



**Santa Clara Valley
Urban Runoff
Pollution Prevention Program**

August 30, 2002

**Workplan for Conducting Watershed
Analysis and Management Practice
Assessment in Other Creeks Potentially
Impaired by Sediment from
Anthropogenic Activities**

Submitted in fulfillment of NPDES Permit Provision C.9.f.iii

Milpitas

Palo Alto

Cupertino

Los Altos

San Jose

Sunnyvale

Santa Clara

Los Altos Hills

Mountain View

Santa Clara County

Santa Clara Valley Water District

West Valley Communities – Campbell, Los Gatos, Monte Sereno, Saratoga

WORKPLAN FOR CONDUCTING WATERSHED ANALYSIS AND MANAGEMENT PRACTICE ASSESSMENT IN OTHER CREEKS POTENTIALLY IMPAIRED BY SEDIMENT FROM ANTHROPOGENIC ACTIVITIES

INTRODUCTION

This Workplan is submitted in fulfillment of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) NPDES Permit Order No. 01-024 Provision C.9.f.iii paragraph 2. This provision requires a workplan and time schedule to “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.”

The goals of this Workplan are to identify an approach to conduct watershed analyses and assess sediment management practices for those creeks previously identified by SCVURPPP as high priority for potentially being impaired by sediment production from erosion due to anthropogenic activities. The Workplan includes a number of objectives to assess sediment-related impacts to beneficial uses, including:

- Collect 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;
- Implement a limiting factors analysis to determine to what degree sediment impacts are key factors;
- Conduct rapid evaluation of sediment budget; and
- Assess and evaluate sediment management practices.

In addition, the Workplan objectives include Program specific activities:

- Evaluate information generated from the assessments to identify and prioritize information needs and management recommendations;
- Review existing information to re-evaluate priority watersheds for future assessments; and
- Evaluate the current assessment framework, along with approaches being used in other watersheds.

BACKGROUND

Potentially Sediment Impaired Creek Report

The report “Identification of Creeks Potentially Impaired by Sediment from Anthropogenic Activities” was submitted to the Regional Board as part of the SCVURPPP FY 02-03 Draft Workplan in fulfillment of SCVURPPP NPDES Permit Provision C.9.f.iii paragraph one. The report identified creeks in the SCVURPPP jurisdictional area, other than San Francisquito Creek, which may be impaired by sediment from anthropogenic sources. The Potentially Sediment Impaired Creek Report had several objectives, which included: 1) collecting existing available data that was associated with key factors related to sediment and erosion; 2) developing a methodology to summarize and analyze available data to identify creeks with potential water quality impacts associated with sediment from erosion due to anthropogenic activities; and 3) prioritizing the potentially impacted creeks for future investigations and/or assessments. This

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Workplan identifies steps for conducting watershed analyses and management practice assessments for the high priority creeks that were identified in the previous report.

The high priority creeks include reaches 3 and 4 of Stevens Creek and reaches 4 and 5 of Coyote Creek. The reaches in Stevens Creek correspond to an 8-mile stretch from approximately 1 mile upstream of Highway 82 to Stevens Creek Dam and the reaches in Coyote Creek were defined as a 14-mile stretch of Coyote Creek mainstem from Ford Road to Anderson Dam. The Stevens Creek reach flows through the Cities of Mountain View, Sunnyvale, Cupertino and Los Altos. The Coyote Creek reach flows through primarily Santa Clara County land, and portions are within the City of San Jose. Both reaches were identified as potentially supporting both steelhead and trout in warm water conditions, as well as Chinook salmon in Coyote Creek. The report also identified segments of five additional creeks in the Santa Clara Basin as medium priority for further investigation of potential impairment by sediment from anthropogenic activities. These include Alamitos, Arroyo Calero, Guadalupe, Permanente and Upper Penitencia Creeks.

The Regional Board staff submitted comments on the sediment report as part of their July 8, 2002 letter to SCVURPPP stating the report was conditionally acceptable to the NPDES Permit Provision C.9.f.iii (see Attachment A). The conditions stated in the letter included: 1) the entire Stevens Creek watershed downstream of reservoir should be given a high priority because sediment removal is an important issue in the lower reaches; 2) analysis of Coyote Creek reaches must include an evaluation of the influence on Anderson Dam to downstream sediment supply and transport capacity; and 3) Saratoga Creek and Upper Penitencia Creek should be added to list of high priority streams for analysis. The staff letter also indicated that they would support adopting a watershed analysis that was conducted within the framework of a limiting factors analysis. SCVURPPP's Program staff, Regional Board staff and Santa Clara Valley Water District (SCVWD) staff met on July 17, 2002 to discuss their comments and conditions and general objectives for developing the watershed assessment workplan. The minutes for that meeting are included in Attachment B of this Workplan and were distributed to the SCVURPPP Management Committee on August 29, 2002.

This Workplan addresses the Regional Board's conditions and concerns expressed in the July 8, 2002 letter and subsequent meeting. The SCVURPPP's written response to the Board's comments is included in Attachment C. Watershed analyses and sediment management practice assessment will initially be conducted in Stevens and Coyote Creek watersheds, which were identified as high priority watersheds in the SCVURPPP sediment report. The assessments will address the areas downstream of reservoirs and assess any impacts related to these reservoirs. Stevens Creek was selected as the initial watershed to be assessed because of its smaller size, with Coyote Creek to follow. Upper Penitencia Creek, one of the medium priority watersheds listed in SCVURPPP sediment report, is the next highest priority for future assessment of sediment-related impacts. Where possible, early data collection and evaluation will begin on Upper Penitencia Creek. Other medium priority creeks, which include tributaries to Guadalupe River and Permanente Creek, will be re-evaluated as more information from ongoing watershed studies becomes available. In addition, Saratoga Creek, a watershed identified by Regional Board and Department of Fish and Game agencies as sensitive to excessive sediment, will be evaluated for potential impairment from sediment as more information becomes available. As part of the SCVURPPP monitoring program, salmonid habitat data will be collected from Saratoga Creek that will be useful to assess sediment-related impacts.

San Francisquito Creek Watershed Assessment

This Workplan adopts elements of a watershed assessment approach proposed for San Francisquito Creek, which is listed as impaired by sedimentation under Section 303(d) of the Clean Water Act and requires the development of a Total Maximum Daily Load (TMDL) for sediment. The co-permittees for the SCVURPPP and San Mateo Countywide Pollution Prevention Program (SM-STOPPP), along with other agencies and organizations in the San Francisquito watershed, are actively participating in a stakeholder process to develop an approach to determine sediment loadings and impacts in the watershed, and assess management practices to reduce sediment impairment. A workplan for conducting a watershed analysis for San Francisquito Creek was submitted to the Regional Board on August 31, 2001 by SCVURPPP and SM-STOPPP consistent with SCVURPPP NPDES Permit Provision 9.f.i. and SM-STOPPP NPDES Permit Provision C.10., respectively. In addition, a workplan to assess sediment management practices was submitted to the Regional Board on March 1, 2002 by SCVURPPP consistent with SCVURPPP NPDES Permit Provision 9.f.ii. Separate Regional Board staff comments on the Sediment Management Plan that were received in the letter sent on July 8, 2002 are being addressed by Program staff and SCVWD staff on that particular workplan.

The objectives for the two plans includes: (1) a quantitative characterization of sediment and water inputs to the creek; (2) evaluation of the relative roles of sediment associated with natural and anthropogenic land use discharges; (3) characterization of sediment conveyance from headwaters to the Bay, (4) development of a rapid sediment budget, and (5) assessment of both currently and proposed management practices implemented to prevent or reduce excess sediment impairment in urban creeks. A Proposition 13 Phase I grant was awarded to the stakeholder group to conduct the watershed analyses and produce a sediment reduction plan for the watershed.

