



SECTION 5

WATERSHED MANAGEMENT MEASURES

5. WATERSHED MANAGEMENT MEASURES

INTRODUCTION

During FY 02-03, the Program conducted a variety of watershed-related management measures and activities. They included conducting watershed assessments 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 which 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 SCBWMI was started by the Regional Board 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 02-03 SCVURPPP ACCOMPLISHMENTS

1. FY 02-03 Rapid Bioassessments

As part of activities conducted under the SCVURPPP's FY 02-03 Annual Monitoring Plan and Watershed Management Measures Work Plan, the Program conducted rapid biological assessments of Upper Penitencia and Thompson Creeks in April and May 2003. The intent of the assessments was to help evaluate the water and physical habitat quality of these subwatersheds. The assessment was conducted using protocols outlined in the California Stream Bioassessment Procedure, which is a standardized procedure for characterizing benthic macroinvertebrate assemblages in wadeable streams. Due to benthic macroinvertebrate abundance, taxonomic diversity and range of response to changes in their aquatic environment, they are commonly used to monitor the quality of surface water resources. It is important to note that the implementation of rapid bioassessments by the Program is consistent with bioassessment and monitoring activities currently being conducted by other Bay Area stormwater/urban runoff programs. During FY 02-03, the Program has consistently worked with these programs through participation in the BASMAA Monitoring Committee to begin developing regional bioassessment tools (See next section - BAMBI).

Six sites were assessed within the Upper Penitencia Creek system: the lowermost site was located near the confluence of Coyote Creek and the other five sites were evenly distributed upstream to just downstream of the Arroyo Aguague Creek confluence. Upper Penitencia Creek is primarily a perennial stream that has active streamflow management in the form of stream diversions and augmentation to promote groundwater recharge. The four lowermost sites have modified channels and receive exposure to urban runoff. The two uppermost sites contain both modified and natural channel segments and occur in drainage areas that are primarily undeveloped.

Four sites were assessed within the Thompson Creek watershed upstream of the Yerba Buena Creek confluence. Thompson Creek has an intermittent streamflow and contains both natural and modified channels. The Thompson Creek sites have a mix of undeveloped and developed land uses in the upstream drainage areas; the lower two sites have been more impacted from hydromodification due to existing urbanization. Three replicate benthic samples were collected at each site from both stream systems in conjunction with a habitat assessment.

The benthic samples were processed in the laboratory by identifying 300 randomly selected organisms from each sample and identifying the organisms to a standard taxonomic level. Biological metrics were used to describe characteristics of the benthic macroinvertebrate assemblages and cluster analysis was used to assess the degree of site/sample similarity based on the composition of benthic macroinvertebrates. A suite of ten commonly used metrics was integrated into a composite metric score for each site to assess the relative quality of the benthic macroinvertebrate assemblages. The two stream systems were independently assessed due to their differing hydrology and locale.

Results of the Penitencia Creek assessment indicate that benthic macroinvertebrate assemblages sampled from the sites were dissimilar and varied in quality. The three lowermost sites ranked consistently below average (according to composite metric scores) and the uppermost site ranked considerably higher than average. The two sites downstream of the uppermost site ranked within an intermediate range. In addition to natural factors associated with stream gradient, other factors which include degree of urbanization could be contributing to

the variation in both substrate quality and BMI assemblage quality. Variation in benthic macroinvertebrate assemblage quality for the Thompson Creek sites appeared mostly random, with no consistent trend by site. Benthic macroinvertebrate assemblages of Thompson Creek had low richness and diversity with an abundance of relatively short-lived taxa. This may be explained by the creek's intermittent streamflow.

Additional information regarding the methods, results, analyses, conclusions and suggested next steps to rapid bioassessment studies conducted in FY 02-03 are included in the *Watershed Monitoring and Assessment Summary Report* (and its attachments). It is included within Section 4 – Monitoring Activities, Appendix C-1. The results and conclusions were presented to the SCBWMI Watershed Assessment Subgroup (WAS) in August 2003.

2. Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI)

In February 2002, Program staff participated in a workshop for information sharing and discussion of recent and ongoing rapid bioassessment (benthic macroinvertebrates) studies in the Bay Area. The network of individuals participating in the workshop was named the Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI). BAMBI's purpose is to coordinate and share bioassessment information throughout the Bay Area. In particular, BAMBI is interested in storm water programs that include rapid bioassessments in their watershed monitoring and assessment programs.

Building on the success of the BAMBI workshop in 2002, BASMAA participants (including SCVURPPP) coordinated and participated in the second annual BAMBI workshop on January 29, 2003. In preparation for the workshop, Program staff supported (through in-kind services) the development of issue papers intended to stimulate discussion on issues related to the following five topic areas: (1) the standardization of rapid bioassessment protocols in the Bay Area; (2) the establishment of reference conditions for Bay Area creeks; (3) quality assurance and control in field sampling and laboratory analyses; (4) data management and sharing; and (5) physical habitat assessments and protocols. In FY 03-04, Program staff plan to support and actively participate in BAMBI activities with the goal of developing regional bioassessment tools necessary to provide context to bioassessment data collected in Santa Clara Basin creeks.

3. Coyote Creek Watershed Integrated Pilot Assessment

Past Program efforts (reported in the Program's FY 99-00 and FY 01-02 Annual Reports) have been to assist Regional Board staff with the development of a functional and pragmatic assessment approach. To test this functional assessment approach and to contribute to the SCBWMI's assessment of Santa Clara Basin watersheds, the Program conducted an Integrated Pilot Assessment in the Coyote Creek Watershed. The intent of the pilot assessment was to: (1) help facilitate continuous improvement of the SCBWMI's watershed assessment framework; (2) integrate that methodology with that being used by the Regional Board's Regional Monitoring and Assessment Strategy (RMAS) and other Regional Board initiatives; (3) develop a list of appropriate initial management actions to preserve and enhance the Coyote watershed; and (4) identify appropriate monitoring locations and provide baseline information as part of the Multi-year Monitoring Program to assist with continued watershed assessment.

In January 2002, the Program completed the classification of stream reaches for the entire watershed (see *Stream Classification for the Coyote Creek Watershed Coyote Creek Watershed Integrated Pilot Assessment Technical Memorandum: Task 2.0*). Assessments of hydrogeomorphic, habitat and biological functions were also completed during FY 01-02 (see

Assessment of Stream Ecosystem Function for the Coyote Creek Watershed Coyote Creek Watershed Integrated Pilot Assessment Technical Memorandum: Tasks 3.0 and 4.0). These documents can be found on the Program's website (www.scvurppp.org).

During FY 02-03, draft and final reports were prepared to describe the assessment methodology, results, list preliminary data gaps and additional research needs and include recommendations for practical actions to improve and enhance the watershed. Additional products include technical memoranda that (1) recommend additional research and monitoring to address data gaps identified through the assessment; (2) identify and prioritize critical reaches for future monitoring; (3) articulate a long-term monitoring strategy for the watershed; and (4) discuss how to use this assessment information to support analysis of aquatic life beneficial use attainment.

The method used in the Coyote Creek Watershed Integrated Pilot Assessment to assess physical stream ecosystem is based on the Hydrogeomorphic Approach (HGM) that was developed to assess riverine (water and wetland) functions. It has been applied locally and in Central and Northern California. Biological stream ecosystem functions were assessed using a multimetric approach to calculate an Index of Biological Integrity. A multimetric approach is useful to assess biotic integrity in streams in which a broad range of human impacts occur.

The study area for this project was limited to data-rich portions of the two largest creeks in the watershed: Upper Penitencia Creek below Cherry Flat Dam and Coyote Creek below Anderson Dam. Stream reaches were classified using factors related to geomorphology and urbanization. The existing capacities of study area reaches to support the following four physical ecosystem functions were assessed using hydrogeomorphic models: hydrologic processes and channel dynamics, aquatic habitat, riparian habitat and landscape-level connectivity. The existing capacities of study area reaches to support aquatic fauna (macroinvertebrates and fishes) were assessed using indices of biological integrity. Selected water quality parameters were examined to assist interpreting model results. Future capacities of stream ecosystem functions were assessed by estimating the relative positive and negative impacts of existing and near-term factors that may continue or soon influence the distribution and viability of fish and macroinvertebrate assemblages, their habitats and the functional capacities of supporting stream processes. Potential capacities of stream ecosystem functions were assessed by identifying where existing and future stream ecosystem functional capacities could be maintained or improved by practical, strategic management actions that have not been planned. Potential management actions were prioritized based on which would have the greatest positive impact on cold and warmwater fish and macroinvertebrate communities. Monitoring activities to address data gaps identified through the assessment are also described and prioritized.

