



SECTION 4

MONITORING ACTIVITIES

4. MONITORING ACTIVITIES

INTRODUCTION

During FY 02-03, a considerable amount of staff time and Program resources were spent preparing permit-required submittals, implementing the Program's Monitoring Program, participating in regional monitoring-related programs, conducting special studies and revising/implementing pollutant-specific control programs. This section describes monitoring/assessment-related activities conducted by the Program in FY 02-03. The activities described are consistent with Provisions C.7 and C.9 of the Program's NPDES Permit.

FY 02-03 monitoring activities were generally aimed at developing and implementing programs/projects designed to assess programmatic and environmental effectiveness and practical, implementable indicators and protocols for assessing the beneficial uses of receiving water bodies, including local creeks and the San Francisco Bay estuary. The implementation of these indicators and protocols are a necessary step toward establishing a sound regulatory basis for locally based watershed management. It is important to note that monitoring and assessment activities described within this section are not entirely independent from activities described in Section 5 – Watershed Management Measures. 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, which 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.

To ensure public access to all reports, work products and environmental data, the Program has placed the majority of its major reports and work products on its website (www.scvurppp.org). When viewing the website, the majority of reports and work products are linked to downloadable documents. Reports and work products not available through the website may be obtained by submitting a request form. The website is continually updated to include the latest reports and work products, data inventory sets and other pertinent Program information.

Environmental Monitoring and Assessment vs. Programmatic Monitoring

The Program's strategy for monitoring is based on the two-pronged approach - Environmental Monitoring/Assessment Measures and Programmatic Monitoring. Although inherently interconnected, each strategy has its own objectives. The objectives, elements, differences and utility of the environmental monitoring/assessment; and the programmatic monitoring strategies are further described below.

Environmental Monitoring and Assessment

Environmental monitoring and assessment measures (EMMs) are activities that entail the collection of environmental data through field studies. EMMS are coordinated at the local or regional level and typically fall into one of four categories: (1) screening/baseline level monitoring; (2) detailed investigations; (3) status and trends monitoring; and (4) special studies/control measure monitoring. EMMs are intended to: (1) assist the RWQCB characterize

receiving water quality in urban watersheds consistent with the priorities of the Watershed Management Initiative and the Program; (2) identify where and what type of status and trend type monitoring is appropriate, (3) recognize the need for site-specific water quality investigations to address questions that might arise during the conduct of the routine monitoring efforts; and (4) allow for determining if control measures are having the intended effect. Based on the Program's experience, we believe EMMs provide the best context for considering the effects of stormwater runoff on the environment.^{1,2}

Programmatic Monitoring

Programmatic monitoring is used to gauge how well performance standards are being met and control measures implemented. For the purposes of this report, programmatic monitoring efforts include tracking and evaluating continuous improvements and evaluating the effectiveness of implementing control programs for pollutants of concern. Programmatic monitoring provides the best basis for measuring compliance with Permit requirements and the success of implementing Program components.²

HIGHLIGHTS OF FY 02-03 ACCOMPLISHMENTS

A summary update of FY 02-03 projects is provided in Table 4-1. The follow discussion is a brief summary of the major highlights of specific projects. The discussion has been separated into two sections:

- Environmental Monitoring and Assessment Measures
- Programmatic Monitoring Activities

Environmental Monitoring and Assessment Measures

During FY 02-03, the Program conducted or participated in environmental monitoring and assessment measures. This section provides background information and brief summaries of these measures. A portion of these summaries refer to larger documents, reports or additional information found in other sections of this Annual Report.

It is important to note that a portion of the watershed assessment-related activities (i.e., rapid bioassessments) described in Section 5 also entail the collection of environmental data through field studies. These activities play an important role in determining the effects of stormwater runoff on the environment. Even though, they are not presented in this section, watershed assessment activities are also considered to be EMMs.

Background

From its inception in 1990 through 1995, the Program's monitoring activities focused on establishing baseline information through sampling and analysis of runoff from various land uses and ambient waters. In addition, the Program's annual monitoring plans have also included assessments intended to enhance understanding of the sources and extent of urban runoff pollution, its effects and methods for its control.

¹ *Stormwater Environmental Indicators Demonstration Project – Final Report*, prepared for the Water Environment Research Foundation, 2001.

² *Watersheds 2000 – A Vision of the SCVURPPP's Role in Watershed Management and the SCBWWI*, December 9, 1999.

In August 1996³ the Regional Water Quality Control Board (RWQCB) requested that the Program redirect its monitoring resources and develop a new approach:

Specific monitoring activities that should be considered within the strategy include characterization of drainage areas (watershed monitoring) including land use characteristics (general, such as open, residential, commercial, or industrial areas, or specific sources) and consideration of physical and biological, as well as chemical indicators to assess the drainage areas. We strongly encourage you to use community-based (volunteer) monitoring as an inexpensive and effective means to conduct this type of monitoring. The strategy should also establish a mechanism or process for effective use of special or pilot studies by your program or those conducted by other programs.

The Program's Monitoring Plan implements the goals and objectives that were set by the Program's Management Committee in 1996. These goals and objectives are part of the Program's 1997 Urban Runoff Management Plan (URMP).

Since 1997, the Program has moved toward assessment of specific pollutants and conditions of designated beneficial uses. This approach is consistent with the provisions of the Program's NPDES permit. In recent years, the Program has conducted substantial original research and investigations involving the following: sources, fate, transport and effects of urban runoff pollutants; characteristics of Santa Clara Basin watersheds; effects of urbanization on watersheds; and the effectiveness of various control measures. A complete listing of the major reports and products completed by the Program from 1997 to the present are provided within Table 4-2

Multi-Year Receiving Waters Monitoring Plan

Consistent with Provision C.7.b and C.9 of its Permit, the Program developed and submitted to the RWQCB (on March 1, 2002), a Multi-Year Receiving Waters Monitoring Plan (Multi-Year Plan) that identifies Program monitoring activities in Santa Clara Basin Watersheds over an eight-year period. The Program received a request from Regional Board staff on June 5, 2002 to revise the March 1, 2002 Multi-Year Plan. On August 5, 2002, the Program submitted an updated Multi-Year Plan.

The Multi-Year Plan contains the following information: watershed location (prioritized based on SCBWMI and Program assessment priorities), data type (chemical, biological, physical and trash), number and frequency of sampling events, fiscal years (eight years starting with FY 02-03 through FY09-10), rationale and lead agency. The information on data type utilizes a tiered monitoring approach discussed by the RWQCB staff in its Regional Monitoring and Assessment Strategy (RMAS) memo (Draft Monitoring Design in Regional Board-lead Pilot Watersheds, spring 2001) dated February 8, 2001. The following monitoring categories were included within the memorandum: screening level, detailed investigation, and status and trends. The field and analytical methods used in the (Multi-Year Plan) are consistent with the Regional Board's Surface Waters Ambient Monitoring Program (SWAMP) Quality Assurance Project Plan.

The Multi-Year Plan incorporates specific data needs that have been identified in Program activities relevant to watershed assessment and monitoring. For example, the Multi-year Plan incorporates future monitoring activities that will be implemented for sediment-related studies in Stevens and Coyote Creek Watersheds. Tasks associated with these monitoring activities are

³ Loretta K. Barsamian, Executive Officer. August 30, 1996 letter to Frank Maitski.

identified in the Program's Work Plan entitled *Workplan for Conducting Watershed Analysis and Management Practice Assessment in Other Creeks Potentially Impaired by Sediment from Anthropogenic Activities* (dated August 30, 2002). A clear identification of the specific monitoring activities planned for each year will be provided as part of the Program's Annual Monitoring Plan submitted every March 1.

FY 02-03 Annual Monitoring Plan and Watershed Management Measures Work Plan

In accordance with Permit Provisions C.7.c and C.10, the FY 02-03 Monitoring Program and Watershed Management Measures Work Plan (Monitoring and Assessment Plan) was submitted to Regional Board staff on March 1, 2002. The Program received a request from Regional Board staff on June 5, 2002 to revise the March 1, 2002 Monitoring and Assessment Plan. On August 5, 2002, the Program submitted an updated Monitoring and Assessment Plan.

The Monitoring and Assessment Plan includes the same type of information as the Multi-Year Plan for planned monitoring activities in Coyote and Lower Penitencia Creek Watersheds. The data type and sampling frequency were identified for each sampling site and accompanied by maps depicting proposed sampling locations. Additional details on existing baseline information were provided in the rationale section. The selection of Lower Penitencia Creek and tributaries to Coyote Creek Watershed chosen for monitoring was consistent with the Program's *Watershed Management and Urban Runoff Management Integration Report* (dated June 29, 2001).

Summaries of Environmental Monitoring and Assessment Measures

1. FY 02-03 Watershed Monitoring and Assessment Summary Report

In accordance with Provision C.10 (b), the Program developed a Watershed Monitoring and Assessment Summary Report (Summary Assessment Report) which summarizes the results and analyses of baseline data collected during the implementation of the Program's FY 02-03 Monitoring and Assessment Plan (Plan). The Plan included ambient surface water quality monitoring; and physical habitat assessment studies and bioassessment studies for the Lower Penitencia Creek and Coyote Creek watersheds within the Santa Clara Basin. The Summary Assessment Report provides information on possible beneficial use impacts to the extent possible (based on the study design and available data) and suggests next steps for monitoring/assessments and developing strategies to control potential impacts. The following paragraphs provide a brief synopsis of the information found within the Summary Assessment Report. The entire FY 02-03 Summary Assessment Report is included within Appendix C-1.

Water and sediment samples were collected from five sites in Lower Penitencia Creek watershed and six sites in tributaries to the Coyote Creek watershed (i.e., Upper Penitencia and Lower Silver-Thompson Creeks). During FY 02-03, three sampling events were performed which exhibited the following hydrological cycles: wet season (January 14-15); decreasing hydrograph/spring (April 7-8); and dry season (September 18-19). General water quality field measurements and analytical laboratory results (for the sediment and water samples collected during each event) are included as Attachment B to the Summary Assessment Report.

Biological assessments of benthic macroinvertebrate assemblages and visual assessments of physical habitat were conducted at six sites in Upper Penitencia Creek and four sites in Thompson Creek in April and May 2003. Results and conclusions drawn from rapid bioassessments conducted within the Lower Penitencia Creek and Coyote Creek watersheds

are included as Attachment A to the Summary Assessment Report, and are also described in Section 5 – Watershed Management Measures.

2. FY 02-03 Annual Monitoring and Watershed Management Measures Work Plan

During FY 02-03 the Program developed the FY 03-04 Annual Monitoring and Watershed Management Measures Work Plan (Plan). The Plan was included in the Program's FY 03-04 Draft Work Plan (submitted March 1, 2003). The Plan identifies monitoring and watershed assessment activities for five stream locations in the Adobe Creek watershed and ten stream sites within the San Tomas Creek watershed. The selection of these watersheds is consistent with the Program's *Watershed Management and Urban Runoff Management Integration Report*. The data type and sampling frequency were identified for each sampling site and accompanied by maps showing proposed sampling locations. The monitoring schedule is similar to the one identified in the FY 02-03 Monitoring Plan (i.e., three sampling events representing different hydrological cycles). Information collected during implementation of the FY 03-04 Plan will be described in the FY 03-04 Annual Report.

3. Regional Collaborative Monitoring Activities

Regional Monitoring Program for Trace Substances (RMP)

The Regional Monitoring Program for Trace Substances in the San Francisco Estuary (RMP) is a collaborative effort between the San Francisco Estuary Institute (SFEI), the Regional Board, and the regulated discharger community, including SCVURPPP. The RMP's goal is to collect scientifically valid information that allows movement towards understanding contaminant impacts on beneficial uses of the Bay. The RMP focuses on determining spatial patterns and long term trends through sampling of water, sediment, bivalves, and fish; effects on sensitive organisms; and chemical loading to the Bay. To provide the most complete assessment possible of chemical contamination in the Bay, the RMP seeks to synthesize RMP data with data from other sources.

As mandated in the Program's NPDES Permit, the Program participates and contributes over \$156, 000 annually to SFEI for expenditures on the RMP. This funding to SFEI is in addition to funding provided by the three south bay POTWs, who are also Co-permittees.

In FY 02-03 Program staff actively participated on a variety of RMP committees and workgroups which included the following: RMP Steering Committee, Technical Review Committee (TRC) and the Sources, Pathways and Loadings Work Group (SPLWG). In addition, a City of San Jose staff member currently serves as the chair of the RMP TRC.

Clean Estuary Partnership

On August 6, 2001, a Memorandum of Understanding (MOU) regarding development of: 1) a Water Quality Attainment Strategy for San Francisco Bay-Delta and Tributaries; and 2) TMDLs for 303(d) pollutants (including mercury) was entered into by the Regional Board, Bay Area Clean Water Agencies (BACWA) and Bay Area Stormwater Management Agencies Association (BASMAA). This group is referred to as the Clean Estuary Partnership (CEP).

The mission of the Clean Estuary Partnership (CEP) is to use sound science, adaptive management, and public collaboration to develop and implement technically valid and cost-effective strategies (including TMDLs) that result in identifiable, sustainable water quality

improvements for San Francisco Bay. As a member agency of BASMAA, the Program contributed approximately \$163,000 to the CEP in FY 02-03. In addition, Program staff participated in CEP Executive Management Board (EMB) meetings, CEP Technical Committee (TC) meetings and pollutant-specific workgroup meetings. In addition, a City of San Jose staff member serves as chair of the CEP TC.

FY 02-03 accomplishments include the development of the following technical draft reports and projects: *Conceptual Model for Mercury in the Bay*; *Mercury Source Assessment Report*; implementation alternatives for reducing mercury from various sources (seven reports); and the *Guadalupe River Contaminant/Sediment Loading Study*. In addition, the CEP developed and approved scopes of work for a variety of projects which will be conducted in FY 03-04. These include Copper and Nickel Site Specific Objectives for San Francisco Bay North of the Dumbarton Bridge and Analysis of Pollutants in Sediment Cores near Storm Water Inputs.

The Program will continue to actively participate in the CEP in FY 03-04. The Program plans to contribute approximately \$100,000 to the CEP in FY 03-04.

