

Watersheds 2000

A Vision of the Santa Clara Valley Urban Runoff Program's Role in Watershed Management and the Santa Clara Basin Watershed Management Initiative

Background

In its guidance for the Santa Clara Basin MS⁴ NPDES application package, the Regional Board¹ requested that the Santa Clara Valley Runoff Pollution Prevention Program (Program):

...elaborate on its long-term "vision" of the relationship between the Program and [SCBWMI] watershed management efforts...[and] provide additional ideas on the Program's main watershed tasks for the term of the next permit.

This 'vision' outlines the principles and approaches that the Program and its co-permittees will use during the term of the next permit to support better management of the Santa Clara Basin watershed through the implementation of the most practicable urban runoff and stormwater control measures.

Vision

The Program's approach for supporting watershed management and the Watershed Management Initiative can be articulated through the following principles:

- ◆ The goal of the Program and its Co-permittees is to maintain water quality and protect the beneficial uses of the waterbodies in the Santa Clara Basin through the implementation of control measures to the maximum extent practicable.
- ◆ Successful watershed management must be a community-wide, stakeholder-driven effort. Regulatory agencies, the business community, environmental advocates, and local government must not only agree on what needs to be done — each stakeholder must share the burden of implementing watershed management plan recommendations.
- ◆ The Co-permittees recognize it can be difficult to separate many urban runoff "issues" from the general impacts of urbanization resulting from the cumulative effects of land uses.
- ◆ The Co-permittees understand that their activities have the potential to impact water quality and beneficial uses; conversely such activities can create opportunities to improve water quality and enhance aquatic resources.

¹ Letter to Adam Olivieri, Program Manager from Regional Board Executive Officer, Loretta Barsamian dated May 10, 1999

Roles and Responsibilities

Given those principles, the Co-permittees envision the roles of the Program and that of the WMI as follows:

- ◆ The Program's activities pursuant to the NPDES permit provide key methods to assist co-permittees and other local agencies to incorporate appropriate watershed management recommendations into their decision-making and specific watershed protection approaches into their day-to-day operations.
- ◆ The SCBWMI, as a stakeholder process, provides the tools to identify community goals and issues, and facilitates the development of common ground between stakeholders to recommend to policy-makers the actions needed to better manage watershed resources.

It is clear from these roles that the Program seeks to create an avenue from which the WMI's broad stakeholder goals and objectives can be incorporated into the daily operations of the Co-permittees. The Co-permittees will strive to apply their resources and powers to preserve and enhance the watershed. To do this most effectively, the Co-permittees will seek to translate WMI stakeholder recommendations into specific actions that are reasonable, practical, and that can be incorporated into their missions and services.

Program assistance to the WMI has focused in four general areas (see the Program's March 1, 1999 Work Plan attached excerpt):

- Investigate Beneficial Uses and Causes of Impairment
- Review and Compile Environmental Data and Make it Accessible
- Develop Strategies for Controlling Impacts of Land Use on Beneficial Uses
- Facilitate and Support Subgroups

The SCBWMI watershed management planning process has four phases:

1. *A Watershed Characteristics Report -- Volume 1*, currently nearing completion. The Program and Co-permittees have prepared much of this document. This effort has included facilitating stakeholder participation in subgroups, researching technical and institutional issues related to watershed management, and developing stakeholder consensus related to the potential causes and solutions for environmental impacts to urban streams.
2. *A Watershed Assessment Report -- Volume 2*, which will include an assessment of watersheds using existing information. The Program has supplied data needed for the assessment and has been instrumental in the development of meta-matrix being used to compile information needed to assess the first suite of watersheds.
3. *An Alternative Watershed Management Measures Report -- Volume 3* will identify and develop possible actions. The Program and Co-permittees will assist in the review of the Volume 2 Assessment to provide sensitivity and limiting factors analyses to develop a range of alternatives needed to identify and address non-support of beneficial uses, and recommend options for long-term monitoring.

4. *A Watershed Action Plan -- Volume 4*, will prioritize and schedule specific actions. The Program is currently assisting stakeholders (Work Group D) in developing criteria for prioritizing the most cost-effective actions for managing the watershed.