Coyote Creek Watershed Assessment Follow-up Actions

The Coyote Creek Watershed Integrated Pilot Assessment report also includes a summary of high-priority, potential management and monitoring follow-up actions to improve the potential functional capacity of stream ecosystem functions in Coyote Creek reaches. During FY 02-03, these potential follow-up actions were presented by Program staff to the SCBWMI. They are currently under consideration by the Co-permittees. In addition, the Program implemented several follow-up monitoring actions suggested in the Coyote Creek Watershed Integrated Pilot Assessment through the implementation of the Program's Annual Monitoring Program Plan. These follow-up actions are described in detail in Appendix D-1.

3. Assessment of Watershed Assessment Methods

In keeping with the Program's commitment to continuous improvement of program elements, selected regional and national watershed assessment methods were evaluated to identify and recommend future direction for SCVURPPP's environmental monitoring and assessment program. As part of this evaluation, a memorandum was prepared which identifies the Program's monitoring and assessment needs in the context of prior efforts and pilot studies. In addition, the memorandum provides a framework for linking different types of assessment methodologies to address such needs using an adaptive management approach; summarizes types of and trends in watershed assessments; and focuses on methods using bioassessment and analysis of stream ecosystem functions.

The framework integrates the tiered assessment and rotating basin approaches currently implemented by the Regional Board, Program and many other agencies involved in water quality and watershed monitoring and assessment. Watershed assessment methods were characterized as either Tier I (screening level methods intended to detect beneficial use impairment) or Tier II (more detailed investigations of causes of degradation and use impairment). The framework also embraced the practice of integrating biological, chemical and physical indicators using a regional reference framework to establish water body condition relative to benchmarks. The ultimate goal of implementing this framework is to develop a monitoring and assessment program that provides an information base to support Program objectives of continuously improving program components and to develop additional ones to support attainment of beneficial uses in selected water bodies.

The assessment methods selected for evaluation in this project were selected using the following criteria:

- Methods address at least one type of assessment need as outlined in the framework (e.g., appropriate for Tier I screening-level assessment or Tier II analysis of causes of degradation and use impairment);
- Methods integrate biological, chemical and physical indicators and ideally historical information or at least a means for establishing reference condition;
- For extra-regional methods: tested, proven useful, and demonstrate most recent advances in application of assessment methodologies; and
- For intra-regional methods: commonly and recently used.

The Tier I assessment methods evaluated included Rapid Bioassessment Protocols, Rapid Stream Assessment Technique, Proper Functioning Condition, Stream Ecosystem Function Assessment, Oregon Watershed Assessment Manual and the Framework for Conducting Watershed Assessments. The Tier II assessment methods evaluated included the North Coast Watershed Assessment Program Limiting Factors Analysis, the Napa River Basin Limiting Factors Analysis, the San Francisquito Creek Sediment Reduction Plan and Aquatic Habitat Assessment and Limiting Factors Analysis, the Program's *Workplan for Watershed Analysis and Management Practice Assessment in Other Creeks Potentially Impaired by Sediment from Anthropogenic Activities*, the Hydromodification Plan, and the Biological Water Quality Target Approach.

Recommendations for the Program's monitoring and assessment program resulting from this evaluation of watershed assessment methods include the following:

Tier I Screening Level Assessment Methods

- Use the Stream Ecosystem Function Assessment (SEFA) approach (as recommended by the Program in 2003), augmented by certain aspects of the Rapid Stream Assessment Technique (RSAT), to analyze data generated from an ambient monitoring program based largely on Rapid Bioassessment Protocols (RBPs);
- Coordinate regionally to develop reference conditions and bioassessment tools to support analysis of macroinvertebrate data;
- Work towards developing robust numeric biocriteria; and
- Consider pursuing bioassessment of fish assemblages in larger order streams and in streams supporting steelhead trout.