4. HMP Monitoring Related Activities

As part of the development of the Hydromodification Management Plan (HMP), the Lower Silver – Thompson Creek subwatershed, a tributary to Coyote Creek, was selected to develop, test, and verify the effectiveness of the HMP assessment methodology (see Section 8). The assessment method was developed to evaluate the impacts of hydromodification on stream channel stability and predict impacts from future development projects. A field geomorphic assessment was conducted in the Thompson Creek watershed to improve the understanding of the hydrologic and geomorphic processes controlling channel stability within an urbanizing watershed.

The field assessment involved taking a set of qualitative and quantitative measurements at thirty-seven cross-sections along Thompson Creek and Yerba Buena Creek. In November 2002, qualitative measurements (which included field reconnaissance) was conducted to document problem areas; zones of deposition; sediment transportation and erosion; in-stream and bankside structures; and approximate distances between structures and channel bed to determine relative amount of existing channel incision. The quantitative measurements included channel geometry, channel slope, bank and bed composition and photo documentation.

The project team also distinguished ten *geomorphic reaches* based on the longitudinal variation of bed and bank conditions. These include seven along the main stem of Thompson Creek and three that describe the major tributaries of Thompson Creek.

As part of a two-year study funded by the Santa Clara Valley Water District, a separate sediment transport study was conducted for Thompson Creek and its main tributaries. The purpose of the sediment transport study was to provide sediment transport data from Thompson Creek that could be used to inform channel management decisions and increase understanding of how hydromodification affects sediment loading in the Thompson Creek subwatershed. Six sediment monitoring stations were installed in the Thompson Creek subwatershed. Four of these stations were equipped with continuous-recording dataloggers to measure and record stream flow. Suspended and bedload sediment samples were first collected during the December 14, 2002 storm event.

Another field geomorphic assessment will be conducted in the Ross Creek subwatershed, a tributary to Guadalupe River, during the summer season of FY 03-04. The purpose of this assessment is to determine if the results of the Thompson Creek assessment are significantly different from those for Ross Creek, a watershed with different climatic, geologic and geomorphic conditions. Additional information regarding the activities conducted to support the development of the HMP is provided in Section 8.

5. Guadalupe River TMDL for Mercury

The Santa Clara Basin Watershed Management Initiative (SCBWMI) is serving as the stakeholder forum for the development of the Guadalupe River TMDL Report for Mercury. The Guadalupe River Watershed encompasses parts of San Jose, Los Gatos, Campbell, Monte Sereno and Santa Clara. The Program is a stakeholder in the Guadalupe River TMDL. The Santa Clara Valley Water District (SCVWD) and the City of San Jose are taking lead roles in the TMDL development process. Program staff is also participating in the TMDL process. During FY 02-03, Program staff assisted Regional Board staff with organizing the SCBWMI Watershed Assessment Subgroup (WAS) Guadalupe Mercury Work Group (Work Group) meeting in January 2003 and provided information to possible Stakeholder Group members.

The SCVWD entered into a Memorandum of Understanding with the Regional Board and gave the Notice to Proceed to the Guadalupe River Watershed Mercury TMDL Phase I project consultant in March 2003. The consultant will produce a Problem Statement, Sampling Plans and Data Analysis Reports. The Work Group is a technical body that reviews and assists in directing technical work to develop the information upon which the Guadalupe River Watershed TMDL will be based. The larger stakeholder group is the decision-making body and forum for discussion and integration of technical and non-technical issues and will reach consensus on the TMDL and Implementation Plan.

In FY 02-03, Program staff attended three meetings along with many Co-permittee staff. In addition, Program staff reviewed and commented on four draft technical memoranda developed by the consultant. In FY 03-04, environmental monitoring will begin in the watershed. Program and Co-permittee staff will continue to participate in the development of the Guadalupe River Watershed TMDL for Mercury by attending meetings and reviewing technical results and reports.

6. Guadalupe River Monitoring

During FY 02-03, the CEP approved and funded a project to measure the loading of a variety of contaminants (e.g., mercury, copper, nickel, and PCBs) from the Guadalupe River to the Bay. The main objective of the project was to improve our knowledge on the magnitude of contaminant loads entering the Bay from local tributaries. As a result, this should improve our understanding of the contaminant process in the Bay. The project was designed to assist in the development and implementation of TMDLs and the management of contaminant loading into the Bay.

The project was managed by the San Francisco Estuary Institute (SFEI) and sampling occurred during the 2002-2003 wet weather season (November through May). The sampling site was located at the furthest possible downstream location that was accessible and not tidally influenced. Measurements made during the study included stream discharge, concentrations of various contaminants (e.g., copper, nickel, mercury, PCBs, chlorinated pesticides), anions, turbidity and suspended sediment concentration (SSC).

A report describing the results and conclusions from the study will be available in October 2003. The CEP and RMP have approved additional funding in their FY 03-04 budgets to continue supporting the Guadalupe River Monitoring Study. In addition, SFEI has submitted a Proposition 13 grant aimed at expanding the loading study to include a variety of other small tributaries to the Bay. If SFEI is awarded grant funding to conduct loading studies from additional tributaries to the Bay, the Program will seek to support SFEI through BASMAA.

7. San Jose First Flush Study

Between May 1997 and April 2000, the City of San Jose carried out an investigation to understand the first flush phenomenon on a seasonal scale. The purpose of the investigation was to determine if concentrations of specific constituents in stormwater runoff are elevated during storms preceded by an extended dry period; and to identify the environmental conditions surrounding such events (first flush events). Concentration data for total and dissolved metals, pesticides, polynuclear aromatic hydrocarbons (PAHs), anions, total suspended solids (TSS), total organic carbon (TOC), conductivity, gasoline and diesel, and volatile and semi-volatile organics were collected at over twenty-five sites during eight storm events within the Guadalupe River and Coyote Creek watersheds. The numerical analysis of the monitoring data focused on identifying combinations of circumstances yielding increased levels of pollutants during the first substantial storms of the rainy season compared to other storm events.

During July 2003, the Program finalized the investigation and summarized the results in the document entitled *Evaluation of First Flush Pollutant Loading and Implications for Water Resources and Urban Runoff Management* (dated July 31, 2003). This document is included in as Appendix C-2. The results suggest that the first flush phenomena did not occur consistently throughout most of the stations investigated for either (total or dissolved) metals or anions; and specific combinations of site and storm circumstances exist that result in a first flush effect with respect to dissolved metals. The implications for water resource and urban runoff management are also discussed. They are based on the Program's results and other related investigations.

8. Provision C.9.c – Control Program for Mercury

The Program's NPDES permit states that municipal stormwater discharges may be causing or contributing to exceedances of water quality standards for mercury. Permit Provision C.9.c. requires the Program to develop and implement a mercury pollution prevention plan. In response, the Program developed a Mercury Pollution Prevention Plan (Mercury Plan) consistent with the Provision. The Mercury Plan was submitted to the Regional Board on March 1, 2002 as part of the Program's FY 02-03 Work Plan.

The Mercury Plan identifies actions that will be implemented at the Program level, municipality level, or both; and provides the schedule for initiation and/or completion of Program-level actions. The details of municipality actions and schedules are included in the individual Co-permittee Work Plans and/or Annual Reports, as appropriate.

The Mercury Plan is based on the premise that a Bay Area-wide approach (and coordination) in addressing mercury pollution prevention will be most successful. For this reason, many of the actions identified in the Plan are for Program-level participation in regional efforts. These efforts are supplemented by countywide and local efforts.

The Mercury Pollution Prevention Plan addresses five general areas:

- I. *Municipal Use of Mercury-Containing Products* – Eliminate all unnecessary municipal use of mercury-containing products and establish proper disposal methods for products that cannot be eliminated.
- II. *Household Hazardous Waste Collection* – Provide mercury-containing product disposal services through household hazardous waste (HHW) collection programs for residents and small businesses, and encourage use of these programs.
- III. *Monitoring and Science* – Participate in coordinated monitoring efforts to support mercury TMDL development and implementation, including assessment of air pollution sources of mercury and concentrations of mercury in sediment.
- IV. *Regional, State, and Federal Coordination* – Actively participate in regional, state and federal coordination efforts to achieve a reduction in the amount of mercury in urban runoff and air emissions.
- V. *Public Education and Outreach* – Increase awareness of proper disposal of mercury-containing products and available non-mercury containing alternatives.

The FY 02-03 status and accomplishments of activities conducted under Monitoring and Science are described below. For a more detailed description of FY 02-03 accomplishments and the prominent mercury pollution prevention activities planned for FY 03-04, refer to Section 7 - Mercury Pollution Prevention Activities.

Monitoring and Science

The Santa Clara Basin Watershed Management Initiative (SCBWMI) is serving as the stakeholder forum for the development of the Guadalupe River Mercury TMDL Report. The Program is a stakeholder in the Guadalupe River TMDL process. During FY 02-03 Program staff attended TMDL stakeholder meetings and reviewed four draft technical memoranda developed by the consultant. In addition, the Program continued to provide financial support to the Regional Monitoring Program (RMP), including the Mercury Deposition Network Pilot Study. Program and Co-permittee staff also actively participated in RMP Technical Review Committee (TRC) and Steering Committee (SC) meetings; and were actively involved and supported Clean Estuary Partnership (CEP) projects designed to assist in the development of the Guadalupe and San Francisco Bay Mercury TMDLs (See Clean Estuary Partnership).

During FY 02-03, the Program also analyzed sediment samples from Berryessa Creek, Lower Silver Creek, Lower Penitencia Creek and Upper Penitencia Creek for total mercury and a variety of other pollutants of concern. Total mercury concentrations ranged from 0.048 mg/Kg to 0.12 mg/Kg. In general, total mercury concentrations were found towards the low end of the range of concentrations found during the Joint Stormwater Agency Program (JSAP). The JSAP was a survey conducted during 2000 and 2001 of selected pollutant concentrations in Bay Area storm drain and creek sediment samples. The sampling plan emphasized urban areas, with a high proportion of the urban samples from industrial areas.

In FY 03-04, the Program will continue to sample for mercury in creek sediments during field studies conducted under the FY 03-04 monitoring program.

9. Provision C.9.d – Control Program for Pesticides

To address the impairment of urban streams by diazinon, the Program is required to implement a pesticide toxicity control plan (i.e. Control Program for Pesticides). In response, the Program developed a Pesticide Management Plan consistent with the Provision. The Pesticide Management Plan, which has many components, is fully described in Section 6 of the Annual Report. Pesticide-related monitoring and science activities conducted during FY 02-03 include:

- Continued to fund the Regional Monitoring Program (\$156,000) and participate in the RMP advisory and technical committees to focus RMP resources on 303(d) problem pollutants (including pesticides);
- Attended the Urban Pesticide Committee meetings and participated in discussions on development of the Diazinon TMDL for Urban Creeks Preliminary Project Report;
- Participated in development of a regional TMDL data collection plan as a contributing member of the Clean Estuary Program (CEP);
- Supported actions by the California Stormwater Quality Association (CASQA) to comment on and assist with USEPA's pesticide risk assessments. The Program contributed funding to the CASQA consultant contract covering comment letters on risk assessments and other pesticide-related tasks; and
- Completed the first year of sampling in accordance with the Program's Multi-Year Receiving Waters Monitoring Plan. Work included an analysis of samples collected at five stream sites in the Lower Penitencia Creek watershed and six stream sites in the Coyote Creek watershed for organophosphate pesticides. Diazinon concentrations ranged from 0.02 to 0.05ug/L (just slightly over the detection limit of 0.01ug/L) and were detected in four of the twenty-one samples. The remaining eighteen organophosphate pesticide analytes were not detected in any of the samples. Sediment samples were collected at four sampling stations and analyzed for organochlorine pesticides. Additional information is provided in the *SCVURPPP FY 02-03 Receiving Waters Monitoring Report*, distributed to the Management Committee and Regional Board staff on July 17, 2003.

Programmatic Monitoring Activities

This section provides background information and brief summaries of programmatic monitoring activities the Program conducted or participated in during FY 02-03. A portion of these summaries refer to larger plans, documents or reports. These reports are included in other sections (e.g., sections 6, 7 and 10), appendices to Section 4 or are available upon request.

Background

Programmatic monitoring indicators are used to gauge how well Performance Standards are being met and control measures are being implemented. The following summaries illustrate existing commitments and priorities established by the Program including ongoing activities intended to address the following permit provisions: C.9- Water Quality-Based Requirements for Specific Pollutants of Concern; C.6.a(i)-Enhanced Annual Reporting Requirements for

Industrial-Commercial Discharger Control Program; and C.6.a(ii)- Enhanced Reporting Requirements for Illicit Connection and Illegal Dumping Elimination Activities.

Summaries of Programmatic Monitoring Activities

1. Pollutant-Specific Requirements- Provisions C.9.

The recent emphasis on the enforcement of long-standing Federal requirements relating to TMDL development and implementation has led the Regional Board to request (and require) assistance with identifying control measures for pollutants of concern.

As described in the 1990 storm water regulations, the intent of EPA's mandate requiring storm water pollution prevention programs to incorporate a monitoring element was to help determine the effectiveness of these programs. Various studies, which include the Stormwater Environmental Indicator Demonstration Project (SEIDP), have demonstrated that pollutant loadings are a poor indicator of the effectiveness of municipal storm water programs.⁴ The Program's current Performance Standards provide for the control of urban runoff pollutants to the maximum extent practicable. In addition, the Program's continuous improvement process provides for timely and orderly updates of the Performance Standards as new technology and information becomes available.

As mentioned in previous annual reports, the Program's current NPDES permit has greatly expanded the requirements for developing and implementing copper, nickel, mercury, PCBs, dioxins, pesticides and sediment control plans/programs. During FY 02-03, the Program focused on the creation, revision and implementation of numerous work plans associated with developing control programs for the pollutants of concern. This expansion will provide essential data by identifying activities that may impact water quality. Identification of potential sources should lead to the implementation of continuous improvement control measures.

