SECTION 5

WATERSHED MANAGEMENT MEASURES

5. WATERSHED MANAGEMENT MEASURES

INTRODUCTION

During FY 04-05, the Program conducted a variety of watershed-related management measures and activities. They included conducting watershed assessment activities and special studies, and participating in and coordinating with the Santa Clara Basin Watershed Management Initiative (SCBWMI) sub- and core groups. Activities described in this section are consistent with Provision C.10 (i.e., Watershed Management) of the Program's NPDES Permit.

The Program's watershed management strategy (pursuant to NPDES Permit Provision C.10) is to integrate its watershed management efforts with the SCBWMI. Activities that include implementing environmental monitoring and assessment measures are necessary components needed to fully integrate our efforts. Therefore, it is important to note that watershed management measures described in this section are not entirely independent from activities described in Section 4 – Monitoring Activities. Information gained from conducting studies and implementing activities/measures described in both sections have been used (and will continue to be used) in concert to meet objectives outlined in Permit Provisions C.7, C.9, and C.10. They include: (1) characterizing watersheds and stormwater discharges; (2) assessing existing or potential adverse impacts to beneficial uses; (3) identifying potential sources of pollutants of concern; (4) aiding in developing and implementing strategies for controlling adverse impacts on beneficial uses; and (5) assessing the effectiveness of pollutant prevention/control measures.

BACKGROUND

The Water Board started the SCBWMI in 1996. The first meetings of the SCBWMI's Core Group and subgroups were held in 1997. During FY 98-99, SCBWMI stakeholders formally joined in a signatory document outlining the SCBWMI's mission, goals and objectives. The Santa Clara Valley Water District and the Cities of San Jose, Sunnyvale and Palo Alto committed additional funds and other resources to the SCBWMI. A Report Preparation Team (RPT) consisting of staff from these agencies developed a plan, schedule, and outline for a Watershed Assessment Report (WAR). The RPT and the SCBWMI subgroups began preparing sections of the WAR soon after.

In late 1999, the Program prepared *Watersheds 2000: A Vision of the Santa Clara Valley Urban Runoff Program's Role in Watershed Management and the Santa Clara Basin Watershed Management Initiative*. This document outlines the Program's long-term vision, roles and responsibilities with regard to the SCBWMI and provides a monitoring/continuous improvement and outreach strategy.

The Program's involvement in the SCBWMI is organized by the concept of continuous improvement, as described in the Program's Urban Runoff Management Plan (URMP). The SCBWMI identifies specific watershed issues and recommendations that are brought to the Program's Management Committee for consideration and action as appropriate. In addition, results from SCVURPPP studies related to watershed monitoring, assessment and management are frequently distributed, presented and discussed with SCBWMI subgroups. This approach creates an informed and coordinated partnership between the Program and SCBWMI.

FY 04-05 SCVURPPP ACCOMPLISHMENTS

1. Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI)

The increased interest in bioassessment within the Bay Area spawned the formation of the Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI) in February 2002. BAMBI is a network of scientists, watershed managers, regulators and community members interested in using biological communities as indicators (i.e., benthic macroinvertebrates) of stream health in the San Francisco Bay Area. The goal of BAMBI is to maximize the utility of aquatic bioassessment in the Bay Area by developing a programmatic and analytical framework for the collection, sharing, analysis and use of bioassessment data.

In collaboration with Alameda Countywide Clean Water Program and Water Board staff, Program staff developed a draft Work Plan to outline tasks that should be completed during the development of a Benthic Macroinvertebrate Index of Biotic Integrity (B-IBI) for creeks and rivers in the San Francisco Bay Area. An IBI serves as an easy-to-use scorecard for determining the condition of water quality and stream habitat (i.e., stream health) using biological communities. The IBI approach is designed to maximize detection of degradation by controlling for natural variation in biological communities. The IBI Work Plan is included as Appendix D-1.