Tier II Screening Level Assessment Methods

- Continue to implement Limiting Factors Analysis (LFA) as primary approach to investigating factors potentially limiting attainment of aquatic life uses. Incorporate lessons from other projects implementing LFA;
- Consider using the HMP as tool to address potential use impairment caused by hydromodification associated with future development;
- Consider incorporating aspects of the HMP method of geomorphic assessment into a method for classifying Santa Clara Basin streams. Identify and prioritize where restoration efforts could occur; and
- Incorporate biocriteria into assessments as feasible.

The results and recommendations included in the report were presented to the SCBWMI Watershed Assessment Subgroup (WAS) and the Ad Hoc Monitoring Workgroup in July 2003. Both were generally well received by the participants. The Program's document entitled *Assessment of Watershed Assessment Methods* (dated July 31, 2003) is provided as Appendix D-2.

4. Stream Studies Inventory

The Watershed Assessment Subgroup (WAS), an entity within the SCBWMI, has a mission to provide the SCBWMI with a solid scientific foundation for watershed planning. One of WAS's tasks is to coordinate the SCBWMI's data collection and data management efforts with stream monitoring studies within the Basin. The Stream Studies Inventory (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) and July 2001 (version 3.0). The Program funded the initial development of the SSI and each of the annual updates.

In fulfillment of WAS Task 7.6, the Program completed version 4.0 of the SSI in August 2002. As part of the update task, the Program developed a relational database to store watershed project information listed in the four previous versions of the SSI. In addition, the database was designed to provide query functions and produce reports (see Watershed Data Management below for a detailed description of database design). In FY 03-04, the Program will develop a more substantial update of the SSI, placing a higher level of effort for collecting information on new projects and updating information on existing projects (WAS Task 7.7). This data will be entered into the Program database. An updated final report will be completed in FY 03-04.

5. 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 database was designed to provide the following functions:

- Accommodate a broad array of fields that allows documentation of data generated and compiled for Program activities;
- Be consistent with watershed information documented in the MDDDB metadata database and reserves the MDDDB data ID to be able to link back to the MDDDB;
- Provide extra data fields for archiving SSI information to meet the SSI report needs;
- Contain information that describes ongoing and planned projects and the products that are generated from these studies;
- Provide data entry screen user interface to allow user to add/edit data;
- Implement unique standardized lookup tables and relational database relationship mechanisms to ensure the data integrity and consistency;
- Provide extensive database searching and query tools to allow the user to easily achieve information from the database by entering combined criteria;
- Facilitate a number of summary reports and searching result reports;
- Reduce the redundancy of data collection efforts within and among agencies; and
- Reduce associated costs for agencies to request and transfer information.

The database is a metadata database which focuses on the description, documentation, and indexing of the data sets, sources, reports, etc. It does not focus on data. The current metadata database incorporated information on data sources that were documented in the

existing WMI's watershed assessment metadata database (MDDDB) and the WMI's Stream Studies Inventory Report data (SSI). In addition, information used for the Program's Coyote Creek Watershed Integrated Pilot Assessment was entered into the database. The Program developed draft written user documentation for the database in FY 02-03. The documentation is currently undergoing final revisions by Program staff and will be completed in FY 03-04. In addition, the database will continue to be updated with information on data sources relevant to the Program's watershed monitoring and assessment activities in FY 03-04.

6. Contributions to the Unabridged Watershed Assessment Report (Monitoring Priority 3a)

Many SCBWMI stakeholders, including Regional Board staff, provided comments and input into the Watershed Assessment Report. However, the writing and editing was accomplished almost entirely by Co-permittee staff and contractors retained by the Co-permittees and Program staff. The on-going work of the SCBWMI is being implemented by subgroups, which develop products for review by the Core Group. Co-permittee and Program staff played key roles in most subgroups of the SCBWMI. This active participation allows for "integration of watershed management activities into the Management Plan" in accordance with Permit Provision C.10. Accomplishments relating to the Watershed Assessment Report include:

Volume I- Watershed Characteristics Report

The Watershed Characteristics Report, the first volume of the three-volume Watershed Management Plan, was produced and distributed to stakeholders and municipal decision makers in February 2001. The intent of the report is to describe the general physical and political characteristics of the Santa Clara Basin. During FY 02-03, SCBWMI stakeholders and Co-permittees submitted their suggested revisions for Volume I to the Report Preparation Team (RPT). The revisions were based on updated information that was documented during the assessment phase of the WMI pilot project. The final version of Volume I was scheduled for approval in late August 2003.