The following summaries briefly describe the FY 02-03 status and accomplishments of developing and implementing control measures for the pollutants of concern. The following summaries do not include information regarding pesticide management or mercury control programs. They are included in Sections 6 and 7, respectively.

Provisions C.9.a and b– Copper and Nickel Control Measures

In accordance with the SCVURPPP NPDES permit, the Program assisted the Bay Modeling and Monitoring (BMM) subgroup to conduct two semi-annual reviews of the Copper Action Plan (CAP) and Nickel Action Plan (NAP). These reviews occurred on November 18, 2002 and May 27, 2003. The BMM recommended that subsequent semi-annual stakeholder review meetings be held in October and April of each year following submittal of the Program's Annual Report and Work Plan, respectively. The October meeting would focus on the stormwater activities and the April meeting would focus on POTW activities and the Work Plan.

To date, most of the CAP/NAP baseline activities have been implemented at the Program level (except for those assigned to specific Co-permittees). In response to Regional Board staff comments, the Program formalized the process in which Co-permittees clearly identify specific baseline actions (in addition to Program-wide actions) within their individual work plans. The

⁴ Stormwater Environmental Indicators Demonstration Project – Final Report, prepared for the Water Environment Research Foundation, 2001.

Program, working with Regional Board staff, met on June 6, 2003 to discuss proposed changes to the CAP/NAP reporting approach and format. A revised approach was agreed upon on June 26, 2003. The Program and Co-permittees, consistent with the revised reporting format prepared and submitted a *Revised FY 03-04 Copper Nickel Work Plan* to the Regional Board on August 5, 2003.

Relative to developing the annual Work Plan, the revised reporting format includes the following basic information for each baseline action: description of baseline action, regional applicability, linkage to copper reduction and identification of the performance measure. In addition, each baseline activity included the following information within the reporting table: an identification of the lead party (if the lead party is the Co-permittee then the Co-permittee includes the action within their individual work plans), a description of the proposed Work Plan actions, and a description of how effectiveness will be evaluated and a summary of possible future actions.

In addition, the Work Plan tables also provide a summary of actions accomplished in the prior reporting year (i.e., FY 02-03) for each CAP/NAP activity assigned to the Program and certain Co-permittees (San Jose, Sunnyvale and Palo Alto). The revised FY 03-04 Copper and Nickel Action Plan Baseline Activity Work Plans and summary of FY 02-03 accomplishments are provided as Appendix C-3. In summary, the CAP/NAP contains twenty-one copper baseline actions and seven nickel actions. During FY 02-03, some specific accomplishments included:

- Distributing over 33,150 English and 6,500 Spanish brochures thru the Watershed Watch campaign that included outreach on car washing (aimed at reducing copper and nickel; and other pollutant inputs to stormwater and ultimately to receiving waters) (CB-1);
- Standardizing mobile surface cleaner training within the Program area (aimed at reducing copper and nickel; and other pollutant inputs to stormwater and ultimately to receiving waters) (CB-1.3);
- Completing a data analysis report on copper in source water (SCVWD) and incorporating future reporting of data into annual copper action plan reports prepared by Palo Alto (CB-2 – baseline activity deemed complete);
- Preparing second annual Copper Action Plan report-City of Palo Alto (CB-4.3);
- Continuing to actively support BPP (CB-5), providing resources to fund advocate and BPP through BASMAA, providing additional funding to Sustainable Conservation (City of Sunnyvale- \$18,000), and attending annual BPP meeting;
- Continuing to work with and support the Land Use Subgroup (LUS) and completing three actions: White paper entitled *Role of Stormwater Agencies in Regional Congestion Management Planning and Implementation*; White paper entitled *Economic and Tax Incentives in Watershed Management*; and comments on the VTA BMP document. (actions related to reducing traffic and associated pollutants) (CB-6 and CB-7);
- Completing the review and comparison of Co-permittee development policies (CB-8.1) and initiating the preparation of the CEQA checklist for water quality impacts related to development and redevelopment. (aimed at overall reduction of pollutants, including copper and nickel, associated with urbanization) (CB-8.3);
- Completing the *Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed: Coyote Creek Integrated Pilot Assessment* (Program), completing a review and analysis of various assessment methods (Program), and completing (SCBWMI) watershed assessment report for Upper Penitencia, Guadalupe and San Francisquito Creek watersheds (CB-8.4);

- Completing the first year of the Multi-Year Monitoring Plan (Included specific water quality and sediment sampling and analyses for all metals including copper and nickel.) (CB-8.4);
- Continuing to implement Co-permittee street sweeping and catch basin cleaning programs consistent with performance standards (aimed at reducing pollutants, including copper and nickel from reaching storm drains and receiving waters) (CB-11);
- Finalizing the text for an updated brochure entitled *Keep Pool, Spa and Fountain Water Out if Storm Drains, Creeks, and the Bay* (aimed at reducing discharge of treated, which contain copper and nickel, from entering storm drains and receiving waters.) (CB-12);
- Initiating and negotiating a two year contract with the Clean Water Fund to establish and maintain a web based environmental clearinghouse on copper and nickel pollution prevention activities. (CB-16);
- Continuing to fund research on phytoplankton species toxicity (associated with copper and nickel) as well as species prevalence (funded by San Jose) and track other state-wide efforts. (CB-17.1 & 17.4); and
- Continuing to track and report relevant activities related to water quality modeling to keep abreast of potential application to update current impairment assessment box model (CB-18).

Additional details about the specific accomplishments during FY 02-03 for each baseline activity are presented within Appendix C-3.

Provision C.9.e – Control Program for PCBs and Dioxin Compounds

PCBs

To develop data needed for the Bay PCBs TMDL, the Program has provided leadership to Bay Area storm water agencies in their efforts during the past three years. This has included coordinating a regional study that characterized the distribution of PCBs concentrations in storm water conveyance sediments in Bay Area watersheds. The Program has also performed PCBs case studies in selected areas where elevated concentrations of PCBs were found during the regional study and coordinated similar case studies by other Bay Area storm water agencies. The case studies were aimed at identifying PCBs sources and assist in developing controls. To facilitate regional coordination, the Program has led a work group of representatives from BASMAA and Regional Board staff. The Program has also prepared PCBs work plans for the above regional and local field studies. The work plans included a preliminary list of known sites where PCBs were used, stored and/or released in Santa Clara County and preliminary tables summarizing PCBs control options.

FY 02-03 Status and Accomplishments

PCBs Case Study Guidance - The Program prepared a guidance document to assist storm water agencies performing PCBs case studies (*Guidance for Performing FY 02-03 San Francisco Bay Area Stormwater Program PCBs Case Studies*, September 20, 2002). The guidance outlines case study objectives, typical tasks, locations and schedules. The complete guidance document is included as Appendix C-4.

PCBs Case Study - The Program and the City of San Jose performed additional PCBs case study work (*Year Two Case Study Investigating Elevated Levels of PCBs in Storm Drain Sediments in San Jose, California, August 2003*). Follow-up work was performed at one area previously investigated (Leo Avenue in San Jose). In addition, initial investigations were

performed at two additional urban areas in San Jose, referred to as the Monterey Highway and Old Oakland Road areas. Embedded storm drain sediment samples from these areas were tested for PCBs. As in the past, elevated levels of PCBs were found in sediment samples from the storm drain line beneath Leo Avenue. Based on the results of the studies to date, the adjacent Union Pacific railroad track right-of-way area appears to be the current major source of sediments with PCBs found in the storm drain line beneath Leo Avenue. The Monterey Highway and Old Oakland Road case studies and other case studies performed in Santa Clara County revealed relatively low concentrations of PCBs (less than 150 ug/Kg). As a result, further investigation of these areas is not warranted at this time.

During FY 03-04, the City of San Jose plans to perform the following follow-up actions in the Leo Avenue area:

- ◇ Request that the Regional Board work with the Union Pacific Railroad to investigate the possibility that PCBs from the right-of-way have entered storm drains;
- ◇ Investigate prevention of vehicular traffic between the railroad track right-of-way and Leo Avenue;
- ◇ Perform additional inspections of industrial facilities on Leo Avenue; and
- ◇ Continue reviewing Santa Clara County Department of Health and San Jose Fire Department toxic material records and the last 3 years of facility inspection and Illegal Connections and Illicit Discharges (ICID) reports on the Leo Avenue area.

For additional information on the PCB Case Studies conducted in FY 02-03, refer to Appendix C-5.

PCBs Control Study – Currently, the Program is completing a draft report on current efforts to develop methods of controlling discharges of PCBs from Bay Area urban runoff conveyances. The study:

- ◇ Summarizes and discusses past, current and planned efforts to identify PCBs control options in the Bay Area in coordination with the Bay PCBs TMDL, including the PCBs case studies performed to date by Bay Area storm water agencies;
- ◇ Describes existing urban runoff management practices that may help control discharges of PCBs; and
- ◇ Reviews potential new management practices for controlling discharges of PCBs and qualitatively discusses the pros and cons of each practice.

Watershed Monitoring and Assessment – As described in the Watershed Monitoring and Assessment Summary Report (Appendix C-1), the Program collected and analyzed sediment samples from Berryessa Creek, Lower Silver Creek, Lower Penitencia Creek and Upper Penitencia Creek for PCBs and other pollutants of concern during its FY 02-03 receiving waters monitoring and assessment. The concentrations detected in these samples were relatively low (less than 20 ug/kg total PCBs). During FY 03-04, additional sediment samples will be collected and analyzed for PCBs and other pollutants of concern (see Section 4 – Environmental Monitoring and Assessment).

Regional Coordination - To facilitate the regional coordination of the PCBs case studies, the Program continued to coordinate and lead a work group of representatives from BASMAA and Regional Board staff. During FY 02-03, the work group met periodically to facilitate information sharing; and the coordination of field activities and regional planning. In addition, Program staff continued to participate in selected stakeholder, CEP and RMP meetings and represent BASMAA on the CEP PCBs workgroup.

Dioxins

During FY 01-02, the Program submitted an initial work plan to address dioxins and furans (*Control Program for Dioxin-like Compounds, March 1, 2002 Submittal per Provision C.9.e.i. and ii. of SCVURPPP's NPDES Permit*). The work plan, provided as Appendix C-6, specified reviewing readily available data on methods used to characterize dioxin-like compounds in storm water runoff and surface waters and concentrations typically found in the Bay Area and other areas. In FY 02-03, the results of the review were documented in a technical memorandum submitted to the Regional Board (*Dioxins Information Review, October 1, 2002*). It is included in Appendix C-7. The review revealed that dioxins and furans have been found in urban runoff in the Bay Area and other locations, and in sediments in the Bay and other estuaries. It was concluded, however, that existing data are not sufficient to characterize the distribution in urban runoff among Bay Area land uses or calculate loadings to the Bay. Currently, combustion-related air emissions may be the largest source of dioxins and furans released to storm water runoff and the environment within the Bay Area. Reservoirs of dioxins and furans associated with activities no longer practiced in the Bay Area (e.g., medical waste incineration and municipal garbage burning) may also exist.

In accordance with the recommendations of the October 1, 2002 information review, the Program had planned to analyze archived embedded storm drain and creek sediment samples for dioxins and furans. These samples were archived during the second year (FY 01-02) of a regional survey of mercury, PCBs and chlorinated pesticides. However, an internal communication error at the project laboratory resulted in the inadvertent disposal of the samples before analysis could be performed. It should be noted that the Alameda County Clean Water Program is analyzing similar archived sediment samples collected in Alameda County for dioxins and furans. The Program intends to look at the possibility of extrapolating the Alameda County data to other parts of the Bay Area to develop rough characterization and loading estimates.

During FY 02-03, the Program began collaborating with other Bay Area storm water management programs to develop a "synthesis" document on dioxin-like compounds. The synthesis document will likely be completed in FY 03-04 and summarize the current state of knowledge regarding dioxin-like compounds in relation to storm water runoff. It will include the following elements:

- ◇ Chemical description, sources and environmental fate;
- ◇ Impacts to the environment and human health;
- ◇ A summary of existing relevant monitoring data, including water quality and biological data;⁵

⁵ The results of the Program's *Dioxin Information Review*, October 1, 2002 (which was previously submitted to the Regional Board) will be incorporated into this section.

- ◇ A more detailed description of the regulatory background, including the controversy surrounding the potential threats to the environment and human health in the Bay Area by dioxins and furans and the 303(d) listing;
- ◇ A preliminary identification, comparison and evaluation of potential control measures to address dioxins and furans in urban runoff; and
- ◇ Recommendations for follow-up work, if any.

The Program is also continuing to work with other Bay Area dischargers and Regional Board staff through the Clean Estuary Partnership (CEP) and Regional Monitoring Program (RMP) to coordinate and plan future activities related to dioxins and furans water quality issues in the Bay.

Provision C.9.f – Control Program for Sediment

San Francisquito Creek Sediment TMDL

In response to a listing of impairment by sediment under section 303(d) of the Clean Water Act and a need to provide information for a TMDL assessment, two separate (but coordinated) projects have been developed. These projects are the San Francisquito Creek Sediment Reduction Plan, administered by the San Francisquito Creek Joint Powers Authority (JPA); and the Aquatic Habitat Assessment and Limiting Factors Analysis, managed by the Santa Clara Valley Water District (SCVWD).

The primary issues driving the TMDL are flooding and degradation of steelhead trout, other threatened aquatic species and their habitats. The approach adopted by the JPA and SCVWD in these projects is to assess factors limiting the threatened aquatic species, including but not confined to those related to excessive sedimentation caused by human land use activities. Project products are intended to produce information that will assist the Regional Board to confirm or reject the validity of the sediment impairment listing and help identify other causes of impairment to aquatic species and their habitats in San Francisquito Creek.

A final draft memorandum entitled *Historical Conditions of San Francisquito Creek* was completed in June 2003 in fulfillment of Task 4.1 of the San Francisquito Creek Sediment Reduction Plan. During FY 03-04, the JPA is planning to conduct the remaining tasks in the Sediment Reduction Plan. These include a Watershed Sediment Analysis using Rapid Sediment Budget; assessing the effectiveness of existing policies, regulations, and land management practices to minimize sediment inputs; and making recommendations to improve existing management practices and to identify new ones. In addition, the SCVWD is planning to conduct an Aquatic Habitat Assessment and Limiting Factors Analysis and produce a technical report presenting analyses, interpretations and discussion of identified key limiting factors for production of steelhead trout and other select species in San Francisquito Creek.