In addition, a workplan was developed by SCVWD as part of the San Francisquito Creek sediment TMDL, to assess aquatic habitat condition and conduct a limiting factors analysis for steelhead and other sensitive species in the San Francisquito Creek watershed. The limiting factors analyses is anticipated to produce information that will assist the Regional Board staff to confirm or reject the validity of the sediment impairment listing and help to identify other causes of impairment to aquatic species and their habitat. The assessments and analyses described in these workplans are currently scheduled for completion in December 2003.

Napa River Watershed Assessment

This Workplan also utilizes elements of an approach used in a watershed analysis of the Napa River administered by the Regional Board and California State Coastal Conservancy. The Napa River is also listed as impaired by sedimentation under Section 303(d) of the Clean Water Act and requires the development of a TMDL for sediment. A Limiting Factors Analysis was conducted by the University of California, Berkeley and Stillwater Sciences on the Napa River watershed to help answer the following questions: 1) what are the primary factors causing the decline of native fishes and aquatic biota; 2) how important is sediment in causing these declines or limiting populations of target species and 3) what actions are needed to conserve or restore these target species?

According to the Limiting Factors Analysis Technical Report, the results of the Phase I studies serve the following objectives: 1) help inform the Regional Board's sediment TMDL process; 2) improve the understanding of current conditions in the Napa River, develop and test hypotheses related to impairment of salmonids by sediment and other factors, and develop plan for additional

studies to define cause-and-effect relationships between human land use activities and their impacts on water quality and beneficial uses; and 3) make recommendations regarding planning and implementation of restoration actions to protect and restore aquatic ecosystem functions and beneficial uses in the Napa River. Hypotheses testing of sediment-related impacts on salmonid habitat involved conducting several focused studies, including: turbidity impacts to juvenile feeding and growth, spawning gravel permeability study, bed mobility and redd scour, and pool filling and juvenile rearing habitat. Results of the low spawning gravel permeability was one piece of evidence the Regional Board used to determine sediment was impacting salmonid habitat and to recommend a Phase II assessment to obtain additional information.

The Phase II studies proposed for the Napa River study by the assessment consultants were to assess the potential impacts of physical processes that limit target species (e.g., conducting a sediment source analysis using a rapid evaluation of sediment budget, large woody debris assessment, physical barriers, base flow reduction, temperature modeling). In addition, mechanistic studies, life history assessments and population dynamics of target species were proposed for the Phase II studies. No funding for the Phase II studies has been obtained at this time (Mike Napolitano, RWQCB, personal communication, 2002).

INFORMATION RESOURCES

There are several existing data sources that will be useful for a watershed assessment of Stevens and Coyote Creeks, as well as other watersheds in the Santa Clara Basin. Information from some of these studies was used in the SCVURPPP sediment report that identified creeks that may be impaired from sediment due to anthropogenic sources. Additional information from these watersheds is expected to be available for the assessment identified in this Workplan.

SCVWD Fisheries and Aquatic Habitat Collaborative Effort

The Fisheries and Aquatic Habitat Collaborative Effort (FAHCE), is a multi-agency endeavor convened by the SCVWD and the Department of Fish and Game to develop an interim fisheries and aquatic habitat management plan. FAHCE participants include the SCVWD, the Department of Fish and Game, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the Natural Heritage Institute, the Guadalupe-Coyote Resource Conservation District and the City of San Jose. The goals for FAHCE include: 1) identify the contribution of SCVWD facilities and operations to existing fishery habitat conditions within the context of the variety of factors impacting salmon and steelhead populations; and 2) identify reasonable flow and non-flow measures that will improve habitat conditions for such fish populations within the context of competing water and land use demands.

The study objectives were to identify and evaluate alternative management actions based in part on the above studies and on the following:

- Improve habitat conditions to maintain fish populations in good condition;
- Protect, maintain, and improve habitat conditions for species listed under the State and Federal Endangered Species Acts or identified as California Species of Special Concern; and
- Improve the availability and suitability of stream corridor and channel habitat for a diversity of species of fish and wildlife.

The FAHCE project quantified the following factors: 1) diversity, abundance, and condition of existing salmon and steelhead resources; 2) habitat quantity and quality that may limit these target fish populations; 3) types and locations of non-flow measures that could change existing

conditions; and 4) alternative flow regimes that could change the conditions that limit the target fish populations.

The FAHCE study area included Coyote Creek (below reservoir), Upper Penitencia Creek, Stevens Creek below reservoir, and Guadalupe River and its major tributaries (Los Gatos, Guadalupe Creek, Alamitos, and Arroyo Calero Creeks). Analysis of the results from the study have not been released due to ongoing litigation, with the exception of the salmonid habitat survey database, which was used in the Potentially Sediment Impaired Creek Report to prioritize reaches that may be impaired by sediment. The location and description of potential anadromous fish barriers and the results from temperature modeling analyses were made available to Program staff in 2002. Program staff understands that additional information is forthcoming and will be valuable in conducting a limiting factors analysis in Stevens, Coyote and Guadalupe River watersheds.

SCVURPPP Coyote Watershed Pilot Assessment

The SCVURPPP's Pilot Watershed Assessment of Coyote Creek is utilizing mostly existing data, but some new data, to characterize and assess the physical and biological condition of the watershed. The assessment includes: 1) the development of a stream classification to characterize stream functions and geomorphic processes, 2) evaluation of stream functions (e.g., maintenance of aquatic habitat and hydrological regime and channel dynamics) and how future and potential management actions will affect these functions, 3) identification of information gaps and research opportunities, and 4) prioritization of management actions that will improve the physical and biological functions in the watershed. The assessment focused on the mainstem Coyote (downstream of reservoir) and Upper Penitencia Creek. Evaluating sediment impacts to fish habitat and aquatic health of streams is one component of the assessment. The Pilot Coyote Watershed Assessment Report is scheduled for release in September 2002.

Santa Clara Basin Watershed Management Initiative (WMI) Pilot Watershed Assessment

The WMI is completing pilot watershed assessments of Upper Penitencia Creek, Guadalupe River and San Francisquito Creek. The assessment framework was developed to provide a procedure for using environmental indicators, based on existing data to conduct a watershed assessment. Threshold values were identified for quantifiable parameters and were used when possible to evaluate the ability of a waterbody to support a primary use/interest. The stakeholder group identified five primary beneficial uses/interests as the basis of the assessment. Logic diagrams were developed to systematically determine the level of support of a primary use/interest through a "weight of evidence" approach. Creeks within each of the watersheds were classified into stream segments and each segment was assessed to determine support, non-support or unknown due to insufficient data.

The results of the assessment included an identification of limiting factors, which focused on physical, chemical and biological conditions in the stream and the riparian corridor that caused non support or partial support of primary uses. The limiting factors consist of the indicators that did not meet the threshold criteria specified in the assessment framework. It is the Program staff's understanding that specific limiting factors within each stream segment and the suspected cause, when identifiable, will be described in the WMI Watershed Assessment Report (WAR), scheduled to be released in Fall 2002. The WMI limiting factors analysis will be useful to the SCVURPPP watershed assessment approach identified in this Workplan.

Hydromodification Management Plan (HMP)

The HMP is a requirement in Provision C.3.f. of the SCVURPPP NPDES Permit. The plan will focus on developing guidance to manage the hydrologic effects of new development and significant re-development on stream stability and geomorphology. The HMP Workplan includes tasks to characterize existing stream conditions; identify the sensitivity of channels to hydromodification; and develop guidance for selecting, sizing, monitoring and maintaining flow management practices. Current and historical channel information, supplemented with stream surveys, will be compiled and reviewed to characterize stream reaches in terms of hydrologic and geomorphic conditions. The characterization will likely include watershed geology, soil type, and topography; sediment sources, erosional and depositional zones; and stream channel slope, stream type, flow magnitude, and bed material. Impacts to stream channel from natural events (e.g., fires) and anthropogenic activities (e.g., mining and grazing) will be identified to the maximum extent possible.