Program staff co-presented the draft Work Plan at the fourth annual Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI) workshop on January 31, 2005. The Work Plan has six main tasks:

1. Form Technical Advisory Group;
2. Compile Existing BMI Data from Participating Agencies/Organizations;
3. Standardize Datasets and Import Into Database;
4. Develop Reference Conditions;
5. Select Metrics for the IBI; and
6. Develop, Validate and Refine IBI.

During FY 04-05, Program staff contributed in-kind services to begin working on Tasks 1-3. In turn, a draft data request form entitled *San Francisco Bay Area Benthic Index of Biotic Integrity (B-IBI)- Potential Fields to Include with Data Request Form* was created to itemize the potential information needed to complete the IBI (see Appendix D-2). In addition, Program staff completed a grant proposal to the San Francisco Bay Fund to complete Task 4 (Develop Reference Conditions). This task entails collecting and analyzing existing watershed/creek data; and conducting bioassessments at reference sites in watersheds within the nine-county San Francisco Bay Area.

In FY 05-06, Program staff plans to continue supporting and actively participating in BAMBI activities, with specific objectives to complete Tasks 1-3 and investigate potential funding sources to complete tasks 4-6 identified in the Work Plan.

2. Stream Studies Inventory

The Watershed Assessment and Monitoring Subgroup (WAMS), an entity within the SCBWMI, has a mission to provide the SCBWMI with a solid scientific foundation for watershed planning. One of WAMS's tasks is to coordinate the SCBWMI's data collection and data management efforts with stream monitoring studies within the Basin. The *Inventory of Santa Clara Basin Stream Studies* (SSI) is a result of this task and was initially prepared by the Program in

November 1998. The purpose of the SSI is to promote inter-agency awareness of environmental investigations within riparian corridors and to facilitate coordination of related data collection and management. It also describes stream-related multi-stakeholder studies and projects that were in-progress in the Santa Clara Basin. The SSI was updated, revised and reissued in February 2000 (Version 2.0), July 2001 (Version 3.0), August 2002 (Version 4.0) and November 2003 (Version 5.0). The Program funded the initial development of the SSI and each of the annual updates.

On June 21, 2005, the Program finalized the *Inventory of Santa Clara Basin Stream Studies (Updated Version 6.0)*. This version describes thirty stream-related multi-stakeholder studies and projects that recently started or are in-progress within the Santa Clara Basin. Information for eight new studies was added to the updated version and twenty-two ongoing projects were updated with current information. Ten projects listed in the SSI Version 5.0 Report were determined to be complete or discontinued. As a result, they are not included within the updated SSI Version 6.0. Information describing the completed studies was archived into the Program's metadata database. Updated SSI Version 6.0 is provided within Appendix D-3.

3. Watershed Data Management

To comply with its NPDES permit, the Program compiles, develops and analyzes a variety of data sets and reports. Most of this data is collected and generated as part of the Program's environmental monitoring and assessment activities. A majority of the information collected and used by the Program originates from different municipalities and agencies that conduct studies within Program jurisdictional boundaries.

The Program developed a relational database as an initial task to systematically describe and document data used for its activities. The intent of the database is to demonstrate its usefulness of how to systematically and efficiently collect and document all of the relevant data used in the Program's activities. In addition, the database was designed to explore the feasibility of eventually expanding and coordinating its maintenance and use with other agencies and organizations in the Program.

The SCVURPPP metadata database currently stores information on watershed studies described in the updated SSI Version 6.0 as well as archived information from previous versions of the SSI. The database was also developed to produce a report listing current project information in a format similar to previous SSI Reports. The project summaries of the 2003 SSI report were produced from the database. In addition, the Program database provides querying capabilities for watershed information listed in both the SSI and SCBWMI's Metadata Database.

