an educational product that would meet the needs of all watersheds within the region. The length of time anticipated for the development of the Regional Brochure took into account currently funded programs, and availability of funding for alternative projects.

The concept for a regional watershed 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, it was felt that a regional brochure could address some common elements, but could not address the unique features of a particular watershed. Further, it was felt that at this point in the educational program, developing watershed displays that could contain common elements, and that are tailored to the targeted watershed area would better resonate with both 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 several watersheds. 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.

The City of Oceanside further demonstrated the value of watershed-specific brochures by developing a watershed map/brochure for the North County watersheds (it also provided an opportunity for multiple stakeholder partnerships in a watershed). For the foregoing reasons, the Copermittees opted to reject the regional watershed brochure approach in favor of displays using the Regional GIS Watershed Map.

11. Explain why bacteria is listed as a low priority in Table 18 while page 66 states that bacterial indicators occurred at a high frequency based on the Santa Margarita watershed management area assessment.

The commenter is correct in stating that fecal coliform had a higher frequency of occurrence in the watershed assessment analysis. However, as discussed in the Annual Report, this is anticipated to be a direct result of a sewage spill on the Santa Margarita River that was reported by Camp Pendleton on the day of sampling at the mass loading station. Therefore, using best professional judgment, it was decided to set the priority as "low" in Table 18. If future monitoring activities result in additional data showing continued frequent occurrence, the County will adjust this priority level as appropriate. However, based on the limited data available at the time the Annual Report was generated, the County believes this low priority determination is appropriate.

12. We understand that you plan to include water quality data from sources other than San Diego County in the Water Quality Assessment section of future annual reports. We encourage the review and inclusion of other data sources that have been collected, analyzed, and reported using quality assurance/quality control procedures that are appropriate and acceptable to the Regional Board.

The County of San Diego understands the Regional Board's concern in assessing the quality of data from other parties. Since the Regional 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. Within the Santa Margarita Watershed, this type of information includes data from the Home2Ocean Citizen's Monitoring Effort, and the Riverside County jurisdictions within the watershed, but not subject to the Municipal Permit for the San Diego County region.

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 a year. Completed in June 2004, it was made accessible to the public through the Project Clean Water Website.

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 framework, which allows for uniform and consistent data assessment and management across watersheds within the County, is designed to specifically 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 analyses.

To augment the assessment of water quality, the County of San Diego has 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.

In the event that the quality assurance/quality control procedures used in obtaining the data found in the outside source data sets are found to be less than the standards we use in our Regional Monitoring Program, the County of San Diego intends to utilize the data to check for problems in our own data for the area.

Concluding Comments

The County of San Diego appreciates the opportunity to provide the Regional Board 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 or, the Santa Margarita River WURMP, please contact Mr. Joseph DeStefano with the

Department of Planning and Land Use Watershed Planning Program at (858) 694-3692,
or by email at joseph.destefano@sdcounty.ca.gov.

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



ROBERT R. COPPER
Deputy Chief Administrative Officer
Land Use and Environment Group

RRC/jd