The guidance for management practices will address requirements and recommendation for Best Management Practices (BMP) selection and design with the objective of protecting stream channel downstream of a development area. BMP selection and design may include site planning, on-site planning, on-site hydrologic (and water quality) controls, in-stream controls, and regional facilities to accommodate the future development conditions.

The HMP is schedule for release in March 2003.

Surface Water Ambient Monitoring Program/Regional Monitoring and Assessment Strategy (SWAMP/RMAS)

The goal of the SWAMP/RMAS program is to monitor and assess all waterbodies of the San Francisco Bay Region in order to identify reference sites and waterbodies or sites that are impaired, based on data and information that provide a weight-of-evidence assessment of water quality. Objectives of the program include: (1) assessing the physical, chemical, and biological condition of waterbodies in the region in order to determine if waterbodies are impaired and beneficial uses are being protected; (2) measuring environmental indicators of stressors (e.g., pollutants or other water quality parameters), laboratory exposure/effects measurements (e.g., toxicity tests), and ecological response (e.g., benthic macroinvertebrate community analyses) from the same location and/or season; (3) generating data and information during different seasonal conditions; (4) generating data and information that is somewhat evenly distributed across a waterbody to provide a screening level of assessment; (5) determining if impacts are associated with specific stressors or land uses; and (6) evaluating monitoring tools in the watershed in order to develop a program that uses the best environmental indicators to achieve the purposes of the program.

Six San Francisco Bay watersheds were monitored in FY 00-01 (none were located in Santa Clara Basin). An additional five watersheds were monitored in FY 01-02, including two in the Santa Clara Basin (Stevens and Permanente Creeks). Some of the data collected in Stevens Creek (e.g., bioassessment, physical habitat assessment, suspended sediment concentrations) will be useful to assess the health of the aquatic biota and condition of the physical habitat for salmonid fish.

SCVURPPP Multiyear Monitoring Plan

A Multi-Year Receiving Waters Monitoring Plan was submitted to the Regional Board as part of the SCVURPPP FY 02-03 Draft Workplan in fulfillment of SCVURPPP NPDES Permit

Provision C.7 and specifically Provision 7b of SCVURPPP's NPDES Permit Order adopted February 21, 2001 by the Regional Board. The Plan identifies monitoring activities in Santa Clara Basin Watersheds over an eight-year period and contains the following information: watershed location (prioritized based on WMI and SCVURPPP assessment priorities), data type (chemical, biological, physical, and trash), number and frequency of sampling events, FYs (8 years starting with FY02-03 through FY09-10), rationale, and lead agency. The information on data type utilizes a tiered monitoring approach discussed by the RWQCB staff in its RMAS memo (February 8, 2001 Draft Monitoring Design in Regional Board-lead Pilot Watersheds, Spring 2001) that includes the following monitoring categories: screening level, detailed investigation, and status and trends. Implementation of detailed investigations will be determined from the results of screening level monitoring, as well as from the data gaps identified in the watershed assessments and other studies described above.

The Multi-Year Monitoring Plan identified special sediment-related studies to be implemented in Stevens, Coyote and Upper Penitencia Creek Watersheds in coordination with the focused studies developed in accordance with this Workplan. The Plan addresses data gaps, such as aquatic habitat survey data in Saratoga and Permanente Creek, which were identified in the Potentially Sediment Impaired Creek Report. The Plan also includes monitoring activities that will be identified in the Hydromodification Management Plan (HMP), which is being developed to satisfy Provision C.3 of the SCVURPPP NPDES permit. Monitoring efforts for the HMP will include identifying baseline conditions of stream channels, as well as evaluating the effectiveness of control measures that are implemented to reduce the hydrologic effects of land development on stream stability and geomorphology. These activities will be clearly identified each year as part of SCVURPPP's Annual Monitoring Plan.

SCVWD Flood Protection Projects

The SCVWD is currently involved in several projects to increase channel capacities to allow for a 100-year flow event. These projects typically require baseline data collection to identify existing channel and flow conditions. These data include geological characterization, sediment loading and transport capacities, flow frequency and flood hydrographs, and surface water profiles, and floodplain access. This information can be used to assess potential impacts of sediment to aquatic habitat. The District is currently involved in several flood protection projects in the streams that were identified in SCVURPPP sediment report as high and medium priority for future watershed assessments. These watersheds include Coyote Creek mainstem, Upper Penitencia Creek and Guadalupe River. The Guadalupe River flood control projects are near the construction phase and provide existing data useful for a watershed analysis. The other projects are still in the planning stages and have less data available; however, they may provide opportunities to collect valuable data using available resources.

SCVWD Stream Maintenance Program (SMP)

The SMP describes routine stream and channel maintenance on facilities of the Santa Clara Valley Water District (District) throughout Santa Clara County. These activities include sediment removal projects, vegetation management and bank protection. Location and volume of sediment removal in streams within District jurisdiction were used in the SCVURPPP sediment report as a factor to prioritize stream reaches that may be impaired by sediment. Additional analyses on sediment size and accumulation rate at these sites can be useful in future sediment analyses. In addition, bank protection projects provide information indicating where instream sources of sediment may occur.

WORKPLAN

The Workplan includes conducting sediment assessments for the high priority creeks previously identified in the SCVURPPP Potentially Sediment Impaired Creek Report (discussed above), which are Stevens Creek (reaches 3 and 4) and Coyote Creek (reaches 4 and 5). Stevens Creek was selected as the first watershed to assess because of its smaller size and fewer current projects.

The Workplan identifies tasks to conduct a sediment assessment in Stevens Creek beginning in FY 03-04 and continuing for 1-2 years, depending on the first year's results of Task 1 Limiting Factors Analysis. If sediment is determined to be an important limiting factor, then Task 4 Rapid Sediment Budget will be conducted for Stevens in the second year. If the analysis results determine sediment is not a significant limiting factor, then SCVURPPP will not conduct Task 4 in Stevens Creek and instead, begin Task 1 Limiting Factors Analysis in Coyote Creek in FY 04-05. If SCVURPPP does conduct Task 4 in Stevens Creek then the sediment assessment for Coyote Creek will begin in FY 05-06.

In addition, the Workplan addresses the Regional Board staff concerns that Upper Penitencia Creek and Saratoga Creek also be identified as high priority and addressed in this Workplan. Specific tasks are included in this Workplan to address the Regional Board staff comment. In FY 03-04, the Program will collect data (Task 5.1) generated from SCVWD Capital Improvement Projects in Upper Penitencia Creek and from Saratoga Creek as part of the SCVURPPP Multiyear Receiving Water Monitoring Plan. These data will be compiled and used to re-evaluate watershed assessment priorities (see Task 5.2) and incorporated into the SCVURPPP Annual Workplan (see Task 5.3). In addition, the Program will re-evaluate assessment approaches once the San Francisquito Creek Sediment Assessment has been completed (Task 5.4).

Approach

The SCVURPPP Watershed Analysis and Management Practice Assessment Workplan has three major components with several elements identified to address Regional Board staff concerns and improve the process when possible.

- *Component 1* - Conduct limiting factors analysis that is largely based on the approach used in the Napa River and the San Francisquito Creek watershed assessments.
- *Component 2* - Conduct rapid sediment budget when necessary, using approach implemented in San Francisquito Creek and proposed for Napa River. The schedule of this component is based on the Napa River watershed assessment approach and the sediment TMDL process. The rapid sediment budget component will be completed after the limiting factors analysis if sediment is shown to be the limiting factor or a rapid sediment budget is recommended based on the analysis.
- *Component 3* – Conduct sediment management practice assessment. This is also based on the San Francisquito Creek watershed assessment approach. The schedule of this component is designed so the start of the project is not based on the completion of the other two components; however, the final assessment and recommendations use the results of the completed limiting factors analysis and rapid sediment budget.