Develop Work Plan to Conduct Watershed Analysis and Sediment Practice Assessment for Other Creeks

In accordance with permit provision C.9.f.iii, the Program submitted the Sediment Impairment Report (Other Creeks) to the Regional Board on March 1, 2002. The Program received a request from Regional Board staff on July 8, 2002 to revise the report to include certain issues

regarding the development of a work plan and schedule relating to Stevens, Coyote and Saratoga creeks. On August 30, 2002, the Program developed a work plan entitled *Workplan for Conducting Watershed Analysis and Management Practice Assessment in Other Creeks Potentially Impaired by Sediment from Anthropogenic Activities* to fulfill the request. The Work Plan tasks and timeline was designed to evaluate and potential implement new watershed assessment approaches in the future using lessons learned from the San Francisquito Creek TMDL project.

During FY 02-03, the Program prepared a draft scope of work for conducting the watershed analysis and sediment management practice assessment in the Stevens Creek watershed. The sediment assessment work plan contains two separate phases. Phase I is scheduled for FY 03-04 and includes conducting a Limiting Factors Analysis (LFA) and sediment management practices assessment. Tasks associated with the LFA include collecting available existing data to characterize the watershed and identify issues of concern; develop hypotheses to understand potential impacts of sediment to species that are sensitive to excess sediment; conduct focused studies to test hypotheses; and implement a limiting factors analysis to determine to what degree sediment impacts are key factors. The sediment management practices assessment will focus on documenting and evaluating existing sediment management practices in Stevens Creek watershed. Phase II includes conducting a rapid sediment budget and is scheduled for FY 04-05. Phase II will only be conducted if Phase I study results indicate that excessive sediment from anthropogenic sources is impairing beneficial uses in the watershed.

A Watershed Analysis Ad Hoc Task Group (Watershed Analysis AHTG), which was previously established to develop the work plan, will review products developed in Phase I and make recommendations for Phase II (or other future studies) and potential management actions. The Watershed Analysis AHTG recommendations will be reviewed and approved by the Management Committee and discussed with the SCBWMI WAS.

Trash Characterization and Management Activities

The Regional Board identified 10 urban creeks and one lake within the Program's jurisdictional area that were placed on "monitoring list" for trash during the 2002 303(d) listing cycle. These include: Calabazas Creek, Coyote Creek, Guadalupe River, Los Gatos Creek, Matadero Creek, Permanente Creek, San Felipe Creek, San Francisquito Creek, Saratoga Creek, Stevens Creek, and Vasona Lake. According to the SWRCB's *Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments* (dated February 4, 2003), water bodies placed on the "monitoring list" have:

" data or information that are not of adequate quality and/or quantity to support a listing and subsequent TMDL regulatory process. In these cases, a finding is warranted that more information must be collected to resolve whether objectives and beneficial uses are attained. The waters on the Monitoring List are high priority for monitoring before the next section 303(d) list is completed."

On November 14, 2001, the Regional Board released the document entitled *Proposed Revisions to Section 303(d) List of Priorities for Development of Total Maximum Daily Loads for the San Francisco Bay Region* Report. This report states that "between now and the next 303(d) listing cycle, municipalities will be expected to assess trash impairments in their jurisdiction ...", Regional Board staff will review information concerning trash in the next listing cycle to determine whether specific water bodies warrant 303(d) listing.

In order to effectively address trash issues, the Management Committee formed a Trash AHTG on February 21, 2002. During FY 02-03, the following tasks were completed:

Existing Trash Management Practices Survey

Program staff developed and distributed an existing trash management practices survey (Survey) to individual Co-permittee staff. The main purpose of the Survey was to document existing trash management practices and policies for each Co-permittee. The Survey responses were compiled and entered into a Microsoft Access® database. Preliminary reports were generated from the database to document existing trash management practices and policies implemented by the Co-permittees. Appendix C-8 contains Co-permittee responses to survey.

Trash Work Plan

To fulfill a FY 01-02 continuous improvement item and actions within the Program's Multi-Year Receiving Waters Monitoring Plan, the Trash AHTG prepared a Trash Work Plan that identifies a strategy for addressing trash problem areas that occur in urban streams and waterways. The Trash Work Plan was submitted within the Program's *FY 03-04 Draft Work Plan* on March 1, 2003.

In preparation of the Trash Work Plan, the Trash AHTG reviewed the reports generated from the Survey and commented on the utility of the information at the December 18, 2002 Trash AHTG meeting. The Trash AHTG determined that additional information to the survey data reports would enhance the report and assist the Program to better evaluate the effectiveness of existing management practices and to identify where potential management actions are needed.

As part of the Trash Work Plan, Program staff will continue to collect information (and data sources) related to existing trash management practices and policies of agencies within the Program's jurisdiction. Additional surveys and interviews with individual Co-permittees will assist in filling in the gaps and provide a more detailed and comprehensive documentation of existing trash management and monitoring activities. In addition, the location of known trash problem areas will be collected from the Co-permittee agencies to assist in the evaluation of current management practices.

The Trash Work Plan includes the following objectives:

- Document and evaluate existing trash management practices implemented by municipalities and agencies within the Program's jurisdiction;
- Develop a strategy to conduct trash evaluations in creeks;
- Assist Co-permittee's in identifying the high priority trash problem areas and sources of trash; and identify the likely transport mechanisms to the streams and rivers of the county;
- Provide guidance on the implementation of potential control measures and evaluation criteria needed to address problem areas; and
- Develop a standardized reporting format for documenting and evaluating trash management and monitoring activities.

The FY 03-04 tasks focus on the further documentation and evaluation of existing management practices; the identification of potential management actions; the further development of trash evaluation tools; and the development of standardized format for reporting and evaluating trash management practices. The Trash AHTG will continue to meet in support of developing Work Plan products. Recommendations from the Trash AHTG will be reviewed and approved by the Management Committee.

2. Enhanced Reporting for Illicit Connection and Illegal Dumping (ICID) Elimination Activities

Please refer to Section 9 (Co-permittee IND and IC/ID Summary Tables) of the FY 02-03 Annual Report for details.

3. Enhanced Reporting for Industrial-Commercial Discharger Control Program

Please refer to Section 9 (Co-permittee IND and IC/ID Summary Tables) of the FY 02-03 Annual Report for details.

EVALUATION OF EFFECTIVENESS

During FY 02-03, the Program effectively met all obligations stated in its Monitoring Program and Watershed Management Measures Work Plan (Plan). Environmental monitoring and assessment measures were implemented through a variety of activities which include the following: baseline water quality monitoring described in the Program's Annual Monitoring Plan and Watershed Management Measures Work Plan; regional collaborative efforts (e.g. RMP and CEP); and active participation in TMDL development. In addition, programmatic monitoring efforts were expanded to include enhanced annual reporting for Industrial/Commercial Discharger Control and Illicit Connection/Illegal Dumping Elimination. The more intensive tracking of these activities will help guide future efforts in implementing measures to control pollution from industrial/commercial and illicit dischargers.

Determining success is one of five programmatic goals identified in the 1997 Urban Runoff Management Plan. The effectiveness of monitoring activities conducted in FY 02-03 is described below with regards to the following monitoring program objectives (as stated in the Program's NPDES Permit): (1) Characterization of representative drainage areas and stormwater discharges; (2) Assessment of existing or potential adverse impacts on beneficial uses caused by pollutants of concern in stormwater discharges; (3) Identification of potential sources of pollutants of concern found in stormwater; and (4) Evaluation of effectiveness of representative stormwater pollution prevention of control measures.

1. Characterization of Representative Drainage Areas and Stormwater Discharges

During FY 02-03, the Program continued to successfully characterize watersheds and stormwater discharges through the implementation of monitoring and assessment activities/measures and regional collaborative efforts. The Program was:

- Successful in conducting screening/baseline level water quality monitoring in Upper Penitencia Creek and Coyote Creek watersheds to help characterize water and physical habitat quality and biological integrity;
- Successful in participating in regional collaborative efforts which included the Regional Monitoring Program for Trace Substances (RMP), the Clean Estuary Partnership (CEP) and the Bay Area Stormwater Management Agencies Association (BASMAA);
- Successful in contributing to, and participating in the monitoring of pollutants and calculating pollutant loadings from the Guadalupe River. This will assist in determining the magnitude of contaminant loads entering the Bay from local tributaries; and
- Successful in conducting the San Jose First Flush Study. This study determined if concentrations of specific constituents in stormwater runoff are elevated during storms preceded by an extended dry period and to identified the environmental conditions surrounding such events (first flush events);

2. Assessment of Existing or Potential Adverse Impacts on Beneficial Uses Caused by Pollutants of Concern in Stormwater Discharges

The goal of the Program 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 environmental monitoring and assessment measures. A portion of these measures are described in Section 5 – Watershed Management Measures. By implementing these measures, the Program was:

- Successful in conducting screening/baseline level water quality monitoring in Upper Penitencia Creek and Coyote Creek watersheds to help characterize water and physical habitat quality and biological integrity;
- 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 in Santa Clara Basin creeks through support and active participation in the Bay Area Macroinvertebrate Bioassessment Information Network (BAMBI);
- Successful in participating in regional collaborative efforts which included the Regional Monitoring Program for Trace Substances (RMP), the Clean Estuary Partnership (CEP), and the Bay Area Stormwater Management Agencies Association (BASMAA);
- 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;
- Successful in beginning to assess impacts of sediment on beneficial uses in creeks in Santa Clara County; and

- Successful in the evaluation of selected regional and national watershed assessment methods to identify and recommend future direction for the Program's environmental monitoring and assessment program.

3. Identification of Potential Sources of Pollutants of Concern Found in Stormwater

The Program continues to characterize stormwater discharges and conduct studies designed to help determine potential sources of pollutants of concern found in stormwater. During FY 02-03, the Program was:

- Successful in conducting screening/baseline level water quality monitoring in Upper Penitencia Creek and Coyote Creek watersheds to help characterize water and physical habitat quality and biological integrity;
- Successful in implementing control programs for mercury and pesticides, designed to reduce these pollutants from entering stormwater;
- Successful in conducting PCBs case study follow-up in the City of San Jose to better characterize potential sources of PCBs;
- Successful in beginning to develop control programs for sediment in San Francisquito and other creeks in Santa Clara County; and
- Successful in assessing proposed trash assessment protocols, designed to determine sources of trash in water bodies.

4. Evaluation of Effectiveness of Representative Stormwater Pollution Prevention of Control Measures.

Through the implementation of programmatic measures, the Program continued to evaluate the effectiveness of stormwater control measures and activities. In FY 02-03, the Program was:

- Successful in the development or implementation control programs for the following pollutants of concern: mercury, pesticides, copper, nickel, PCBs and dioxins;
- Successful in developing a work plan that will provide a watershed analysis of Stevens Creek for sediment impacts, which includes an evaluation of the effectiveness of sediment management practices in the watershed; and
- Successful in conducting a Trash Survey, which collected information regarding existing trash management practices.

**Table 4-1
Status of FY 2002-2003 All Environmental and Programmatic Monitoring Projects¹**

Title	Category/ Monitoring Priority (MP)²/ Permit Provision	Origin	Capsule Scope	Product(s)³	Status Schedule
Multi-Year Receiving Waters Monitoring Plan	Permit Provision C.7(b)	Permit	Develop a multi-year monitoring plan that identifies Program monitoring activities in the Santa Clara Basin Watershed.	<i>Multi-Year Receiving Waters Monitoring Plan^{4b}</i>	Completed- 8/5/02
FY 02-03 Water Quality Monitoring	Permit Provision C.7(c)	Permit	Conduct watershed/water quality monitoring and assessment activities in Santa Clara Basin Watershed.	<i>FY 02-03 Watershed Monitoring and Assessment Summary Report^{4a,b}</i>	Completed
FY 03-04 Annual Monitoring Program Work Plan	Permit Provision C.7(c)	Permit	Develop an annual monitoring plan that identifies Program monitoring activities in the Santa Clara Basin Watershed.	<i>FY 03-04 Annual Monitoring Plan and Watershed Management Measures Work Plan^{4b}</i>	Completed- 2/28/03

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 BASMAA

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 4-1
FY 2002-2003 Monitoring Projects, continued**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Origin	Capsule Scope	Product(s) ³	Status Schedule
Regional Monitoring Program (RMP) for Trace Substances in the San Francisco Estuary	MP #4, Permit Provision C.7. b	Permit	Provide funding and technical participation.	Attend meetings and review documents	Completed as needed
Clean Estuary Partnership (CEP)	MP #4		Provide funding and technical participation.	Attend meetings and review documents	Completed as needed
Hydromodification Management Plan (HMP) Monitoring Activities	Permit Provision C.3.	Permit	Develop, test, and verify the effectiveness of the HMP assessment methodology in Lower Silver – Thompson Creek subwatershed, a tributary to Coyote Creek	<ul style="list-style-type: none"> • <i>HMP, Working Draft Report, Lower Silver Thompson Creek Subwatershed (Chapters 1-3)^{4b}</i> • <i>HMP, Draft Interim Report on Assessment of Lower Silver-Thompson Creek Subwatershed^{4b}</i> 	<p>Completed-3/3/03</p> <p>Completed-7/30/03</p>

**Table 4-1
FY 2002-2003 Monitoring Projects, continued**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Origin	Capsule Scope	Product(s) ³	Status Schedule
Guadalupe River Mercury TMDL	MP #3a	303(d) list	Participate in the development of the Guadalupe River Watershed TMDL for Mercury by attending meetings and reviewing technical results and reports.	Draft Preliminary Problem Statement; Draft Phase I Project Management Plan; Draft Quality Assurance Plan; Draft Synoptic Survey Plan	Complete
Guadalupe River Monitoring	MP #4	Clean Estuary Partnership (CEP)	Provide funding and technical participation to the CEP. Review technical results and reports.	Guadalupe River Monitoring Report	Preliminary Draft Report due in October 2003
San Jose First Flush Study	MP #2	City of San Jose	Investigation the first flush phenomenon on a seasonal scale.	San Jose First Flush Report (<i>Evaluation of First Flush Pollutant Loading and Implications for Water Resources and Urban Runoff Management</i>) ^{4a,b}	Completed-7/31/03