Volume II- Watershed Assessment Report

The Watershed Assessment Report is the second volume of the Watershed Management Plan and it describes the assessment approach, watershed selection rationale and evaluation methods implemented in the pilot assessment process. The Program provided funding and supported development of several sections of the Volume II report. They include the following: (1) Foreword; (2) Executive Summary; (3) Chapter 1; (4) Chapter 3; and (5) Section 1.8 of the "Lessons Learned" technical memorandum. The final report was approved by the RPT and Core Group in March 2003 and distributed to stakeholders and municipal decision makers in April 2003.

Volume III- Watershed Action Plan

Volume III- Watershed Action Plan intends to prioritize alternative actions in watershed planning and suggest programmatic changes in regards to policies and regulations. The final Volume III was tentatively scheduled for distribution in August 2003. Co-permittees funded the consultants' time and Program staff provided review and comments to the consultant by way of the appropriate WMI channels between the subgroups and the Core Group.

Appendix B- "Lessons Learned in the Pilot Watershed Assessment"

The purpose of Appendix B, Section 1.8 is to describe Watershed Assessment Subgroup (WAS) perspectives on the lessons learned in the pilot assessment. This includes the perspectives from the Watershed captains and the WAS members. The completion of this chapter was necessary for the final completion of the "Lessons Learned" technical memorandum; an appendix to Volume II - Watershed Assessment Report. Appendix B, Section 1.8 was transmitted to the RPT on September 11, 2002. Program staff and Co-permittees regularly attended WAS meetings and supported WAS efforts by assisting with the development of Appendix B, Section 1.8 of the "Lessons Learned" technical memorandum.

Watershed Assessment Subgroup

In the initial steps of the assessment process, the WAS worked with the Watershed Assessment Consultant (WAC) to identify existing data resources, assemble available data, evaluate the quality of existing data, identify data gaps, develop and implement strategies (for data acquisition and management) and implement data interpretations which would lead to effective planning decisions.

As the pilot assessment process progressed, the role of WAS changed to: (1) providing opportunities for stakeholder input (as the assessments were developed); (2) compiling collected comments while providing a tracking mechanism for responses to the comments received; and (3) reviewing assessment information as prepared by the WAC and RPT. Throughout the WMI pilot project, Program staff and Co-permittees regularly attended WAS meetings and played a key role in facilitating the review and comment consolidation process.

Since the WAS is considered the representative and most informed group of the WMI relative to watershed assessments, communication between Program staff and WAS makes the conveyance of information possible. As a result, this communication may influence the future direction the Program should consider relative to future watershed assessments. To facilitate communication between WAS and the Program, Co-permittees and Program staff regularly participate in WAS meetings. In addition, the Program's Ad Hoc Monitoring Work Group meets on a quarterly basis in coordination with WAS. In addition, staff from the City of Sunnyvale and the SCVWD served as co-chairpersons to WAS.

Update of Watershed Assessment Subgroup Work Plan

During FY 02-03, the March 2002 WAS Work Plan was reviewed and updated. It will continue to undergo revisions in FY 03-04. It is anticipated that the 2003 WAS Work Plan will be finalized in September 2003.

The WAS collaborates with the Program in facilitating workshops or meetings to gather stakeholder input. WAS transmits information and work products to other interested parties and allows them to provide comments on their own. WAS also provides a forum to communicate the WMI pilot watershed assessment results to the Program and other agencies and individuals. In addition, WAS helps identify areas where additional assistance in data gathering is needed, addresses questions raised by the assessment results and determines the need for future watershed assessments.