On November 30, 2004, the Program continued to expand the accessibility of the SCVURPPP Metadata Database by finalizing a guidance manual entitled *SCVURPPP Metadata Database Program User Documentation*. The manual describes software and hardware requirements, installation procedures, data entry procedures and querying techniques for watershed information listed in both the SSI and SCBWMI's Metadata Database. The *SCVURPPP Metadata Database Program User Documentation* is provided within Appendix D-4.

4. SCBWMI Indicators Work Group (Work Group "I")

Within the 2003 Watershed Action Plan, the SCBWI identified a goal of developing and using environmental indicators to characterize progress toward the protection of watershed health.

The effort to develop environmental indicators for the Santa Clara Basin is referred as the "State of the Santa Clara Basin" Project. The goal of this project is to provide a suite of environmental indicators that can be used to periodically assess the status and trends of stream and riparian systems and management actions within the Santa Clara Basin. In addition, the project is intended to: (1) evaluate the effectiveness of environmental programs, policies and projects; (2) improve environmental planning; and (3) adaptively manage emerging issues within watersheds. During January 2005, the development of indicators began with the initiation of the WMI Phase I Indicators Work Group (Work Group "I").

During FY 04-05, Program staff participated in eight Work Group "I" meetings with the objective of identifying candidate indicators for assessing and reporting on stream ecosystem health within the Santa Clara Basin. The framework used to develop indicators and specific recommendations for candidate indicators were documented in the Phase I Indicators Report (June 2005). The recommendations presented in the report were designed to provide a foundation for broadening the approach for later phases.

5. Develop Strategies for Controlling Impacts of Land Use on Beneficial Uses

To implement this monitoring priority during FY 04-05, Program staff provided administrative support to the SCBWMI Land Use Subgroup (LUS) and served as Interim Chair. Due to concurrent activities of the Water Resources Protection Collaborative, formed by the Santa Clara Valley Water District to address land use activities near streams, the LUS met less frequently than in previous years because many of its members were involved in Collaborative meetings. In August 2005, the Collaborative held its last monthly planning meeting and participating agencies began implementing the resulting guidelines and standards. As a result, the LUS plans to resume its normal meeting schedule in FY 05-06. A new chairperson has been identified and LUS is continuing to implement its 2005 Work Plan.

A summary of LUS accomplishments during FY 04-05 include:

- The Program, in conjunction with the LUS, was tasked under the Copper Action Plan with investigating the role of stormwater agencies in regional congestion management planning and implementation and examining the issue of traffic congestion reduction from a stormwater perspective. Program staff developed two memoranda for review and discussion by the LUS: 1) *Status of Projects to Reduce the Impacts of Transportation on Stormwater using Common Transportation Control Measures;* and 2) *Overview of Alternative Transportation Section - SCVURPPP Development Policies Comparison Project.* The first memorandum provides a status update of projects that may reduce transportation impacts on water quality. The second memorandum provides a summary of alternative transportation-related items from the Development Polices Comparison Project and Site Design Standards Review. The memoranda were finalized on June 7, 2005 and are provided within Appendix D-5.

- LUS reviewed the SCBWMI's *Public Visual Preference Survey* (which includes the same transportation-related subjects) at its October 27, 2004 and April 27, 2005 meetings. The goal of the Survey was to assess the attitudes of residents of the Santa Clara Basin toward a variety of visual images including stormwater controls, housing development styles, modes of transportation, forms of outdoor recreation, and other physical constructs that may affect water quality in the Santa Clara Basin. During the June 2, 2005 SCBWMI Core Group meeting, feedback was provided to the SCBWMI on how to use the Survey. A report

entitled *Santa Clara Basin WMI Visual Preference Survey May 2004: Summary of Findings* is available on the SCBWMI website (www.scbwmi.org).