**Table 4-1
FY 2002-2003 Monitoring Projects, continued**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Origin	Capsule Scope	Product(s) ³	Status Schedule
Control Program for Mercury	Permit Provision C.9.e	Permit	<p>Develop Mercury Pollution Prevention Plan to address the impairment of the Guadalupe River Watershed and San Francisco Bay</p> <p>Conduct environmental monitoring via Multi-Year Monitoring Plan</p> <p>Provide funding and technical participation to the CEP. Review technical results and reports.</p>	<p><i>Mercury Pollution Prevention Plan^{4b}</i></p> <p><i>FY 02-03 Watershed Monitoring and Assessment Summary Report^{4a,b}</i></p> <p>Guadalupe River Monitoring Report</p>	<p>Completed-3/1/02</p> <p>Completed</p> <p>Preliminary Draft Report due in October 2003</p>
Control Program for Pesticides	Provision C.9.d	Permit	Develop a pesticide toxicity control plan to address the impairment of urban streams by diazinon.	<p>Pesticide Management Plan</p> <p><i>FY 02-03 Watershed Monitoring and Assessment Summary Report^{4a,b}</i></p>	<p>Completed-3/15/02</p> <p>Completed</p>
Control Program for Copper and Nickel	Permit Provision C.9.a & b	Permit	Assist Bay Modeling and Monitoring (BMM) subgroup to conduct two semi-annual reviews of the Copper Action Plan and Nickel Action Plan	<i>Copper and Nickel Action Plan FY03-04 Work Plan^{4a,b}</i>	Completed-8/5/02

**Table 4-1
FY 2002-2003 Monitoring Projects, continued**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Origin	Capsule Scope	Product(s) ³	Status Schedule
Control Program for PCBs and Dioxin Compounds	Permit Provision C.9.e	Permit	Prepare a guidance document to assist storm water agencies performing PCBs case studies during FY 02-03.	<i>Guidance for Performing FY 02-03 San Francisco Bay Area Stormwater Program PCBs Case Studies^{4a,b}</i>	Completed- 9/20/02
			Perform PCB follow-up case study in the City of San Jose which includes a field sampling program.	<i>Year Two Case Study Investigating Elevated Levels of PCBs in Storm Drain Sediments in San Jose, California^{4a,b}</i>	Completed
			Conduct a study on current efforts to develop methods of controlling discharges of PCBs from Bay Area urban runoff conveyances.	<i>Review of Potential Measures to Control Discharges of PCBs from Urban Runoff Conveyances in the San Francisco Bay Area^{4a,b}</i>	Completed
			Conduct environmental monitoring via Multi-Year Monitoring Plan.	<i>FY 02-03 Watershed Monitoring and Assessment Summary</i>	Completed

**Table 4-1
FY 2002-2003 Monitoring Projects, continued**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Origin	Capsule Scope	Product(s) ³	Status Schedule
			<p>Review data on methods used to characterize dioxin-like compounds in storm water runoff and surface waters.</p> <p>Develop a “synthesis” document on dioxin-like compounds.</p>	<p><i>Report</i>^{4a,b}</p> <p><i>Dioxins Information Review</i>^{4a,b}</p> <p>Synthesis document</p>	<p>Completed-10/1/02</p> <p>Draft to be completed in October 2003</p>
Control Program for Sediment	Permit Provision C.9.f	Permit	<p>Provide information for a sediment assessment in San Francisco Creek</p> <p>Conduct a watershed analysis and management practice assessment in the other creeks which may be impaired by excessive sediment production from erosion due to anthropogenic activities (Stevens Creek).</p>	<p>Technical memorandum on historical conditions</p> <p>Draft Scope of Work</p>	<p>Complete</p> <p>Complete</p>
Trash Characterization and Management Activities	MP #3c		Effectively address trash issues in the Santa Clara Basin Watershed	<p><i>Trash Work Plan</i>^{4b}</p> <p>Existing Trash Management Practices Survey^{4a,b}</p>	<p>Completed-2/28/03</p> <p>Completed-2/28/03</p>

**Table 4-1
FY 2002-2003 Monitoring Projects, continued**

Title	Category/ Monitoring Priority (MP) ² / Permit Provision	Origin	Capsule Scope	Product(s) ³	Status Schedule
Continuous Improvement of ICID (1)-Enhanced Reporting	MP#2	Stormwater Environmental Indicators Demonstration Project (SC19.07), Indicator #21	Develop a prototype database for storing ICID data, an input/output interface, and procedures for Co-permittees to access the database. Include features designed to help Co-permittees track referrals and enforcement actions for ICID incidents. Demonstrate to Co-permittees and refine as needed.	ICID/IND Summary Tables (within <i>FY 02-03 Annual Report</i>) ^{4a}	Completed-9/15/03
Continuous Improvement of Industrial Inspection Record-Keeping and Prioritization (1)-Enhanced Reporting	MP#2, MP#3b	Stormwater Environmental Indicators Demonstration Project (SC19.05, SC19.08, SC19.11)), Indicators#18, #22, #26	Develop a prototype database for storing IND data, an input/output interface, and procedures for Co-permittees to access the database. Include features designed to help Co-permittees relate inspection data to the effectiveness of stormwater BMPs. Demonstrate to Co-permittees and refine as needed.	ICID/IND Summary Tables (within <i>FY 02-03 Annual Report</i>) ^{4a}	Completed-9/15/03