The purpose of the WAS Work Plan is to identify resource needs and possible funding or "in kind" resources for tasks relating to the pilot watershed assessments and future assessments

(as they develop). Estimated hours are provided for tasks to be conducted by WAS members or consultants. In addition, the Program provides funding for the Work Plan revision and some Work Plan tasks. For example, the Stream Studies Inventory Update is a WAS Work Plan task that is supported by the Program with in-kind assistance by WAS members.

7. Develop Strategies for Controlling Impacts of Land Use on Beneficial Uses (Monitoring Priority 3c&d)

To implement this priority, the Program supports the SCBWMI Land Use Subgroup (LUS). The Program's participation in the LUS is intended to fulfill a commitment in the 1997 Urban Runoff Management Plan (URMP) to "translate SCBWMI goals and objectives into model local-jurisdiction policies and procedures." To provide administrative support and leadership for the LUS during FY02-03, the Program has also created projects meeting the URMP goals. Several projects are underway which are intimately connected to the new development issues. These projects include:

Assistance in Development of Action Items for the Watershed Action Plan

During FY 01-02, Program staff prepared draft action plans for review and approval by the LUS and WMI Core Group for inclusion in the Watershed Action Plan. Several of the action plan sheets were developed based on the LUS' Consensus Points. In addition, Program staff reviewed the Watershed Action Plan to ensure the action plan sheets were incorporated. The Watershed Action Plan is due to be adopted by the SCBWMI Core Group in late summer 2003.

Assistance in Providing Status Updates on Parallel Tracking Efforts

As an ongoing task, Program staff periodically compiles and help prepare status updates on other programs and activities tracked by LUS (which relate to its efforts under the WMI). During FY 02-03, Program staff included regular updates on the Program's C.3 provision implementation, the Santa Clara Valley Water District's Ordinance 83-2 update process and the resulting collaborative, as part of LUS meetings and summaries.

Economic and Tax Incentives in Watershed Management

With review from the LUS, Program staff completed the technical memorandum entitled *Economic and Tax Incentives in Watershed Management* (dated April 10, 2002). The study analyzed how local, state and federal tax and economic policies can encourage, discourage or conflict with environmental decision-making and thereby affect land use patterns. The study concludes with recommendations on what local government programs, state legislative policy and additional areas of research that the SCBWMI could support to encourage land use patterns that are beneficial to good watershed management. Due to Permit Provision C.3 regulatory deadlines, Program staff focused their efforts on completing the Compare and Contrast Development Policies project during FY 02-03. As a result, the Program did not actively move forward with the recommendations presented in the Economic and Tax Incentives memorandum. However, in working towards determining LUS activities for the coming year(s), Program staff will promote reviewing these recommendations during FY 03-04.

Compare and Contrast Development Policies

As a preliminary step in preparing recommended language for the General Plan and zoning ordinance updates, the Program developed a detailed strategy to guide the comparative review

of the existing development policies of municipalities in the Santa Clara Basin. Using the Center for Watershed Protection's site planning principles and Code and Ordinance Worksheet as a model, Program staff developed a set of applicable model policies on which to base the evaluations of each municipality's policies, codes, ordinances, and guidelines. Resources (General Plans, municipal codes, standard details, etc.) were collected from each municipality and reviewed in consideration of the model policies. In addition, development policy reviews of four adjacent municipalities were also conducted. During FY02-03, Program staff completed the draft report including recommendations specific to each Co-permittee for improvements; accepted and responded to comments on the draft; and finalized and distributed the document in April 2003 (available at www.scvurppp.org). The draft document was reviewed by Management Committee, LUS members and other interested parties. In addition, Program staff provided a presentation on the project and report to the SCBWMI Core Group at its April 2003 meeting.

As a follow-up to the project, Program Staff used the analyses for each Co-permittee as the basis for preparing Co-permittee guidance for conducting the site design review submittal (due to the Regional Board on September 15, 2003). Questions in the analysis pertaining to site design were highlighted and additional guidance was created to assist the Co-permittees in meeting this regulatory submittal. Co-permittees will be reviewing the report and recommendations to determine areas for revising their standards and other development rules. In addition, Program staff used the findings in the report to determine potential hurdles to implementing site design techniques. This is the first step to assist the Co-permittees in understanding and overcoming concerns that could otherwise hinder the implementation of better site design techniques. To gain valuable stakeholder input and insight regarding overcoming hurdles, the Site Design Work Group started to conduct joint meetings with LUS in FY 02-03.