Two important elements of this Workplan relate to the scheduling of these tasks. One element is to review the results of the San Francisquito Creek watershed assessment approach. The San Francisquito Creek watershed assessment approach was developed in a stakeholder process and is

the model for this Workplan. The Workplan schedule is designed to begin the first critical watershed analysis task after the equivalent San Francisquito Creek task has been completed. This will allow for an evaluation of the approach so the analysis task can be revised to address any deficiencies or problems in the approach for the next watershed.

Another important element of this Workplan is that some tasks have been identified as independent and do not rely on the completion and/or start of other tasks. These tasks were identified so progress can be made on specific tasks in different watersheds concurrently. It also allows SCVURPPP to take advantage of opportunities related to other projects and programs.

Specific Workplan tasks are described in the following section. A schedule for the tasks and deliverables is followed by the timeline for completion. The timeline also includes steps in the SCVURPPP process (e.g. AHTG and Management Committee review) to complete the watershed analysis, including identification and implementation of management controls.

The Workplan also includes a task (Task 5) to re-evaluate and update the identification of high and medium priority creeks based on the availability of new data. The intent is to update the list once every two years starting with the first update to be conducted during the first half of FY 03-04. This re-evaluation and update will take advantage of a significant body of new data that should become available during FY 02-03 (e.g., FACHE, current assessments, SCVWD internal monitoring program data, SCVURPPP monitoring data, HMP data). The intent is to provide a Program-wide update and evaluation of data from ongoing monitoring and assessment efforts in high priority creeks (and reaches) and the other medium priority creeks in the Potentially Sediment Impaired Creek Report (Guadalupe River and Permanente Creek) and to identify future assessments, timing and resource requirements. This task also allows for review and coordination of management issues with individual Co-permittees involved within specific creeks as well as the overall Management Committee in order to identify potential early control and long-term control measures.

SCOPE OF WORK

Task 1. Conduct Watershed Assessment Using Limiting Factors Analysis Approach

Task 1.1 Compile and review existing data and information

Compile and review relevant existing data and information, including interviews of local experts, to characterize the general physical and biological attributes of the watershed. The characteristics include the hydrology, geology, geomorphic processes, land use, vegetation cover, and aquatic biota in the watershed. Compile historical information on channel condition and composition of biological communities to help define reference conditions of the watershed. In addition, compile and review information collected by SCVURPPP and SCVWD as part of the Hydromodification Management Plan (HMP) and District's regional study. Compile existing information that describes condition of aquatic habitat and population of steelhead and other aquatic species of special concern. Identify existing and future management actions that may impact sensitive species and aquatic habitat including, but not limited to, regulation of flows, flood control projects, mining activities, and affects to downstream channels by reservoirs. (An inventory of sediment related management activities will be addressed in Task 2.1, described below). Review published literature that describes impacts of reservoirs on downstream sediment supply, transport capacity and channel conditions. Task will include compilation and development of Geographic Information System (GIS) layers that identify a variety of factors influencing stream

functions, which will provide a basis to characterize streams to assist in the development of hypotheses and study site selection.

Task 1.2 Identify target species for limiting factors analysis

Identify the aquatic species that are generally sensitive to overall watershed conditions and likely represent the requirements for multiple species within the system. Salmonid fishes are the primary target species that will be used in the limiting factors analysis; however, other sensitive species (e.g., native warm water fish communities, foothill yellow-legged frog) whose distributions and requirements overlap with salmonids may also be evaluated. Assessing the life histories and habitat requirements for these species provides the basis for conducting the limiting factors analysis. Compile existing information to identify the critical habitat areas of these species (e.g., location of salmonid spawning and rearing habitat).

Task 1.3 Identify and assess potential limiting factors and develop initial hypotheses

Identify the potential limiting factors for the selected target species (e.g., excessive sedimentation, channel alterations, fish migration barriers, water temperature, stream flow levels). Supplement analysis of existing information with reconnaissance surveys to assess and prioritize potential limiting factors. Factors relevant to sediment will be given the highest priority to help determine their relative importance in controlling target species populations and habitat conditions. Describe the factors excluded from consideration and provide rationale. Generate hypotheses and develop focused studies to investigate the importance of the priority limiting factors on the target species. In addition, use the reference and current watershed conditions to describe changes to aquatic habitat and associated impacts and the factors causing these impacts.

Task 1.4 Conduct focused studies

Conduct studies to test hypotheses that relate sedimentation (or lack of sediment, e.g., spawning gravel for salmonids) to key factors limiting target species. Evaluate sediment-related study approaches used in limiting factors analyses in Napa River and San Francisquito Creek. These studies include 1) turbidity following storm events and impacts to juvenile feeding and growth; 2) spawning gravel permeability; 3) bed mobility and redd scour; and 4) pool filling and impacts to juvenile rearing habitat. Evaluate implementation of non-sediment related studies, including 1) impacts of physical barriers on fish passage; 2) water quality, including temperature affects on sensitive species; and 3) impacts of dry-season surface flow patterns on juvenile salmonid growth rates. Utilize GIS data layers that identify significant changes in stream channel (e.g., channel gradient and modifications, substrate size) and critical habitat areas to help select study site locations.

Task 1.5 Data analysis and recommendations

Evaluate results of focus studies to determine relative importance of sediment-related factors in relation to other factors. Identify potential studies that would be useful to increase understanding of cause-and-effect relationships between impacts and limiting factors. Recommend future management actions to reduce impacts to key factors and enhance habitat conditions for sensitive species. Compile information on existing conditions, hypotheses development, data results and analyses from focused studies, and recommendations into technical report. Report will be reviewed/approved by Ad Hoc Task Group and Management Committee.

Task 2. Assess Sediment Management Practices

Task 2.1 Inventory and document sediment management practices

Survey jurisdictions, agencies and large landowners within each watershed to determine current and planned erosion control measures and sediment management practices. Document types of management practices, lead agency, regulatory/management driver, purpose and scope, location and extent, and time period of projects for each watershed. Management practices may include planning activities and regulatory actions taken to reduce non-point sources of sediment. In addition, sediment control measures, such as sediment removal projects, management of large woody debris and in-channel vegetation, streambank stabilization, trail and rural road erosion control and prevention, new and redevelopment construction, and livestock management will be documented. Inventory of management activities will be conducted by reviewing available project reports, interviewing agency staff, and searching available records and databases.

Task 2.2 Evaluate the effectiveness of sediment management practices

Using data gathered from Task 1, evaluate available information to qualitatively evaluate to the extent possible, the ability of management practices and policies and existing and planned sediment control measures to reduce impairment or minimize future degradation of the water quality and impacts on beneficial uses due to anthropogenic sources of sediment. Incorporate available information from sediment assessments and watershed analyses being conducted to assist in the evaluation of management practices and sediment control measures. Assess the FishNet 4C Program model for evaluating sediment management practices. Include an evaluation of flow management control measures that are identified in the HMP. Develop criteria to evaluate effectiveness of management practices and erosion and sediment control measures with emphasis on cost-effectiveness. Consider adequacy of project monitoring and maintenance, reporting, training, and education and outreach. Identify information gaps associated with evaluating the effectiveness of sediment management practices.

Task 2.3 Develop report that summarize results of inventory and evaluation of sediment management practices

Prepare a draft and final report that identifies the results from Tasks 2.1 and 2.2. Report will be reviewed/approved by Ad Hoc Task Group and Management Committee.