Table 5-1
Status of FY 2004-2005 Watershed Management Measures Projects[1]

Title	Category/ Monitoring Priority (MP)[2]/ Permit Provision	Capsule Scope	Product(s)[3]	Status Schedule
FY 04-05 Rapid Bioassessments	Permit Provision C.7 and C.10	Evaluate water and physical habitat quality in Santa Clara Basin Watersheds.	*FY 04-05 Watershed Monitoring and Assessment Summary Report*[4a, b]	Completed-9/15/05
Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI)	MP #4	Collaborate with other BASMAA member agencies to develop regional bioassessment tools necessary to provide context to bioassessment data collected in Santa Clara Basin creeks.	BAMBI - San Francisco Bay Area Benthic Index of Biotic Integrity (IBI) Draft IBI Workplan [4a] BAMBI- San Francisco Bay Area Benthic Index of Biotic Integrity (B-IBI) *Potential Fields to Include with Data Request Form*[4a]	Draft Completed-1/26/05 Draft Completed-1/26/05

[1] Projects reviewed and approved for inclusion in Work Plan by Budget Ad Hoc Table Group.
[2] Monitoring Priorities (updated at Monitoring AHTG meeting November 8, 1999):
1) New projects needed to implement the results, and achieve the goals, of current projects.
2) New projects that implement continuous improvement items identified through the annual review process.
3) Projects that support the Santa Clara Basin Watershed Management Initiative in one of the following ways:
   a) Investigate Beneficial Uses and Causes of Impairment (including field work)
   b) Review and Compile Environmental Data and Make it Accessible
   c) Develop Strategies for Controlling Impacts of Land Use on Beneficial Uses
   d) Facilitate and Support WMI Subgroups (including coordination with other agencies)
4) Projects identified through participation in regional monitoring collaborative efforts, including the Regional Monitoring Program and BASMAA1
[3] Refer to Appendix C-1 for additional details.
[4] a) Provided within *FY 04-05 Annual Report*
b) Provided on Program's website (www.scvurppp.org)

Table 5-1
Status of FY 2004-2005 Watershed Management Measures Projects[1]

Title	Category/ Monitoring Priority (MP)[2]/ Permit Provision	Capsule Scope	Product(s)[3]	Status Schedule
Stream Studies Inventory	MP#3b	Promote inter-agency awareness of environmental investigations within riparian corridors and facilitate coordination of related data collection and management.	*Inventory of Santa Clara Basin Stream Studies (Updated Version 6.0) Report* [4a,b]	Completed-June 21, 2005
Watershed Data Management	MP#3b	Develop a metadata database that is focused on description, documentation, and indexing of the data sets, sources, and reports	Updated Metadata Database *SCVURPPP Metadata Database Program User Documentation*[4a, b]	Ongoing Completed – November 30, 2004
WMI Watershed Assessment and Monitoring Subgroup (WAMS)	MP#3d	Provide administrative support to WAMS.	Meeting summaries	Completed as needed
WMI Environmental Indicators Workgroup (Workgroup I)	MP #3d	Participate in meetings and provide comments on work products.	SCVURPPP Meeting summaries	Completed as needed

Table 5-1
Status of FY 2004-2005 Watershed Management Measures Projects[1]

Title	Category/ Monitoring Priority (MP)[2]/ Permit Provision	Capsule Scope	Product(s)[3]	Status Schedule
Support for Land Use Subgroup	WMI Subgroups MP# 1, 3c, 3d	Provide administrative support and leadership for the Land Use Subgroup. Maintain the subgroup mailing list; prepare and distribute agendas; chair meetings; edit and distribute meeting summaries; liaison to, and correspond with, the SCBWMI Core Group other subgroups as needed; update workplans; facilitate interaction between consultants and the subgroup; summarize, compile, and convey subgroup products.	*Status of Projects to Reduce the Impacts of Transportation on Stormwater using Common Transportation Control Measures*[4a] *Overview of Alternative Transportation Section - SCVURPPP Development Policies Comparison Project*[4a] Meeting agendas and summaries, Work Plans and other products as directed by the Subgroup.	Completed- June 7, 2005 Completed- June 7, 2005 Completed as needed