The Role of Stormwater Agencies in Regional Congestion Management Planning and Implementation (CB-6: Measure to Reduce Traffic Congestion—Short-term Issue Paper)

Jointly with LUS, the Program 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. In March 2002, Program staff finalized a short-term issue paper designed to initiate discussion between appropriate agencies and other interested parties (within the WMI) on the role of stormwater agencies in regional congestion management planning and implementation. The paper sparked interest among Santa Clara Basin transportation agencies and catalyzed discussions between stormwater and transportation agencies on cooperation in the amelioration of both traffic congestion and water pollution. To address a follow-up task from the paper's recommendations, Program staff assisted in the creation and discussion of a draft transportation short-term issue application, which examines holding a transportation forum, in the spring and summer of 2002. The LUS decided to delay the finalization of the application until Program staff and environmental interests (Clean South Bay) have met with members of the VTA. The effort has been placed on hold indefinitely due to severe cutbacks at VTA as a result of the ongoing state budget crisis.

In an associated follow-up task recommended in this paper, Program staff reviewed and provided a comment letter (dated June 17, 2002) on the Valley Transportation Authority's (VTA's) draft *Community Design and Transportation: A Manual of Best Practices for Integrating Transportation and Land Use* (Manual). Program staff shared a draft version of the letter with LUS members and incorporated their comments. Program staff also tracked the progress of the

Manual. The Manual was completed in June 2003. The LUS representative from VTA indicates that many Program comments were incorporated. During the summer of 2003, VTA is presenting the manual to each of the Co-permittees planning commissions, city councils and/or Board of Supervisors and will be asking for resolutions of support.

EVALUATION OF EFFECTIVENESS

The SCBWMI faces the enormous challenge of creating and implementing an effective urban watershed management plan supported by diverse stakeholder interests. There is little precedent and no roadmap for pursuing this task. Without the assistance of the Co-permittees, this task would not be possible. Despite obstacles and an occasional slow pace, the SCBWMI has repeatedly shown the capacity to adapt and grow.

During FY 02-03, the SCBWMI, with assistance from the Program, continued to build momentum while strengthening participation and consensus by business interests, environmental advocates, regulatory agencies and other stakeholders. The scope of the Program's involvement in the SCBWMI, and its success, goes far beyond what is described in the Watershed Management requirements of Permit Provision C.10. In particular, the Program effectively collaborated with the SCBWMI in many watershed management-related activities that focused on four general areas during FY 02-03. They include: (1) Investigation of beneficial uses and causes of impairment; (2) Reviewing and compiling environmental data and making it accessible; (3) Developing strategies for controlling impacts of land use on beneficial uses; and (4) Facilitating and supporting subgroups. The effectiveness of specific activities conducted in each of the four general areas is described below.

1. Investigation of Beneficial Uses and Causes of Impairment

The goal of the Program and its Co-permittees is to maintain water quality and protect the beneficial uses of the water bodies in the Santa Clara Basin through the implementation of control measures to the maximum extent practicable (MEP). To help reach this goal, the Program effectively collected information through its monitoring and assessment activities/measures and watershed management measures. By implementing these activities, the Program was:

- Successful in conducting screening level assessments (i.e. rapid bioassessments) in Upper Penitencia Creek and Coyote Creek watersheds to help evaluate the water and physical habitat quality, and aquatic life uses in these subwatersheds;
- Successful in aiding in the development of regional bioassessment tools needed to effectively assess the impacts of water quality and land use on aquatic life Uses in Santa Clara Basin creeks, through support and active participation in the Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI);
- Effective in the implementation of high-priority actions to improve the potential functional capacity of stream ecosystem functions in Coyote Creek reaches, by conducting environmental monitoring described in Section 4; and
- Successful in the evaluation of selected regional and national watershed assessment methods to identify and recommend future direction for SCVURPPP's environmental monitoring and assessment program.