Task 3. Evaluate results from watershed assessment and sediment management practice assessment and make recommendations for further analysis

Task 3.1 Identify potential studies to be implemented in the future

Program staff will evaluate information from the limiting factors analysis to determine if sediment is a significant limiting factor and is likely causing impairment to beneficial uses. If the determination is made that beneficial uses are being impaired by sediment, conduct sediment source analysis (see Task 4). Assess and prioritize all potential studies described in limiting factors analysis report and, if needed, recommend studies for the future. Identify additional data needed to evaluate effectiveness of proposed sediment management practices.

Task 3.2 Identify potential management practices to be implemented in the future

Incorporate available information from the limiting factors analysis and sediment management assessment to identify sediment problem areas impacting sensitive species. Identify sediment problem areas where management actions are not effective or have not been implemented. Recommend management practices to address sediment problem areas, including improvements to current management practices. Incorporate flow management measures that are recommended in the HMP. Identify non-sediment related impacts and recommend management practices to reduce these impacts.

Task 3.3 Develop a technical memorandum that summarizes recommendations

Prepare a draft and final technical memorandum that identifies the recommendations from Tasks 3.1 and 3.2. An Ad Hoc Task Group, comprised of Co-permittees whose jurisdictions overlaps with the watersheds that are being addressed, will review and comment on all recommendations developed by Program staff. AHTG recommendations will be reviewed/approved by Program's Management Committee. The Management Committee will make the decision to either recommend Co-permittees implement management practices or direct the AHTG to develop and/or revise appropriate performance standards.

Task 4. Sediment source analysis

Task 4.1 Conduct rapid evaluation of sediment budget

Inventory and quantify sediment sources using existing approaches (e.g., Reid and Dunne 1996, Dietrich et al. 1982) utilizing digital orthophotos and digital terrain models available for Santa Clara Basin watersheds. Task includes determining active processes that are delivering sediment from upslope areas to channels; quantifying process rates and grain-size distributions; determining which processes are natural and which are caused by or accelerated by anthropogenic activities; and determining appropriate sediment transport rates through channels. Above information will be combined with information on existing channel condition (see Task 1.1) to evaluate impacts of excess sediment supply and peak runoff to aquatic habitat, bank stability, and flood conveyance.

Task 4.2 Identify management actions to reduce anthropogenic sources of sediment

Incorporate information from sediment source study to identify areas producing excessive sediment due to anthropogenic activities. Identify and prioritize management practices to address sediment problem areas. Compile data results with analyses and recommendations into a technical report. Report will be reviewed/approved by Ad Hoc Task Group and Management Committee.

Task 5. Evaluate Prioritization of Watersheds and Assessment Approach

Task 5.1 Evaluate watersheds for future assessments

Obtain available information relevant to assessing sediment-related impacts to Santa Clara Basin watersheds and use the information to re-evaluate the priority of watersheds for potential impairment by sediment from anthropogenic activities. In addition, identify available funding resources from planned projects whose activities may include monitoring and assessment of sediment processes and associated impacts to beneficial uses. These projects can provide opportunities to leverage resources to assess sediment impacts to sensitive species and therefore may warrant higher prioritization for future assessments. Program staff will incorporate existing

information, identify additional funding resources (e.g., grants) and make recommendations to the Ad Hoc Task Group for selecting watersheds for future assessments.

Task 5.2 Prepare Technical Memorandum on the Re-evaluation of Assessment Priorities

Consistent with the urban runoff permit, the SCVURPPP prepared a listing of creeks in the SCVURPPP jurisdictional area, other than San Francisquito Creek, which may be impaired by sediment from anthropogenic sources. The initial list is based on a clear set of ranking criteria and utilizes all available data to develop a list that address the original question posed in the permit. It is obvious that more data will become available over the next several years, thus, updating the original list along with a review and update of the ranking criteria is necessary.

This task calls for summarizing the results of Task 5.1 and 5.2 which include collecting and reviewing all available data during FY 02-03 and producing an updated list during the first quarter of FY03-04. The data collected during FY02-03 will be used to update develop the FY03-04 Annual Monitoring relative to sediment data needs. The updated list produced during FY03-04 will also include an update of the long-term SCVURPPP and individual Co-permittee priorities and resource needs for conducting creek sediment assessments. The results of the update will also be used during FY 03-04 to update the SCVURPPP Multi-Year Monitoring Plan as well as assist develop the FY 04-05 Annual Monitoring Plan.

Task 5.3 Continuous Improvement

The results of Task 5.3 will be reviewed by individual Co-permittees and the overall MC to identify both specific Co-permittee and SCVURPPP Annual Workplan tasks. The overall objective is to get Co-permittees directly involved, as early as possible, in the decision-making process relative to local data needs and the review and implementation of short and long-term management control measures. The SCVURPPP will coordinate with and seek input from the Watershed Management Initiative (via the Watershed Assessment Subgroup) as part of developing guidance and recommendations for Management Committee consideration. Another objective of the SCVURPPP's approach is to provide the Regional Board with a logical process and technical basis to update the 303(d) lists.

Task 5.4 Evaluate watershed assessment approach

Examine lessons learned from limiting factors analysis used in current study. Incorporate information on sediment assessment approaches used in other watershed analyses (e.g., San Francisquito Creek). Evaluate utility of the different approaches for assessing sediment impacts to beneficial uses and make recommendations to Ad Hoc Task Group for using approaches in future assessments. Develop technical memorandum that reports the results of the analysis and lists recommendations.

SCHEDULE

Activity	Deliverable	Projected Duration	Comments
Develop budget and workplan for each Co-permittee and Program		4 months	Nov 02 – Mar 03
Identify entity to complete task 1		3 months	March – June 03
Task 1.1 Compile and review existing data and information		4 months	Starting July 03
Task 1.2 Identify target species for limiting factors analysis		1 month	Dependent on previous task
Task 1.3 Identify and assess potential limiting factors and develop initial hypotheses		1 month	Dependent on previous task
Task 1.4 Conduct focused studies		4 months	Dependent on previous task
Task 1.5 Data analysis and recommendations	Report, data	2 months	Dependent on previous task
Task 2.1 Inventory and document sediment management practices		4 months	Starting July 03
Task 2.2 Evaluate the effectiveness of sediment management practices		2 months	Dependent on previous task
Task 2.3 Develop a report that summarizes recommendations	Report	2 months	Dependent on completion of tasks 2.1 and 2.2.
Task 3.1 Identify potential studies to be implemented in the future		2 months	Dependent on completion of tasks 1.5 and 2.2.
Task 3.2 Identify potential management practices to be implemented in the future		2 months	Dependent on completion of tasks 1.5 and 2.2.
Task 3.3 Develop a tech memo that summarizes recommendations	Tech memo	2 months	Dependent on completion of tasks 3.1 and 3.2.
Task 4.1 Conduct rapid evaluation of sediment budget		4 months	Start June 04, dependent on Task 3.1
Task 4.2 Identify management actions to reduce anthropogenic sources of sediment	Report, data	2 months	Dependent on previous task
Task 5.1 Collect existing data to help evaluate watersheds for future assessments		6 months	Dec – Jun 03
Task 5.2 Develop tech memorandum that re-evaluates assessment priorities.	Tech memo	2 months	Complete Sept 03
Task 5.3 Continuous Improvement		2 months	Complete Dec 03
Task 5.4 Evaluate watershed assessment approach	Tech memo	3 months	March – June 04