Table 4-2 Major Reports and Work Products 1997-2003

ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
1	97-98	Industrial 1	Sunnyvale/San Jose Metals Control Investigation	City of Sunnyvale Industrial Stormwater Monitoring Pilot Project	Technical Report	EOA, Inc.	Jeff Soller, Robert Gallo	San Jose, Sunnyvale, Palo Alto staff	9/4/1998	Final
2	97-98	SC15.33	Develop/Revise Performance Stds.	Revised Model Performance Standard for IND	Performance Standard, Work Plan and BMPs	EOA, Inc.	Jeff Soller, Kristin Kerr	Management Committee	2/18/1999	Final
3	97-98	SC15.33	Develop/Revise Performance Stds.	Revised Model Performance Standard for ICID	Performance Standard, Work Plan and BMPs	EOA, Inc.	Jeff Soller, Kristin Kerr	Management Committee	2/18/1999	Final
4	97-98	SC15.33	Develop/Revise Performance Stds.	Revised Model Performance Standard for Storm Drain O&M	Performance Standard, Work Plan and BMPs	EOA, Inc.	Jeff Soller, Kristin Kerr	Management Committee	2/18/1999	Final
5	97-98	SC16.42	Watershed Boundaries Assistance to WMI	Various Technical Memos and Maps	Maps	EOA, Inc.	Lucy Buchan, Paul Randall	Lucy Buchan and WAS		Final
6	97-98	SC18.01	SCBWMI Watershed Assessment Initial Inventory	Chapter 7: Natural Setting for the Santa Clara Basin	Chapter in Watershed Characteristics Report	RRM Design Group	John Stanley	WMI Core Group	4/9/1999	Draft
	97-98	SC18.01	SCBWMI Watershed Assessment Initial Inventory	Watershed Assessment Subgroup Work Plan	Memorandum	EOA, Inc.	Roanne Ross	SCBWMI Watershed Assessment Subgroup		Final
8	97-98	SC18.02	Application of Water-Quality Engineering Fundamentals to the Assessment of Stormwater Treatment Devices	Application of Water-Quality Engineering Fundamentals to the Assessment of Stormwater Treatment Devices	Technical Memorandum	EOA, Inc.	Samantha Salvia	Monitoring AHTG	8/28/2000	Final
9	97-98	SC18.03	Environmental Risk of Infiltrating Stormwater	Infiltration and the risk of groundwater contamination	Page 4 in Start at the Source: Design Guidance Manual for Stormwater Quality Protection	EOA, Inc.	Dan Cloak	Regional Board staff, SCVWD staff, BASMAA Work Group	12/1/1998	Final
10	97-98	SC18.03	Environmental Risk of Infiltrating Stormwater	Additional Considerations for Incorporating BASMAA's Start at the Source Techniques in Development Projects	Memo to municipal planners to accompany Start at the Source 2	EOA, Inc.	Wendy Edde	SCVWD staff and AHTG	6/1/1999	Final
11	97-98	SC18.04	Catch Basin Retrofit Feasibility	Catch Basin Retrofit Feasibility Technical Memorandum	Technical Memorandum	EOA, Inc.	Wendy Edde	AHTG	7/12/1999	Final
12	97-98	SC18.05/SC20.05	Data Management (WERF/Other)	Inventory of Santa Clara Basin Stream Studies	Technical Report	EOA, Inc.	Lucy Buchan	SCBWMI Watershed Assessment Subgroup	2/15/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
13	97-98	SC18.06	Enhancements to the Permanente Creek Watershed Science Demonstration Project		Sections in Technical Report	SFEI	Josh Collins	SFEI		Project Cancelled
14	97-98	SC18.05/ SC20.05	Data Management (WERF/Other)	Inventory of Santa Clara Basin Stream Studies - First Update	Technical Report	EOA, Inc.	Lucy Buchan, Bonnie Hulkower	SCBWMI Watershed Assessment Subgroup	7/24/2001	Final
15	97-98	SC18.07	Permanente Creek Demographics	Demographics for Permanente Creek Report	Technical Report; GIS files	CCRS	Skye	CCRS	2/22/1999	Final
16	97-98	SC18.08	RMP Estuary Interface Pilot Study	Estuary Interface Pilot Study	Section in RMP 1997 Annual Report	SFEI	Ted Daum, Rainer Hoenicke	SFEI	3/8/1999	Draft
17	97-98	SC18.09	Volunteer Monitoring Program	Permanente Creek Stream Watch Program Report	Report	CCRS		CCRS	2/19/1999	Final
18	97-98	SC18.10	Compare/Contrast Development Policies	Catalog of General Plan and Development-related Policies	Tabulated Summary	Pacific Municipal Consultants	PMC	SCBWMI Land Use Subgroup	10/15/1998	Draft
19	97-98	SC18.10	Compare/Contrast Development Policies	Compare & Contrast Development Policies	Report	Pacific Municipal Consultants	PMC	SCBWMI Land Use Subgroup	6/15/1999	Draft
20		SC18.06	Pilot Assessment Coyote Creek	Pilot Assessment Coyote Creek		EOA, Inc.	Lucy Buchan, Paul Randall	Lucy Buchan and Lori Pettegrew		Final
21	97-98	RMP	Regional Monitoring Program	Regional Monitoring Program For Trace Substances 1997 Annual Report	Report	San Francisco Estuary Institute	San Francisco Estuary Institute		6/1/1999	Final
22	97-98	SC17.01	Support Land Use Subgroup	Land Use Subgroup Work Plan (including "consensus points")	Memorandum	EOA, Inc.	Dan Cloak	SCBWMI Core Group	3/10/1999	Final
23	97-98	SC17.02	Land Use Data Analysis	Analysis of Existing and Projected Land Uses in Santa Clara Basin Watersheds	Section 4.2 in Watershed Characteristics Report	EOA, Inc.	Lucy Buchan	SCBWMI Land Use Subgroup	3/26/1999	Final
24	97-98	SC17.03	Support Report Preparation Team	Participation; no specific work product		EOA, Inc.	Roanne Ross		12/1/2000	Final
25	97-98	SC17.04	Assemble Wetlands Definitions and Maps	A Summary of Wetlands Definitions and Data Sources	Technical Report	EOA, Inc.	Maya Hayden	SCBWMI Bay Monitoring and Modeling Subgroup	8/2/1999	Final
26	97-98	SC17.05	Assist BASMAA Regional Monitoring Strategy	Idea for a BRMS Project: Regional Monitoring Strategy and Implementation Plan Workgroups	Memorandum	EOA, Inc.	Dan Cloak	BASMAA Monitoring Committee	3/26/1999	Draft
27	97-98	SC17.05	Assist BASMAA Regional Monitoring Strategy	BRMS Annual Report and 99-00 Work Plan	Short Report	EOA, Inc.	Dan Cloak	BASMAA Monitoring Committee	8/15/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
28	97-98	SC19.01	Preliminary Review and Program Assessment	Technical Memorandum #1: Preliminary Review and Program Assessment	Technical Memorandum	EOA, Inc.	Dan Cloak	SEIDP Review Committees	1/15/1999	Final
29	97-98	SC19.02	Gather Existing Data and Enter Into Database; QAPP	Existing Data for the Coyote Creek Watershed	Data Inventory	EOA, Inc.	Lucy Buchan	SEIDP Review Committees	2/1/1999	Final
30	97-98	SC19.03	Analysis of Existing Water Quality Data/Exceedances	See SC19.12						
31	97-98	SC19.04	Increased Flooding Frequency	Technical Memorandum for Indicator #10: Increased Flooding Frequency	Technical Memorandum	URS/Greiner	Phil Mineart	SEIDP Review Committees	4/1/1999	Final
32	97-98	SC19.05	Industrial/Commercial Pollution Prevention	Technical Memorandum for Indicators 18, 22 and 26 (Industrial/Commercial Pollution Prevention, Number of BMPs Installed, Inspected & Maintained, Industrial Site Compliance Monitoring)	Technical Memorandum	EOA, Inc.	Carolyn Chiu	SEIDP Review Committees	7/1/1999	Final
33	97-98	SC19.06	Public Involvement and Monitoring	Technical Memorandum for Indicator #19: Public Involvement and Monitoring	Technical Memorandum	EOA, Inc.	Maya Hayden	SEIDP Review Committees	4/1/1999	Final
34	97-98	SC19.07	Number Illicit Discharges Identified/Corrected	Technical Memorandum for Indicator #21: Number of Illicit Connections/ Discharges Identified and Corrected	Technical Memorandum	EOA, Inc.	Lucy Buchan	SEIDP Review Committees	7/1/1999	Final
35	97-98	SC19.08	Number of BMPs Installed, Inspected and Maintained	[See SC19.05]						
36	97-98	SC19.09	Permitting and Compliance	Technical Memorandum for Indicator #23: Permitting and Compliance	Technical Memorandum	EOA, Inc.	Lucy Buchan	SEIDP Review Committees	7/1/1999	Final
37	97-98	SC19.10	Growth and Development	Technical Memorandum for Indicator #24: Growth and Development (Imperviousness)	Technical Memorandum	EOA, Inc.	Lucy Buchan, Paul Randall	SEIDP Review Committees	6/1/2000	Final
38	97-98	SC19.11	Industrial Site Compliance Monitoring	[See SC19.05]						
39	97-98	SC19.12	Water Quality Pollutant Constituent Monitoring and Exceedance Frequencies of Water Quality Standards	Technical Memorandum for Indicators #1: Water Quality Pollutant Constituent Monitoring and #4 Exceedance Frequencies of Water Quality Standards	Technical Memorandum	URS Greiner	Terry Cooke, Phil Mineart	SEIDP Review Committees	7/1/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
40	97-98	SC19.13	Toxicity Testing and Non-point Source Loadings	Technical Memorandum for Indicators #2, Toxicity Testing, and #3 Non-point Source Loadings	Technical Memorandum	URS Greiner	Terry Cooke	SEIDP Review Committees	7/1/2000	Final
41	97-98	SC19.15	Sediment Characteristics and Contamination	Technical Memorandum for Indicator #5, Sediment Characteristics and Contamination	Technical Memorandum	Kinnetic Laboratories	Marty Stevenson Kathleen Dorsey	SEIDP Review Committees	6/1/2000	Final
42	97-98	SC19.16	Stream Widening and Down cutting	Technical Memorandum for Indicator #7: Stream Widening and Down cutting	Technical Memorandum	EOA, Inc.	Lucy Buchan and Paul Randall	SEIDP Review Committees	3/1/2000	Final
43	97-98	SC19.17	Physical Habitat Monitoring	Technical Memorandum for Indicator #8: Physical Habitat Monitoring	Technical Memorandum	EOA, Inc.	Maya Hayden	SEIDP Review Committees	2/10/2000	Final
44	97-98	SC19.18	Stream Temperature Monitoring	Technical Memorandum for Indicator #11: Stream Temperature Monitoring	Technical Memorandum	EOA, Inc.	Maya Hayden	SEIDP Review Committees	2/10/2000	Final
45	97-98	SC19.19	Fish Assemblage Analyses	Technical Memorandum for Indicator #12: Fish Assemblage Analyses	Technical Memorandum	URS Greiner, Kinnetic Laboratories	Francesca Demgen, Kathleen Dorsey	SEIDP Review Committees	7/1/2000	Final
46	97-98	SC19.20	Macro-Invertebrate Assemblage	Technical Memorandum for Indicator #13: Macroinvertebrate Assemblage Analyses	Technical Memorandum	URS Greiner, Kinnetic Laboratories	Francesca Demgen, Kathleen Dorsey	SEIDP Review Committees	7/1/2000	Final
47	97-98	SC19.21	Public Attitude and User Perception	Public Opinion Survey Draft Summary Report	Report	Fairbank, Maslin, Maullin & Assoc.	Fairbank, Maslin, Maullin & Assoc.	SCBWMI Watershed Management Outreach Committee	12/31/1999	Final
48	97-98	SC19.21	Public Attitude and User Perception	Technical Memorandum for Indicator #17: Public Attitude and Indicator #20: User Perception	Technical Memorandum	Tucker Environmental Consulting	Sheila Tucker	SEIDP Review Committees	2/10/2000	Final
49	97-98	SC19.22	Comparison of Indicator Results	Urban Runoff Management Plans Move Forward: California Demonstration Projects to Issue Results	Article in WERF Progress Newsletter	Water Environment Research Foundation	Dan Cloak	WERF Editorial Staff	4/1/2000	Final
50	97-98	SC19.22	Comparison of Indicator Results	Demonstration of Stormwater Environmental Indicators in the Coyote Creek Watershed and Walsh Avenue Catchment, Silicon Valley, California	Paper	Water Environment Federation (Conference Proceedings)	Dan Cloak, Lucy Buchan	WEF Conference Committees	10/11/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
51	97-98	SC19.23	Re-Evaluation of Management Program	Use of Stormwater Environmental Indicators in Urban Runoff NPDES Permitting and Watershed Management in the Santa Clara Basin California	Paper	Water Environment Federation (Conference Proceedings)	Dan Cloak	WEF Conference Committees	10/11/2000	Final
52	98-99	SC20.02	Microbial Indicators and Beneficial Uses	Technical Memoranda	Technical Memoranda	EOA, Inc.	Jeff Soller, Adam Olivieri	Adam Olivieri	8/31/2001	Final
53	98-99	SC20.02	Microbial Indicators and Beneficial Uses	Microbial Risk Screening Tool	Software on CD-ROM	EOA, Inc.	Jeff Soller, Adam Olivieri	Adam Olivieri	8/31/2001	Final
54	98-99	SC20.03	Impervious Surface Assessment	Analysis of Imperviousness in Basin Watersheds	Section 4.3 in Watershed Characteristics Report	EOA, Inc.	Lucy Buchan	SCBWMI Land Use Subgroup	6/30/1999	Draft
55	98-99	SC20.03	Impervious Surface Assessment	Analysis of Land Use and Other Special Features in Riparian Corridors	Section 4.4 in Watershed Characteristics Report	EOA, Inc.	Lucy Buchan	SCBWMI Land Use Subgroup	6/30/1999	Draft
56	98-99	SC20.04	Local Effects of Land Use	Introduction: Effects of Land Use on Watersheds	Section 4.1 in Watershed Characteristics Report	EOA, Inc.	Dan Cloak	SCBWMI Land Use Subgroup	6/30/1999	Draft
57	98-99	SC20.61	Participate in RMP Management and Technical Review	RMP Planning Issues: Items for Discussion	Various review Memorandum	EOA, Inc.	Tom Hall, Samantha Salvia, Dan Cloak	RMP Staff	3/30/1999	Final
58	98-99	SC20.64	Land Use Regulation and Watershed Management	State Laws and Enabling Legislation	Section 6.7.1 in Watershed Characteristics Report	EOA, Inc.	Wendy Edde	SCBWMI Land Use Subgroup	6/30/1999	Final
59	99-00	SC22.51	Metals Control Measures Plan (Industrial - 2)	Industrial Stormwater Monitoring Pilot Project Phase 2	Technical Memorandum	City of Sunnyvale EOA, Inc	Robert Gallo Jeff Soller	Adam Olivieri	8/31/2000	Final
60	99-00	SC22.52	Dissolved Oxygen Measurements	Stream Dissolved Oxygen and Temperature Monitoring to Support Macroinvertebrate and Fish Assemblage Analyses [See SC19.18/SC19.19]	Monitoring Data	Kinnetic Laboratories	Marty Stevenson	Dan Cloak	10/1/2000	Final
61	99-00	SC22.53	Manage Data from Enforcement of SCVWD Ordinance 83-2	Manage Data from Enforcement of SCVWD Ordinance 83-2	Technical Memorandum	EOA, Inc.	Paul Randall	Creek Walk Ad Hoc Task Group	5/12/2000	Final
62	99-00	SC22.54	Mobile Polluter Database Feasibility Study	Mobile Polluter Database Feasibility Study Technical Memorandum	Technical Memorandum	EOA, Inc.	Paul Randall	Mobile Polluter Ad Hoc Task Group	3/3/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
63	99-00	SC22.56/ SC22.57	Permit-Related Technical Research & Watershed Management /NPDES Compliance	Road Map for Permit Re-issuance, Series of facilitated stakeholder regulatory workgroup meetings and documentation in Tables 1, 2 and 3	Position paper, summary tables, Watershed 2000 Vision, and Joint Hg/PCB Monitoring Plan	EOA, Inc.	Adam Olivieri Dan Cloak	Urban Runoff Permit Re- issuance Work Group	7/1/2000	Final
64	99-00	SC22.56	Permit-Related Technical Research	Project Plan: Joint Stormwater Agency Project to Study Urban Sources of Mercury and PCBs	Project Plan	EOA, Inc.	Dan Cloak	Stormwater Agency Managers	7/1/2000	Final
65	99-00	SC22.57	Watershed Management and NPDES Compliance	Watersheds 2000: A Vision of SCVURPPP's Role in Watershed Management and the Santa Clara Basin Watershed Management Initiative	Memorandum	SCVURPPP	Debra Caldon, Dan Cloak, Adam Olivieri	Management Committee	12/22/1999	Final
66	99-00	SC22.57	Watershed Management and NPDES Compliance	SCVURPPP Past, Present and Future	PowerPoint Slide Presentation for 5/25/00 Watershed Conference	SCVURPPP	Dan Cloak, Adam Olivieri		5/25/2000	Final
67	99-00	SC22.58	Follow-up/Implement Stormwater Environmental Indicators Demonstration Project	SEIDP Project Subcommittee Final Site Visit, February 10-11, 2000	Meeting Summary with Project Recommendations	EOA, Inc.	Maya Hayden	Adam Olivieri	6/30/2000	Final
68	99-00	SC22.58	Follow-up/Implement Stormwater Environmental Indicators Demonstration Project	SEIDP Status Report Presentation	PowerPoint Slide Presentation	SEIDP Project Team	SEIDP Project Team	SEIDP Review Committees	2/10/2000	Final
69	99-00	SC22.58	Follow-up/Implement Stormwater Environmental Indicators Demonstration Project	Recommendations for continuous improvement incorporated into Projects SC27.03 and SC27.04	Project Scopes	EOA, Inc.	Dan Cloak, Paul Randall	Management Committee	3/1/2000	Final
70	99-00	SC22.59	Policy and Guidance for 305(b) Assessments and 303(d) Listings	Meeting Summary, Technical Panel Kickoff Meeting, October 14, 1999	Meeting Summary	EOA, Inc.	Maya Hayden	305(b) Technical Panel	11/1/1999	Final
71	99-00	SC22.59	Policy and Guidance for 305(b) Assessments and 303(d) Listings	Technical Panel Meeting May 15, 2000 Summary Report	Meeting Summary	EOA, Inc.	Maya Hayden	305(b) Technical Panel	6/1/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
72	99-00	SC22.60	Support USGS Development of Macroinvertebrate Indices	The Distribution and Abundance of Lotic Macroinvertebrates during Spring 1997 in Seven Streams of the Santa Clara Valley area, Calif. (00-68)	Report	USGS	James L. Carter, Steven V. Fend		6/1/2000	Final
73	99-00	SC22.61	Participate in RMP Management and Technical Review	Prioritization of Redesign Recommendations	Letter	EOA, Inc.	Dan Cloak	RMP Steering Committee	1/7/2000	Final
74	99-00	SC22.61	Participate in RMP Management and Technical Review	Prioritization of RMP Redesign Recommendations	Letter	BASMAA	Dan Cloak, Geoff Brosseau	RMP Steering Committee	4/5/2000	Final
75	99-00	SC22.62	Support Watershed Assessment Subgroup	Participation; no specific work product	Various memorandum, agendas, etc.	EOA, Inc.	Lori Pettegrew	Adam Olivieri	7/1/2001	Ongoing
76	99-00	SC22.63	Re-Evaluation of Management Program	Use of Stormwater Environmental Indicators in Urban Runoff NPDES Permitting and Watershed Management in the Santa Clara Basin California	Paper	ASCE Water Environment Federation (Conference Proceedings)	Dan Cloak	Report Results - WEF Conference Committees	8/1/2001	Final
77	99-00	SC22.65	Economic and Tax Incentives in Watershed Management	Economic and Tax Incentives in Watershed Management	Technical Memorandum	EOA, Inc.	Linda Bulkeley	Wendy Edde, Jill Bicknell, Fred Jarvis, LUS	4/10/2002	Final
78	99-00	SC22.67	Support Land Use Subgroup	Consensus Points, Action Items and Tasks	Tabulated Summary	Land Use Subgroup	Land Use Subgroup	Core Group		Final
79	99-00	SC22.67	Support Land Use Subgroup	A Vision for Our Urban Watershed for 5/25/00 Watershed Conference	PowerPoint Slide Presentation	EOA, Inc.	Dan Cloak		5/25/2000	Final
80	99-00	SC24.02	Assist Editing and Production of the SCBWMI Watershed Assessment Report	Watershed Characteristics Report (abridged)	Report	SCBWMI Report Preparation Team	Stan Turnbull, editor	SCBWMI Stakeholders	5/25/2000	Final
81	99-00	SC24.03	Long Term Data Management Plan Development	Analyses of Institutions that Produce and/or Manage Watershed Data	Technical Memorandum	EOA, Inc, Data Management Subgroup	Don Eisenberg and Paul Randall	Data Management Subgroup, RPT, SCBWMI Core Group	10/19/2000	Final
82	99-00	SC24.04	Stakeholder Involvement in Current Land Use Decisions	Core Group Action Item #35: Procedure for Expediting Comments on Land Use Issues	Memorandum	EOA, Inc.	Dan Cloak	SCBWMI Core Group	6/6/2000	Final
83	00-01	SC28.05	Latino Audience Characterization	Latino Audience Characterization Phase 1	Report	TRG and Associates	Lois Humphreys	WEO AHTG	12/11/2000	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
84	00-01	SC25.04	Watershed Education and Outreach	Watershed Education & Outreach Campaign-Conceptual Plan	Conceptual Plan	TRG and Associates	Lois Humphreys	WEO AHTG, Management Committee, WMI Core Group	2/1/2001	Final
85	00-01	SC25.04	Watershed Education and Outreach	Watershed Education & Outreach Campaign-Work Plan (Year 1)	Work Plan	TRG and Associates	Lois Humphreys	WEO AHTG, Management Committee	1/18/2001	Final
86	00-01	SC25.12	NOI Filers Outreach (FWP to IND)	IND - Outreach Database	Database, Outreach Work Plan & Educational Materials	City of San Jose, EOA, Inc.	Mary Morse, Vishakha Atre			Ongoing
87	00-01	SC26.23	Improve Meeting Tracking	SCVURPPP Internal & External Meeting Table	Table	EOA, Inc.	Mary Lindemuth	Jon Konnan, Adam Olivieri, Management Committee	6/1/2001	Final
88	00-01	SC26.25/ SC34.13	Update and Improve Program Web Site	SCVURPPP Web Site; includes a web-based Program data set inventory, and work product inventory	Web Site	EOA, Inc.	John Fusco, William Linn	Adam Olivieri, Jill Bicknell, Management Committee	3/20/2002	Final
89	00-01	SC26.31	Prepare and Periodically Update an Inventory of Data Sets	2001Stream Studies Inventory	Report	EOA, Inc.	Paul Randall	WAS	6/1/2001	Final
90	00-01	SC27.01	Storm Drain Inlet Retrofit Design Development	Update of 1999 Catch Basin Retrofit Feasibility Study Technical Memorandum	Technical Report	EOA, Inc.	Rachel Luksic	Wendy Edde, Kristin Kerr, Adam Olivieri	6/26/2002	Final
91	00-01	SC27.02	Drainage Retrofit for Litter Control	Pilot Investigation of Trash Hot Spots	Technical Memorandum	EOA, Inc.	Rachel Luksic, Kristen Kerr	Adam Olivieri	6/24/2002	Final
92	00-01	SC27.03	Continuous Improvement of ICID Reporting Technical Recommendations	Continuous Improvement of ICID Reporting Technical Memorandum	Memorandum	ICID Ad Hoc Task Group	Paul Randall	Management Committee	9/15/2001	Final
93	00-01	SC27.04	Continuous Improvement of Industrial Reporting Technical Recommendations	Continuous Improvement of Industrial Reporting Technical Memorandum	Memorandum	Industrial Reporting Ad Hoc Task Group	Paul Randall	Management Committee	9/15/2001	Final
94	00-01	SC27.06	Mercury Rising	PCBs and Mercury Plan/Report on Distribution of Mercury in Storm Drain Sediments/Characterize PCBs	Workplan and Draft and Final Reports	EOA, Inc., Kinnetic Labs	EOA, Inc., Kinnetic Labs	MC, BASMMA Monit., ADHOC Monit.		Final
95	00-01	SC27.07	Regional Pesticide Strategy Coordination and Implementation	Draft Pesticide Management Plan (see SC34.07 for Final)	Work Plan	EOA, Inc.	Jill Bicknell, Pesticide Management AHTG	MC	6/1/2001	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
96	00-01	SC27.08	Integration of Stormwater Permitting and Enforcement	Integration of Stormwater Permitting and Enforcement	Technical Report	EOA, Inc.	Kristen Kerr, Jill Bicknell, Samantha Salvia	Adam Olivieri	6/29/2001	Final
97	00-01	SC27.12	Compare and Contrast Development Policies Project	Policy, Code, and Ordinance Worksheet for the Development Policies Compare and Contrast Project	Worksheet	SCBWMI Land Use Subgroup & EOA, Inc.	Wendy Edde	Land Use Subgroup, Management Committee	6/14/2001	Final
98	00-01	SC27.13	Support SCBWMI Wetland Advisory Group's Baylands Assessment	Baylands Assessment-Update of the Metadata Database	Metadata Database	EOA, Inc.	Cristina Goulart, Julie Stephenson	Adam Olivieri, Baylands Work Group	1/31/2002	Final
99	00-01	SC27.13	Multi-Year Monitoring Plan	Draft Plan	Report	EOA, Inc.	Adam Olivieri	Adhoc Monitoring, MC, preliminary review by WAS	6/29/2001	Final Draft
100	00-01	SC28.02	Watershed Education and Outreach	Watershed Watch Media Advertising Plan (Task 6)	Plan	TRG and Associates	Lois Humphreys	WEO AHTG	7/31/2001	Final Draft
101	00-01	SC28.02	Watershed Education and Outreach	Watershed Education & Outreach Campaign-Work Plan (Year 2)	Work Plan	TRG and Associates	Lois Humphreys	WEO AHTG, Budget AHTG, Management Committee	9/25/2001	Final
102	01-02	SC27.12/ SC29.21	Compare and Contrast Development Policies Project	Development Policies Comparison Project	Technical Memorandum	EOA, Inc.	Wendy Edde, Julie Stephenson	Jill Bicknell, Co-Permittees, LUS	4/17/2003	Final
103	01-02	SC33.24	New Development Controls	Work Plan for Implementation of Permit Provision C.3	Work Plan	EOA, Inc.	Jill Bicknell	Management Committee	3/1/2002	Final
104	01-02	SC33.24	New Development Controls	Hydromodification Management Plan Work Plan	Work Plan	GeoSyntec Consultants	Peter Mangarella	Jill Bicknell, Management Committee	3/1/2002	Final
105	01-02	SC34.03	Multi-Year Receiving Waters Monitoring Plan	Multi-Year Receiving Waters Monitoring Plan	Draft Plan	EOA, Inc.	Adam Olivieri, Paul Randall	Management Committee	8/5/2002	Final
106	01-02	SC34.06	Mercury Plan	Mercury Pollution Prevention Plan	Plan	EOA, Inc.	Kristin Kerr, Nicole Pierce	Mercury P2 AHTG, Management Committee	3/1/2002	Final
107	01-02	SC34.08	Dioxin Work Plan and Implementation	Control Program for Dioxin-like Compounds	Work Plan	EOA, Inc.	Jon Konnan	Adam Olivieri, Management Committee	3/1/2002	Final Draft