2. Reviewing and Compiling Environmental Data and Making it Accessible

During FY 02-03, the Program continued its efforts to review, compile and disseminate environmental data to stakeholders. These processes occurred through:

- Effective distribution of reports and technical memorandums to the SCBWMI subgroups, allowing for stakeholders to review and comment on methods, results, and recommendations;
- Successful development of a relational database to store and maintain watershed project information from the Santa Clara Basin, which stakeholders can assess; and,
- Effectively disseminating a large majority of the major reports and work products produced by the Program through our website (www.scvurppp.org).

3. Developing Strategies for Controlling Impacts of Land Use on Beneficial Uses

During FY 02-03, the Program and Co-permittee staff supported the SCBWMI in developing strategies for controlling impacts of land use on beneficial uses through the successful implementation of a variety of activities. Through these activities, the Program and SCBWMI:

- Successfully recommended high-priority potential management (e.g., land use strategies) and monitoring follow-up actions in the *Coyote Creek Watershed Integrated Pilot Assessment Report* to improve the potential functional capacity of stream ecosystem functions in Coyote Creek reaches;
- Successfully completed a draft report comparing and contrasting development policies, which included recommendations specific to each Co-permittee for improvements on current policies;
- Effectively updated the SCBWMI Land Use Subgroup on the Program's C.3 provision implementation, the Santa Clara Valley Water District's Ordinance 83-2 update process and the resulting collaborative; and
- Effectively continued to investigate the role of stormwater agencies in regional congestion management planning and implementation and examined the issue of traffic congestion reduction from a stormwater perspective.

4. Facilitating and Supporting SCBWMI Subgroups

During FY 02-03, the Program continued to facilitate and support the SCBWMI subgroups by providing Program and Co-permittee staff as facilitators and support staff to a variety of SCBWMI Subgroups which include: (1) the Watershed Assessment Subgroup (WAS); (2) the Land Use Subgroup (LUS); and (3) the Core Group.

**Table 5-1
Status of FY 2002-2003 Watershed Management Measures Projects¹**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Capsule Scope	Product(s) ³	Status Schedule
FY 02-03 Rapid Bioassessments	Permit Provision C.7 and C.10	Evaluate water and physical habitat quality in Santa Clara Basin Watersheds.	<i>FY 02-03 Watershed Monitoring and Assessment Summary Report^{4a,b}</i>	Completed
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 Issue Papers	Completed

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 Table 4-2 for additional details.

⁴ a) Provided within FY 02-03 Annual Report

b) Provided on Program's website (www.scvurppp.org)

**Table 5-1
Status of FY 2002-2003 Watershed Management Measures Projects¹**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Capsule Scope	Product(s) ³	Status Schedule
Coyote Creek Watershed Integrated Pilot Assessment	MP#1, MP#2, MP#3	Assist Regional Board staff with the development of a functional/pragmatic assessment approach and test this functional assessment approach to contribute to the SCBWMI's assessment of Santa Clara Basin watersheds.	<i>Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed^{4b}</i>	Completed-5/1/03
Assessment of Watershed Assessment Methods	MP#2, MP#3a	Continuous improvement of program elements by evaluating selected regional and national watershed assessment methods to identify and recommend future direction for SCVURPPP's environmental monitoring and assessment program.	<i>Assessment of Watershed Assessment Methods^{4a,b}</i>	Completed-7/31/03
Stream Studies Inventory	MP#3b	Promote inter-agency awareness of environmental investigations within riparian corridors and facilitate coordination of related data collection and management.	Updated Final Report	To be completed in FY 03-04
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 Draft written user documentation for the database	To be completed in FY 03-04 Completed (Final to be completed in FY 03-04)

**Table 5-1
Status of FY 2002-2003 Watershed Management Measures Projects¹**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Capsule Scope	Product(s) ³	Status Schedule
Develop Strategies for Controlling Impacts of Land Use on Beneficial Uses	MP#2, MP#3c,d	Compare and contrast development review policies.	Final Report	Completed
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.	Meeting agendas and summaries, work plans and other products as directed by the subgroup.	Completed as needed Work is currently ongoing