Timeline for Workplan

Task	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04	3/05	6/05	9/05
Submit workplan	→												
Develop SCVURPPP budget and workplan		→	→			→	→			→	→		
Identify entity to complete tasks 1 and 4			→		(Stevens)								(Coyote)
Task 1.1				→	→	→							→
Task 1.2					→	→							
Task 1.3					→	→							
Task 1.4						→	→						
Task 1.5							→	*					
Task 2.1				→	→	→	→	→	→	→	→	→	→
Task 2.2					→	→							
Task 2.3						→	*						
Task 3.1								→					
Task 3.2								→					
Task 3.3								→	#				
Task 4.1									→	→	→	→	→
Task 4.2										→	*		
Task 5.1	→	→	→	→					→	→	→	→	→
Task 5.2				→	*	→	→					→	*
Task 5.3					→	→	#						
Task 5.4							→	*					
HMP	→	→	→										
San Francisquito Assessment						→							
Upper Penitencia Flood Protection			→	→	→	→							
SCVURPPP Monitoring Plan Saratoga Creek				→	→	→	→	→					

Management Committee reviews recommendations by Ad Hoc Task Group (Task 6)

* Deliverables are submitted to Ad Hoc Task Group

Attachment A

**Regional Board Staff Written Comments on
"Potentially Sediment Impairment Creeks Report"
Submitted to SCVURPPP in July 8, 2002 Letter**



California Regional Water Quality Control Board San Francisco Bay Region



Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

Internet Address: <http://www.swrcb.ca.gov>
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Date: JUL 08 2002
File No.: 2182.05 (JBO)

Mr. Beau Goldie
Management Committee Chair-SCVURPP;
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3614

SUBJECT: REGIONAL BOARD STAFF REVIEW OF "SEDIMENT IMPAIRMENT REPORT" IN FY 2002-03 WORK PLAN

Dear Mr. Goldie:

We have reviewed the Santa Clara Valley Urban Runoff Pollution Prevention Program's (Program) Sediment Impairment Report (report) contained in the FY 2002-2003 Draft Work Plan. We find the report conditionally acceptable provided the following issues are addressed in development of the work plan and schedule due on September 1, 2002:

- 1) The entire Stevens Creek watershed, downstream of reservoir, should be given a high priority because, in addition to steelhead, sediment removal is an important issue in lower Stevens Creek. The influence of the reservoir on downstream sediment supply, transport capacity, and channel condition must be considered.
- 2) Analysis of Coyote Creek (Reaches 4 and 5) must include an evaluation of the influence of Anderson Dam on downstream sediment supply, transport capacity, and channel condition.
- 3) Saratoga Creek (upstream of the San Jose Water Company diversion) and Upper Penitencia Creek (entire watershed) should be added to the list of high priority streams for analysis.

Background and Specific Rationale

A key issue driving development of sediment TMDLs for Bay Area streams is implied degradation of salmonid habitat. Other issues include: 1) protection of other rare or threatened aquatic species (e.g., river lamprey, hardhead, foothill yellow-legged frog, western pond turtle, etc.); 2) increased flooding for which streambed aggradation may be a contributing factor; and 3) the fate and transport of particle bound contaminants (e.g., Hg, PCBs, DDT, etc.). Provision C.9.f.iii of the Program's permit (Order 01-024) reads as follows:

"Submit a report acceptable to the Executive Officer by March 1, 2002 that identifies the other creeks that may be impaired by excessive sediment production from erosion due to anthropogenic activities. Submit a plan and time schedule for implementation acceptable to the Executive Officer by September 1, 2002 to 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."

The Program's report presents (1) a brief summary of existing data for streams in the Santa Clara Valley that were reviewed to evaluate impairment of salmonid habitat by sediment, and (2) the approach for prioritizing stream reaches for watershed analysis and evaluation of management practices. The report does not provide a conclusion regarding sediment impairment (or lack thereof) for any stream within the Program's jurisdictional boundaries, as we had expected in accordance with the permit provision. The report does identify two reaches of Stevens Creek and two reaches of Coyote Creek as high priority reaches for subsequent watershed analysis and review of management practices.

In 1998, the California Department of Fish and Game (CDFG) requested that the Regional Board list Stevens Creek, Guadalupe River, Upper Penitencia Creek (as well as other Bay Area streams) as impaired by too much sediment under Section 303(d) of the federal Clean Water Act because: a) these streams have the potential to support self-sustaining runs of steelhead and/or fall-run chinook salmon; and b) current and former Area Fishery Biologists concur that habitat in these streams is impaired by too much sediment. Regional Board did not list the above streams because we did not receive or identify watershed specific data or have the opportunity to interview other local experts (for above streams) in the brief period between receipt of the petition from CDFG and the development of the list, and because we were assured by stormwater program representatives that these streams would receive watershed analysis and management attention in the very near future. It is our understanding that all of the above streams remain high priorities for CDFG in its efforts to recover steelhead and/or salmon runs in the South Bay, with one caveat for Guadalupe River tributaries that are impaired by mercury¹.

Although we have questions and/or concerns regarding methods, defensibility, and completeness of the report, we would concur that Stevens Creek be given a high priority for watershed analysis and evaluation of management practices based on the opinion and previous petition by the CDFG. We would clarify that sediment management for salmonid habitat enhancement in Reaches 3 and 4 of Stevens Creek will require that the entire watershed be analyzed because the dam influences downstream sediment supply, transport capacity, and channel form and condition. Such an integrated approach may be attractive to SCVWD and other stakeholders in light of the FAHCE study and management effort that is underway, and the potential opportunity to reduce downstream sediment removal costs and stormwater pollutant loads through source assessment and control.

We also propose that Saratoga Creek (upstream of the San Jose Water Company diversion) be added to the list of high priority streams for subsequent watershed analysis because Saratoga Creek:

- 1) currently supports a large rainbow trout population and likely provides high quality habitat for several other rare or threatened species including western pond turtle and foothill yellow-legged frog;

¹It is our understanding that CDFG has subsequently delayed implementation of steelhead migration barrier remediation projects in Guadalupe Creek and Alamos Creek tributaries of the Guadalupe River, based on the concerns that mercury contamination issues need to be resolved first in those streams. Sediment quality and quantity issues in the Guadalupe River and its tributaries are also receiving attention through flood control projects along its mainstem and the mercury Total Maximum Daily Limit project.

- 2) has high Ephemeroptera, Plecoptera, and Tricoptera (EPT) richness scores; and
- 3) appears to have very little existing data relating sediment to habitat.

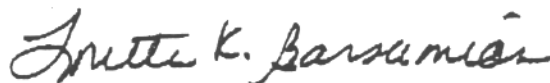
Similarly, Upper Penitencia Creek is believed to have a very high potential to support a self-sustaining run of steelhead trout (*Jerry Smith, San Jose State University, Personal communication, 2001*). In the absence of additional information, and based on the opinion of CDFG (presented above), we would conclude that Upper Penitencia Creek should be given a high priority for watershed analysis and evaluation of management measures.

The report also proposes that Coyote Creek, in Reaches 4 and 5 (those immediately downstream of Anderson Dam and identified by Jerry Smith as providing habitat for steelhead), be given a high priority for watershed analysis and evaluation of management measures for sediment. We agree that there is value in developing a focused watershed analysis for Coyote Creek (Reaches 4 and 5), provided that the watershed analysis includes an evaluation of the influence of Anderson Dam on channel condition as well as sediment supply and transport capacity in Reaches 4 and 5.

We agree with the staff of EOA, Inc., who prepared the report (*Paul Randall, personal communication, June 2002*), that the watershed analysis should be conducted within the framework of a limiting factors study to determine whether or not sediment is an important control on steelhead and/or rainbow trout populations, and if so to determine its significance relative to other factors that also shape habitat (e.g., habitat complexity, stream temperature, flow regime, migration barriers, etc.). To facilitate submittal of an acceptable work plan and time schedule for watershed analysis and management practice assessment for sediment (required by 9/1/02), we have scheduled a meeting with your staff and EOA staff for July 17, 2002 to discuss objectives, analytical approach, budget, and schedule. We are prepared to present examples of acceptable approaches to such a study.