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
108	01-02	SC34.08	PCB and Dioxin Work Plan and Implementation	Joint Stormwater Agency Project to Study Urban Sources of Mercury, PCBs and Organochlorine Pesticides (Year 2)	Report	EOA, Inc. and Kinnetic Labs	Kinnetic Labs	Adam Olivieri, Project Work Group	4/15/2002	Final Report
109	01-02	SC29.13	PCBs Case Studies	Case Study Investigating Elevated Levels of PCBs in Storm Drain Sediment in San Jose, CA	Report	EOA, Inc. and City of San Jose	Jon Konnan and City of San Jose	Management Committee	4/15/2002	Final Report
110	01-02	SC34.09	PCB Control Measures Identification and Implementation	Control Program for PCBs	Work Plan	EOA, Inc.	Jon Konnan	Adam Olivieri, Management Committee	3/1/2002	Final Draft
111	01-02	SC34.09	PCB Control Measures Identification and Implementation	Control Program for PCBs (Year 3)	Work Plan	EOA, Inc.	Jon Konnan	Adam Olivieri, Management Committee	7/1/2002	Final
112	01-02	SC34.10	Identification of Sediment Impaired Creeks	San Francisquito Creek Watershed Assessment of Sediment Management Practices-Plan and Schedule	Draft Plan	SCVWD, Santa Clara County, Palo Alto	SCVWD	SCVWD	3/1/2002	Final Draft
113	01-02	SC34.10	Identification of Sediment Impaired Creeks	Identification of Creeks Potentially Impaired by Sediment From Anthropogenic Activities	Report	EOA, Inc.	Paul Randall, Kristin Kerr	Adam Olivieri, Management Committee	3/1/2002	Final Report
114	01-02	SC26.25	Continuous Improvement- "Master" Calendar of Major Deliverables	SCVURPPP Permit Timeline	Microsoft Project Timeline	EOA, Inc.	John Fusco	Budget AHTG, Management Committee, Adam Olivieri, Jill Bicknell	12/20/2001	Draft Timeline
115	01-02	SC33.33	Develop/Revise Performance Stds.	Revised Model Performance Standard for Construction Inspection	Performance Standard, Work Plan and BMPs	EOA, Inc.	Jill Bicknell	Construction Inspection P.S. AHTG, Management Committee	1/17/2002	Final
116	01-02	SC33.33	Develop/Revise Performance Stds.	Model Performance Standard for Pest Management	Performance Standard, Work Plan and BMPs	EOA, Inc.	Jill Bicknell, Cristina Goulart	Pest Management P.S. AHTG, Management Committee	2/21/2002	Final
117	01-02	SC33.33	Develop/Revise Performance Stds.	Model Performance Standard for Rural Public Works Maintenance and Support	Draft Performance Standard, Work Plan and BMPs	EOA, Inc.	Kristin Kerr, Julie Stephenson, Jill Bicknell	Rural Public Works AHTG, Management Committee	2/18/2003	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
118	01-02	SC34.07	Pesticide Plan	Revised Pesticide Management Plan	Work Plan	EOA, Inc.	Jill Bicknell	Pest Management P.S. AHTG, Management Committee	2/15/2002	Final
119	01-02	SC36.01	Watershed Education and Outreach	Watershed Education & Outreach Campaign-Work Plan (Year 3)	Work Plan	TRG & Associates	Lois Humphreys	WEO AHTG, Budget AHTG, Management Committee	3/1/2002	Final
120	01-02	SC33	Copper/Nickel Control Actions Work Plan	Copper/Nickel Control Actions Work Plan- Update	Work Plan -Update	EOA, Inc.	Adam Olivieri	Management Committee	3/1/2002	Final Draft
121	01-02	SC34.13	Program Data Management	SCVURPPP Meeting Database	Database	EOA, Inc.	John Fusco, William Linn	John Fusco	1/17/2002	Final
122	01-02	SC34.13	Program Data Management	SCVURPPP Major Reports and Work Products Database	Database	EOA, Inc.	John Fusco, William Linn	John Fusco	1/17/2002	Final
123	01-02	SC34.01/ SC34.02	Enhanced Reporting-IND and ICID	SCVURPPP IND and IC/ID Database	Database	EOA, Inc.	John Fusco, William Linn	John Fusco	4/16/2002	Final
124	01-02	SC33.24	New Development Controls	New Permit Requirements for Development Projects: Implications for Municipalities	PowerPoint Presentation	EOA, Inc.	Jill Bicknell		11/28/2001	Final
125	01-02	SC33.24	New Development Controls	Santa Clara Valley Urban Runoff Program's Approach to Implementing the New Development Regulations	PowerPoint Presentation for Watershed Stewardship 2002 Conference	EOA, Inc.	Jill Bicknell		4/12/2002	Final
126	01-02	SC19	WERF Stormwater Environmental Indicators Demonstration Project	Use of Environmental Indicators for Assessing Stormwater Program Effectiveness	Paper and PowerPoint Presentation for UEF Conference, Snowmass, Co	EOA, Inc.	Jill Bicknell, Dan Cloak		8/22/2001	Final
127	01-02	SC33.23	External Meeting Representation	Final Discussion of Future Knowledge Needs on Environmental Indicators	Paper for UEF Conference, Snowmass, Co	EOA, Inc.	Jill Bicknell		8/22/2001	Final
128	01-02	SC33.23	External Meeting Representation	Effectively Integrating Urban Runoff Management and Watershed Management: Santa Clara Valley Urban Runoff Pollution Prevention Program and Santa Clara Basin Watershed Management Initiative	Paper for SCBWMI Watershed Forum	EOA, Inc.	Jill Bicknell	Adam Olivieri	2/13/2002	Final
129	01-02	SC27.11/ SC18.06	Integrated Pilot Assessment in Coyote Creek Watershed	Preliminary Results and Status of Coyote Creek Watershed Integrated Pilot Assessment	PowerPoint Slide Presentation	EOA, Inc.	Lucy Buchan, Paul Randall	Lucy Buchan, Lori Pettegrew	2/26/2002	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
130	01-02	SC36.01	Watershed Education and Outreach	Watershed Watch Campaign Work Plan-FY 2002-03 Media Plan	Work Plan	TRG & Associates	Lois Humphreys	WEO AHTG, Management Committee	6/5/2002	Final Draft
131	01-02	SC27.11/ SC18.06	Integrated Pilot Assessment in Coyote Creek Watershed	Stream Classification for the Coyote Creek Watershed. Coyote Creek Integrated Watershed Assessment Technical Memorandum: Task 2.0.	Technical Memorandum	EOA, Inc.	Lucy Buchan, Paul Randall	Lucy Buchan, Lori Pettegrew, Adam Olivieri	5/1/2003	Final
132	01-02	SC27.11/ SC18.06	Integrated Pilot Assessment in Coyote Creek Watershed	Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed. Coyote Creek Integrated Technical Memorandum: Tasks 3.0 and 4.0.	Technical Memorandum	EOA, Inc.	Lucy Buchan, Paul Randall	Lucy Buchan, Lori Pettegrew, Adam Olivieri	5/1/2003	Final
133	01-02	SC20.71	Annual Update of Stream Studies Inventory	2002 Stream Studies Inventory-Version 4.0	Report	EOA, Inc.	Paul Randall	Lori Pettegrew	8/15/2002	Final
134	01-02	SC35.01	San Jose Discretionary Project	Data Analysis and Interpretation for First Flush Monitoring Data	Technical Memorandum	EOA, Inc.	Jeff Soller, Kendra Olivieri, James Downing	Adam Olivieri	7/31/2003	Final
135	01-02	SC27.12/ SC34.14	Support Land Use Subgroup	Role of Stormwater Agencies in Regional Congestion Management Planning and Implementation	Memorandum	EOA, Inc.	Julie Stephenson	Wendy Edde, Adam Olivieri	3/13/2002	Final
136	01-02	SC27.12/ SC34.14	Support Land Use Subgroup	Review of The Valley Transportation Authority's Draft "Community Design and Transportation: A Manual of Best Practices for Integrating Transportation and Land Use"	Comment Letter	EOA, Inc.	Julie Stephenson, Wendy Edde	Jill Bicknell	6/17/2002	Final
137	01-02	SC26.38/ SC34.04/ SC34.05	CAP/NAP Baseline Activities Status Report	SCVURPPP "Semi-Annual Status Report of Copper and Nickel Baseline Activities- Lower South SF Bay Implementation of Copper and Nickel Action Plans"	Status Report	EOA, Inc.	Adam Olivieri	Management Committee	11/9/2001	Final
138	01-02	SC26.38/ SC34.04/ SC34.05	CAP/NAP Baseline Activities Status Report	SCVURPPP "Semi-Annual Status Report of Copper and Nickel Baseline Activities- Lower South SF Bay Implementation of Copper and Nickel Action Plans"	Status Report	EOA, Inc.	Adam Olivieri	Management Committee	5/17/2002	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
139	01-02	SC33.31	Preliminary Review of WMI Assessment Results	Integration of WMI Assessment Results into SCVURPPP Multi-Year and FY 02-03 Receiving Waters Monitoring Plans	Technical Memorandum	EOA, Inc.	Paul Randall	Adam Olivieri	9/6/2002	Final
140	01-02	SC42.24	New Development Controls	C.3. Provision Data Needs	Memorandum	EOA, Inc.	Julie Stephenson, Jill Bicknell	C3PO AHTG	4/17/2002	Final
141	01-02	SC42.24	New Development Controls	Impervious Surface Data Form	Data Form	EOA, Inc.	Julie Stephenson, Jill Bicknell	C3PO AHTG	8/14/2002	Final
142	02-03	SC42.24	New Development Controls	Hydromodification Management Plan Literature Review	Literature Review	GeoSyntec Consultants	Peter Mangarella, Gary Pelhegyi	Jill Bicknell, Management Committee	9/13/2002	Final
143	02-03	SC42.24	New Development Controls	Hydromodification Management Plan Literature Review--Executive Summary	Executive Summary	GeoSyntec Consultants	Peter Mangarella, Gary Pelhegyi	Jill Bicknell, Management Committee	9/13/2002	Final
144	02-03	SC42.24	New Development Controls	Draft Model List of Source Control Measures	Memorandum	EOA, Inc.	Jill Bicknell, Julie Stephenson	Site Design Work Group	9/15/2002	Final
145	02-03	SC42.24	New Development Controls	Summary of Major Changes to the Development Project Review Process	Table	EOA, Inc.	Jill Bicknell	C3PO AHTG	9/16/2002	Final
146	02-03	SC42.24	New Development Controls	Model Conditions of Approval for Pesticide Reduction in Landscaping Plans	Memorandum	EOA, Inc.	Jill Bicknell, Wendy Edde, Julie Stephenson	C3PO AHTG	12/9/2002	Final
147	02-03	SC42.36	New Development Controls	Site Design Guidance for Review of Local Standards	Memorandum	EOA, Inc.	Wendy Edde	C3PO AHTG, Management Committee	7/11/2003	Final
148	02-03	Sc42.36	New Development Controls	Santa Clara Basin Model Developer Principles	Memorandum	EOA, Inc.	Wendy Edde	Site Design Work Group, C3PO AHTG, Management Committee	5/16/2003	Final
149	02-03	SC42.36	New Development Controls	Hydromodification Management Plan, Working Draft Report, Lower Silver – Thompson Creek Subwatershed (Chapters 1-3)	Report	Geosyntec Consultants et al.	Geosyntec Consultants et al.	Jill Bicknell, Management Committee	3/3/2003	Working Draft
150	02-03	SC42.36	New Development Controls	Hydromodification Management Plan, Draft Interim Report on Assessment of Lower Silver – Thompson Creek Subwatershed	Report	Geosyntec Consultants et al.	Geosyntec Consultants et al.	Jill Bicknell, Management Committee	7/30/2003	Draft Interim Report