Please contact Mike Napolitano at 622-2397 or mbn@rb2.swrcb.ca.gov and/or Jan O'Hara at 622-5681 or jbo@rb2.swrcb.ca.gov if you have any questions regarding this correspondence.

Sincerely,



Loretta K. Barsamian
Executive Officer

cc: Adam Olivieri, EOA, Inc.
Jill Bicknell, EOA, Inc. for distribution to Co-permittees
Laura Young, SCVWD
Trish Mulvey, CLEAN South Bay

Attachment B

**Minutes from Watershed Analysis
Workplan RWQCB Meeting**

**Santa Clara
Valley Urban
Runoff Pollution
Prevention Program**

**Watershed Analysis Workplan
RWQCB Meeting**

Date/Time: July 17, 2002 1 pm – 3 pm

Place: RWQCB, 1515 Clay St, Oakland

Who Attended: Adam Olivieri, Paul Randall and Kristin Kerr (SCVURPPP Program staff); Trish Mulvey (CLEAN South Bay); Richard McMurtry, Paul Amato, Tom Mumley and Mike Napolitano (RWQCB); Beau Goldie, Laura Young and Brett Calhoun (SCVWD);

**Internal Organization (IO) Meeting
Summary Report**

Key Issues Discussed:

- Regional Board staff requested a meeting with the SCVWD and Program staff to: a) Discuss potential opportunities (for improving our understanding of sediment input, transport, and storage; and channel condition and habitat) that are presented by FAHCE, WMI studies, Guadalupe Hg TMDL, and on-going and future flood management project studies. Ability to substantially reduce cost of sediment removal projects, through identification and control of principal sources of sediment production to streams also should motivate sediment budget information gathering. b) Discuss potential common ground (RWQCB, SCVWD, and SCVURPPP) regarding information needs: sediment budget, channel condition and dynamics information. c) present and discuss RWQCB objectives for sediment work plan, suggested analytical approaches and acceptable level of accuracy and/or uncertainty, and potential schedule for sediment work plan due on 9/1/02.
- Regional Board staff did not want to focus on the Identification Report (submitted March 1, 2002) and their comments on this report (July 8, 2002 letter). They did not believe the report completely addressed the permit provision and wanted the report to identify creeks that are impaired due to sediment. SCVWD and Program staff pointed out that the permit provision requirement states that the SCVURPPP was to identify creeks that may be impaired due to sediment and that the next provision in the permit was to schedule the watershed analysis to determine if the creek is actually impaired.
- The Napa River approach (endorsed by RWQCB) was to first conduct a limiting factors analysis as supporting info to reject or accept impairment listing. This is the approach we are proposing for the other creeks study, which seems acceptable by the Board.
- Mike expressed we need to focus sediment impacts beyond just salmonid fishes (used in the identification report). Mike is concerned about warm water natives (e.g., in Coyote mainstem) as well as other species. Program staff said that they were not aware of a methodology for a warm water habitat limiting factors analysis.
- The RWQCB staff noted that while the San Francisquito Creek sediment study is being done to satisfy permit requirements, it may not be best model for using on other creeks approach. The SFC approach includes a sediment budget concurrently with limiting factors analysis, which is very costly. It may provide the background for adopting an assessment approach in the future, however the Board feels there is enough science available to begin to assess other watersheds concurrently with the San Francisquito Creek project. Trish Mulvey thought the San Francisquito Creek study was supposed to be the pilot sediment study. The District and

Program staff also made this comment, and noted that they were interested in approaches that result in cost effective assessments.

- Mike Napolitano believes information for a limiting factors analysis is already being collected in watersheds.
- Richard McMurtry stated a subset of the FACHE reports were submitted to the WMI. Richard indicated that he would request that the data and information be released to the WMI and SCVURPPP.
- The Regional Board staff expressed the concern that the watershed assessments would follow a linear schedule after the San Francisquito Creek project is completed. SCVWD and Program staff pointed out that not everything can be first priority and that many activities were underway by the Co-permittees already, that resources were being stretched to cover these many areas, that the permit was written to build on previous steps, and that part of the next phase of the sediment work was to get Co-permittees directly involved with understanding the required work and funding it so that implement in the future would be easier. Tom Mumley acknowledged that he understood our comments and concerns. He noted that additional information in the workplan including: interim milestones, clarification regarding current and future schedules, identification of Management Committee review and actions, coordination with other ongoing efforts such as the Multi-year Monitoring Plan, and clarification about how Co-permittees would identify and implement early actions as well as long-term actions would go along way to alleviate RWCQB staff concerns.
- The SCVWD discussed the need for framework questions when embarking on different projects, data synthesis and reevaluation of management questions. The important aspect of the San Francisquito Creek study is it was developed in a stakeholder process.
- The SCVWD and Program staff invited Mike Napolitano to participate in the Watershed Analysis Workplan AHTG. Program staff will continue to work with Regional Board staff during the development of the workplan.

Attachment C

**Response to Regional Board Staff Review of
"Potentially Sediment Impairment Creeks Report"**



**Santa Clara Valley
Urban Runoff
Pollution Prevention Program**

Campbell • Cupertino • Los Altos • Los Altos Hills • Los Gatos • Milpitas • Monte Sereno • Mountain View • Palo Alto
San Jose • Santa Clara • Saratoga • Sunnyvale • Santa Clara County • Santa Clara Valley Water District

August 29, 2002

Mr. Dale C. Bowyer, Chief
Southeast Bay Section
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Response to Regional Board Staff Review of “Potentially Sediment Impairment Creeks Report” in FY 2002-03 Work Plan July 8, 2002 Letter

Dear Mr. Bowyer,

This is a response to your July 8, 2002 comments on the report *Identification of Creeks Potentially Impaired by Sediment from Anthropogenic Activities* submitted in the SCVURPPP FY 2002-03 Work Plan in fulfillment of Permit Provision C.9.f.iii. We appreciate your staff comments and their meeting with District and Program on June 17, 2002. Regional Board staff comments are numbered and in bold. Our response follows these specific comments.

The report *Identification of Creeks Potentially Impaired by Sediment from Anthropogenic Activities* (Potential Sediment Impaired Creek Report) was submitted in fulfillment of Permit Provision C.9.f.iii which required a report by March 1, 2002 that “identifies the other [not San Francisquito Creek] creeks that may be impaired by excessive sediment production from erosion due to anthropogenic activities”. The Regional Board July 8, 2002 letter finds the report conditionally acceptable provided several issues are addressed in development of the Workplan.

The Workplan referred to is being developed in fulfillment of Permit Provision C.9.f.iii which also requires a workplan and time schedule by September 1, 2002 to “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”.

1. “The entire Stevens Creek watershed, downstream of reservoir, should be given a high priority because, in addition to steelhead, sediment removal is an important issue in lower Stevens Creek. The influence of the reservoir on downstream sediment supply, transport capacity, and channel condition must be considered.”

Regional Board staff stated this issue needs to be addressed in development of the Workplan. Only Stevens Creek reach 3 & 4 were given high priority in the Potential Sediment Impaired Creek Report due to the factors and weighting system developed. Specifically, beneficial uses of creeks for cold water habitat (i.e. salmonid fish habitat) is given a higher weighting than problem sediment removal sites (reaches where excessive sediment accumulation is decreasing channel capacity and increasing flood potential). We believe this weighting is appropriate.

However, the Workplan for the watershed assessment will address the influence of the reservoir on downstream sediment supply, transport capacity, and channel condition. Although only reaches 3 & 4 in Stevens Creek were identified as high priority for assessment, the entire Stevens Creek watershed, downstream of the reservoir, will be included in the watershed characterization and sediment budget assessments. Also, we recognize the sediment processes within reach 3 & 4 are affected by the processes throughout the watershed.

2. “Analysis of Coyote Creek (reaches 4 & 5) must include an evaluation of the influence of Anderson Dam on downstream sediment supply, transport capacity, and channel condition.”

As stated previously, we recognize the sediment processes within specific reaches are affected by the processes throughout the watershed. The Workplan for the watershed assessment will include a watershed characterization and sediment budget assessment. The influence of Anderson Dam on downstream sediment supply, transport capacity, and channel conditions will be discussed and evaluated in these sections.

3. “The report does not provide a conclusion regarding sediment impairment (or lack thereof) for any stream within the Program’s jurisdictional boundaries, as we had expected in accordance with the permit provision.”

The permit provision states the report must identify other creeks “that may [underline added for emphasis] be impaired by excessive sediment production from erosion due to anthropogenic activities”. The permit does not state that creeks must be identified that are impaired due to sediment. Given the series of sediment provisions and associated permit deadlines it is clear that not everything is expected to be done all at once. Further, a determination of impairment due to sediment could not be made for every creek in the SCVURPPP program area (over 100 creeks) in such a short time. In addition there was insufficient evidence from existing data sources to develop conclusions regarding sediment impairment for every creek. Research into previous case studies involving assessment of data for 303(d) listing required two conditions be met to recommend listing: (1) weight of evidence that sediment impaired salmonid fish habitat; and (2) excess sediment was from anthropogenic sources. The current available data for Santa Clara Basin streams did not provide evidence for either condition. It was clear that more data would need to be collected to adequately assess impairment by sediment. As a result, we collected

available data and used a “weight of evidence” approach to prioritize watersheds for future assessments. Given the permit provision also required a workplan and time schedule for a future watershed analysis for specific creeks identified in the previous report, we believe our approach is consistent with the permit provision.

4. “Regional Board did not list the above streams [Stevens Creek, Guadalupe River, Upper Penitencia Creek] because we did not receive or identify watershed specific data or have the opportunity to interview other local experts (for above streams) in the brief period between receipt of the petition from CDFG and the development of the list, and because we were assured by stormwater program representatives that these streams would receive watershed analysis and management attention in the very near future.”

A footnote in the Regional Board letter states “Sediment quality and quantity issues in the Guadalupe River and its tributaries are also receiving attention through flood control projects along its mainstem and the mercury Total Maximum Daily Limit project”. Although Guadalupe River was not a high priority in our Potential Sediment Impaired Creek Report, it is receiving watershed analysis and management attention through the mercury TMDL process and SCVWD capital projects. Creeks in the Guadalupe River watershed did receive a medium priority rating and will be reevaluated for watershed analysis priority with available data from these projects and studies.

Upper Penitencia Creek was not a high priority in our Potential Sediment Impaired Creek Report, however, it is receiving watershed analysis and management attention through several studies and activities. The studies and activities taking place in the Upper Penitencia Creek include the FACHE Habitat Study (1999), a City of San Jose Alum Rock restoration project, SCVWD Flood Control Project, WMI Assessment of Upper Penitencia and the Coyote Watershed Assessment.

Stevens Creek was a high priority in our report and will be addressed in the Workplan required by Permit Provision 9.C.f.iii.

5. “We would clarify that sediment management for salmonid habitat enhancement in Reaches 3 and 4 of Stevens Creek will require that the entire watershed be analyzed because the dam influences downstream sediment supply, transport capacity, and channel form and condition.”

The Workplan will address this point, and as stated previously, the entire watershed will be included in the watershed characterization and sediment budget assessments. The entire watershed will be evaluated for sediment management to address the affects in the two reaches identified.

6. “We also propose that Saratoga Creek ... be added to the list of high priority streams for subsequent watershed analysis...”

The three reasons given in the RWQCB letter for justifying an increase of Saratoga Creek to high priority were factors that were used in the Potential Sediment Impaired Creek Report analysis.

The lack of information on habitat condition prevented a potential higher rating, as it did other streams (e.g., Permanente Creek). As a result, we identified salmonid habitat survey data as an information gap that needs to be addressed for this creek. The prioritization ranking was designed to remove individual bias for which streams should be high priorities, which could change with each individual reviewing the report, and make the results reproducible. We think it is more beneficial to explain how our approach (selection and weight assigned to factors) could be changed to enhance the defensibility of the results. For example, streams with data gaps should receive higher weight. The prioritization ranking could then be recalculated to determine which streams are high priorities.

However, the Workplan will address Saratoga Creek and identify tasks for further analysis. Specifically, as part of the SCVURPPP multi-year monitoring program, salmonid habitat data are planned for collection from Saratoga Creek. As stated above, the lack of information on habitat condition prevented a potential higher rating in the Identification Report. The report identified salmonid habitat survey data as an information gap that needs to be addressed for this creek and SCVURPPP will be collecting information to fill this data gap. Once this information is available its priority assessment for watershed analysis can be reevaluated.

7. “Similarly, Upper Penitencia Creek is believed to have a very high potential to support a self sustaining run of steelhead trout...In the absence of additional information, and based on the opinion of CDFG .. we would conclude that Upper Penitencia Creek should be given a high priority for watershed analysis and evaluation of management measures.”

Upper Penitencia Creek did receive the highest ranking in the “potential salmonid” category. However, due to its rankings in the other factors used for our analysis it was calculated as a medium priority. As stated previously, the prioritization ranking was designed to remove individual bias for which streams should be high priority, which could change with each individual reviewing the report, and make the results reproducible. We think it is more beneficial to explain how our approach (selection and weight assigned to factors) could be changed to enhance the defensibility of the results. For example, include existing professional opinion (CDFG) and the absence of additional information as factors with high weights. The prioritization ranking could then be recalculated to determine which streams are high priority.

Tasks for Upper Penitencia Creek will be included in the Workplan to address Regional Board staff’s concerns. These tasks will leverage current projects to collect data and information required to perform a limiting factors analysis.

8. “We agree that there is value in developing a focused watershed analysis for Coyote Creek (Reaches 4 and 5), provided that the watershed analysis includes an evaluation of the influence of Anderson Dam on channel condition as well as sediment supply and transport capacity in Reaches 4 and 5.”

We agree this is an important aspect and the Workplan for the watershed analysis will address the influence of Anderson Dam.

We appreciate the opportunity to discuss the Workplan and time schedule for watershed analysis and management practice assessment for sediment with your staff before the submittal deadline. We had already started on the process of the Workplan development before the meeting date. A Watershed Analysis Workplan AHTG was convened (June 26, 2002) and they agreed on the Workplan approach presented. This approach was modeled after the Napa River limiting factors analysis and San Francisquito Creek watershed analysis approach which was developed in a stakeholder process. We have included tasks in the workplan which will review how the San Francisquito Creek process went and allow for any adjustments or improvements as necessary.

Based on your comments in the July 8, 2002 letter and our meeting on July 17, 2002 we will present the Watershed Analysis Workplan AHTG with a Draft Workplan that also incorporates the Regional Boards concerns. The Draft Workplan will address Saratoga Creek, Upper Penitencia Creek and a schedule that also allows for taking advantage of opportunities to make progress in future tasks sooner where possible. We encourage the Regional Board staff to participate in the AHTG meetings. We look forward to working with Regional Board staff as the AHTG develops and implements the workplan.

Please contact either Beau Goldie at 408-265-2600, or Adam Olivieri at 510-832-2852, if you have any questions.

Sincerely,



Beau Goldie
Management Committee Chair
SCVURPPP



Adam W. Olivieri, Dr.PH, P.E.
Program Manager
SCVURPPP

Cc: Jan O'Hara, RWQCB
Mike Napolitano, RWQCB
SCVURPPP Management Committee