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
151	02-03	SC42.36	New Development Controls	Draft Guidance for BMP Operation and Maintenance Verification Programs (Permit Provision C.3.e)	Memorandum	EOA, Inc.	Jill Bicknell, John Fusco	C3PO AHTG	1/27/2003	Final
152	02-03	SC42.36	New Development Controls	Guidance for Implementing Permit Provision C.3.e (Operation and Maintenance of Treatment BMPs), Part 2 -- Ordinance or Policy Language Relating to Inspection and Maintenance of Stormwater Management Systems	Memorandum	EOA, Inc.	John Fusco	Jill Bicknell, BMP O&M Verification Work Group	5/5/2003	Final
153	02-03	SC42.36	New Development Controls	Treatment Control Best Management Practice Fact Sheets	Memorandum, Fact Sheets	EOA, Inc.	John Fusco, Paul Randall	Jill Bicknell, BMP O&M Verification Work Group	5/7/2003	Final
154	02-03	SC42.36	New Development Controls	Guidance on Prioritization and Frequency of Stormwater Treatment Best Management Practice Inspections	Memorandum	EOA, Inc.	John Fusco, Paul Randall	Jill Bicknell, BMP O&M Verification Work Group	6/16/2003	Final
155	02-03	SC42.36	New Development Controls	Stormwater Treatment BMP Inspection Program Elements	Memorandum	EOA, Inc.	John Fusco, Paul Randall	Jill Bicknell, BMP O&M Verification Work Group	6/23/2003	Draft
156	02-03	SC42.36	New Development Controls	Utility of Existing Stormwater BMP Cost Estimates	Memorandum	EOA, Inc.	John Fusco, Paul Randall	Jill Bicknell, BMP O&M Verification Work Group	6/23/2003	Draft
157	02-03	SC42.36	New Development Controls	Information Regarding the Disposal of BMP Residuals at County Landfills	Memorandum	EOA, Inc.	John Fusco, Paul Randall	Jill Bicknell, BMP O&M Verification Work Group	6/23/2003	Draft
158	02-03	SC42.36	New Development Controls	Guidance for Use of Infiltration Measures for Stormwater Management in Santa Clara Valley	Guidance Document	EOA, Inc.	Jill Bicknell, Paul Randall	Infiltration Work Group	5/16/2003	Draft
159	02-03	SC42.36	New Development Controls	Selection of Stormwater Treatment Measures for Santa Clara Valley	Guidance Document	EOA, Inc.	Jill Bicknell		5/16/2003	Draft
160	02-03	SC42.36	New Development Controls	Sizing Criteria for Stormwater Treatment	Report	GeoSyntec Consultants	Peter Mangarella	Jill Bicknell, C3PO AHTG	5/5/2003	Draft
161	02-03	SC42.36	New Development Controls	Progress in Implementing the New Storm Water Regulations for Development Projects	PowerPoint Presentation	EOA, Inc.	Jill Bicknell		1/30/2003	Final

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ID	Project Year	Project Number	Project Title	Product Title	Product Type	Produced By	Primary Authors	Reviewed By	Date	Status
162	02-03	SC42.36	New Development Controls	Current Issues for New Development and Redevelopment	PowerPoint Presentation for 11/14/02 APWA Stormwater Workshop	EOA, Inc.	Jill Bicknell		11/14/2002	Final
163	02-03	SC42.22	New Development Controls	SCVURPPP's Approach to Pollution Prevention in Municipal Activities	PowerPoint Presentation for 4/14 and 4/15/03 CASQA Municipal BMP Handbook Workshops	EOA, Inc.	John Fusco	Jill Bicknell	4/14/2003	Final
164	02-03	SC42.36	New Development Controls	Status Report on the Hydromodification Management Plan (HMP) Project	PowerPoint Presentation for WMI FMS and WAS	EOA, Inc. and GeoSyntec Consultants	Jill Bicknell, Peter Mangarella, Jeff Haltiner		11/18/2002	Final
165	02-03	SC42.33	Develop/Revise Performance Stds.	Develop/Revise Performance Stds.	Revised Performance Standard for Planning Procedures for New Development and Redevelopment	Performance Standard, Work Plan and BMPs	EOA, Inc.	C3PO AHTG	8/15/2003	Revised Draft
166	02-03	SC34.11	Watershed Analysis and Management Practice Assessment in Other Creeks Potentially Impaired by Sediment from Anthropogenic Activities	Workplan for Conducting Watershed Analysis and Management Practice Assessment in Other Creeks Potentially Impaired by Sediment from Anthropogenic Activities	Work Plan	EOA, Inc.	Paul Randall	Kristin Kerr, Adam Olivieri	8/30/2002	Final
167	02-03	SC27.11	Coyote Creek Integrater Pilot Assessment	Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed. Coyote Creek Integrated Pilot Assessment	Final Report	EOA, Inc.	Lucy Buchan, Paul Randall	Lucy Buchan, Adam Olivieri, Monitoring AHTG, WAS	5/1/2003	Final Report
168	02-03	SC43.08	Dioxin Work Plan and Implementation	Control Program for Dioxin-like Compounds	Work Plan	EOA, Inc.	Jon Konnan	Adam Olivieri, Monitoring AHTG	2/28/2003	Final
169	02-03	SC20.68	Copper/Nickel Baseline Activities	Copper and Nickel Action Plan FY 03-04 Work Plan and Reporting Tables	Work Plan	EOA, Inc.	Tom Hall, Jill Bicknell, John Fusco	Adam Olivieri	8/5/2003	Final
170	02-03	SC43.08	Dioxin Work Plan and Implementation	Dioxins Information Review	Report	EOA, Inc.	Jon Konnan	Adam Olivieri, Monitoring AHTG	10/1/2002	Final
171	02-03	SC43.09	PCB Work Plan and Implementation	Guidance for Performing FY02-03 Sar Francisco Bay Area Stormwater Program PCBs Case Studies	Guidance Document	EOA, Inc.	Jon Konnan	Adam Olivieri, BASMAA PCBs WG	9/20/2002	Final

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172	02-03	SC43.13	Evaluation of Watershec Assessment Methods	Assessment of Watershed Assessment Methods	Technical Memorandum with PowerPoint Presentations	EOA, Inc.	Lucy Buchan	Adam Olivieri, WAS	7/31/2003	Final
173	02-03	SC42.33	Hg Pollution Prevention Activities	Municipal Mercury-Containing Product Survey and Results	Survey with Results	EOA, Inc.	Rebecca Russell	Kristin Kerr	6/19/2003	Final
174	02-03	SC42.33	Hg Pollution Prevention Activities	Mercury Virtual Elimination Model Policy	Policy	EOA, Inc.	Rebecca Russell	Kristin Kerr	4/17/2003	Final Draft
175	02-03	SC42.33	Hg Pollution Prevention Activities	Guidelines for Mercury-Containing Products Reduction and Management	Guidelines	EOA, Inc.	Rebecca Russell	Kristin Kerr	4/17/2003	Final
176	02-03	SC20.70	Annual Updates of Stream Studies Inventory	2003 Stream Studies Inventory-Version 5.0	Report	EOA, Inc.	Paul Randall			In-Progress
177	02-03	SC43.06	Trash Characterization and Management Activities	Trash Work Plan	Work Plan	EOA, Inc.	Paul Randall, John Fusco	Trash AHTG, Adam Olivieri	2/28/2003	Final
178	02-03	SC45.01	Watershed Education and Outreach	Watershed Education & Outreach Campaign-Work Plan (Year 4)	Work Plan	TRG & Associates	Lois Humphreys	WEO AHTG, Budget AHTG, Management Committee	3/1/2003	Final
179	02-03	SC45.01	Watershed Education and Outreach	Watershed Watch Campaign Work Plan-FY 2003-04 Media Plan	Work Plan	TRG & Associates	Lois Humphreys	WEO AHTG, Management Committee	6/4/2003	Final
180	02-03	SC45.05	Watershed Education and Outreach	Asian/Pacific Islander Audience Characterization	Report	TRG & Associates	Lois Humphreys	WEO AHTG	6/2/2003	Final
181	02-03	SC45.01	Watershed Education and Outreach	Final Campaign & Media Report- FY 02-03	Report	TRG & Associates	Lois Humphreys		6/27/2003	Final
182	02-03	SC45.02	Watershed Education and Outreach	Pesticide User Outreach Work Plan	Work Plan	EOA, Inc.	Jill Bicknell	IPM Work Group	9/13/2002	Final
183	02-03	SC45.02	Watershed Education and Outreach	Pesticide User Outreach- Store Employee Training	Report	Ann Joseph Consulting	Annie Joseph	Jill Bicknell, Vishakha Atre	7/10/2003	Final
184	02-03	SC45.08	Watershed Education and Outreach	Analysis of School Outreach Activities to Identify Gaps in Outreach	Report, PowerPoint Presentation, Tables	EOA, Inc., City of San Jose	Vishakha Atre, Mary Morse	Scholls Work Group	6/19/2003	Final
185	02-03	SC43.07	Results from FY 02-03 Annual Monitoring Plan and Watershed Measures	Watershed Monitoring and Assessment Summary Report	Report	EOA, Inc., Kinetic Labs, Bioassessment Services	Chris Sommers, Paul Randall, Tom King, Jon Toal	Adam Olivieri, Monitoring AHTG, WAS	8/18/2003	Draft

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186	02-03	SC43.07	FY 03-04 Monitoring Program Plan	FY 03-04 Annual Monitoring and Watershed Management Measures Work Plan	Work Plan	EOA, Inc.	Paul Randall, Chris Sommers	Adam Olivieri	2/28/2003	Final
187	02-03	SC29.13	PCB Work Plan and Implementation	Year Two Case Study Investigating Elevated Levels of PCBs in Storm Drain Sediments in San Jose, California	Report	EOA, Inc., City of San Jose	Jon Konnan	Monitoring AHTG	7/31/2003	Final
188	02-03	SC43.05	PCB Work Plan and Implementation	Review of Potential Measures to Reduce Urban Runoff Loads of PCBs to San Francisco Bay	Report	EOA, Inc.	Jon Konnan	Adam Olivieri, Monitoring AHTG		In-Progress
189	02-03	SC20.72	Contributions to the Unabridged Watershed Assessment Report	Sections of Volume II- Watershed Assessment Report	Report Sections	EOA, Inc.	Rebecca Russell	Adam Olivieri, Lori Pettegrew, WAS	8/14/2003	Final
190	02-03	SC45.01	Watershed Education and Outreach	Final End of Year Evaluation for School Assembly Program	Report	TRG & Associates	Lois Humphreys	School Outreach Work Group	7/1/2003	Final
191	02-03	SC45.01	Watershed Education and Outreach	Final Report for ZunZun Watershed Watch Assemblies and Public	Report	ZunZun	Gwynne Cropsey	School Outreach Work Group	7/1/2003	Final