The Program will continue to work with other stakeholders to craft a Basin-scale watershed management plan that reflects the finances, authorities and capabilities of the Co-permittee agencies. As the WMI moves toward implementation, the Program staff and its Co-permittees will develop examples, model language and planning tools to implement programmatic and sub-watershed specific actions as well as facilitate the assessment additional sub-watersheds.

The Program will work with Regional Board staff to apply a regulatory strategy that allows Co-permittees to find ways to coordinate with other agencies within a specific watershed — to protect and enhance beneficial uses.

In this vision one-size-fits-all mandated control measures would be replaced by stakeholder-based decisions. Municipal governments work with local stakeholders to assess watershed conditions and to set specific objectives for protecting and enhancing sub-watersheds in their jurisdictions. The Program will work with the Co-permittees to translate these objectives into feasible projects or specific changes to their day-to-day operations. The Program will also assist the Co-permittees with tracking progress on actions and projects and reporting back to the stakeholders.

The Program intends to implement this vision through the following strategies:

- Monitoring and Continuous Improvement Strategy
- Watershed Management Outreach Strategy
- Data Management Strategy

Monitoring and Continuous Improvement Strategy

Determining Success is one of five programmatic goals identified in the 1997 Urban Runoff Management Plan. The Program has been at the forefront of national efforts to develop meaningful measures of effectiveness for stormwater programs through the Water Environment Research Foundation (WERF) Stormwater Environmental Indicators Demonstration Project (Demonstration Project).

In June 2000, the Demonstration Project will complete its evaluation of 20 of the 26 “stormwater environmental indicators,” developed by the Center for Watershed Protection in its *Environmental Indicators to Assess Stormwater Control Programs and Practices, Final Report*. The result of the project will be a technical report on application these indicators, and a guidance manual for stormwater programs to use in implementing stormwater environmental indicators. Initial findings based on a preliminary assessment of the stormwater program, concluded:

The design of storm water programs, and the accompanying monitoring tasks, must involve regulators and advocates in an ongoing, candid discussion to set realistic goals and objectives for the program. Regulators, advocates and dischargers need to regularly review new and creative ways to protect and restore beneficial uses of water. The latter task requires building partnerships between local government, business, advocates and other stakeholders.

Based on these findings the definition of an “effective” stormwater program would be one that:

- Meets the obligations stated in its NPDES permit and management plan.
- Incorporates the principles of continuous improvement.
- Makes decisions openly and is responsive to contributions and new ideas from regulators and the public.
- Actively participates in broad, stakeholder-based efforts to control pollution and to assess, protect and enhance beneficial uses of local waters.

The Program’s strategy for future monitoring and effectiveness evaluations rests upon its work to date on the Demonstration Project. The strategy contains a two-pronged approach to future monitoring and assessment.

1. Development and implementation of programmatic measures—to gauge how well Performance Standard are being met and control measures are being implemented.
2. Development and implementation of environmental measures, to determine if control measures are having the intended effect, and to develop new and improved control measures.

The March 1, 1999 revisions in Performance Standards mark the start of implementation of improved programmatic measures. The Program is also currently working on methodology and protocols for implementing environmental measures through the Demonstration Project that includes field work to implement environmental measures in Coyote Creek watershed. These efforts will assist the WMI in the assessment of beneficial uses in that watershed. The Program anticipates extending such efforts to other sub-watersheds as identified by the WMI stakeholders in the 2000-2001 fiscal year.

The two-pronged approach to monitoring and assessment corresponds with the Program’s successful continuous improvement process. As shown in Figure xx (from the 1997 URMP), continuous improvement is implemented through two feedback “loops.” The loop on the left emphasizes programmatic measures to gauge the performance of the Co-permittees and the joint Program (and includes participation in regional efforts such as the Regional Monitoring Program for Trace Substances and the BASMAA Regional Monitoring Strategy). The loop on the right emphasizes watershed assessment conducted jointly with other stakeholders in the Santa Clara Basin Watershed Management Initiative.

This two-pronged approach facilitates the Regional Board’s responsibility for fairly measuring regulatory compliance while encouraging a watershed management approach. Programmatic measures provide the best basis for measuring compliance, while watershed management provides the best context for considering the effects of stormwater runoff on the environment.

Programmatic Indicators

Based on the Program’s experience in implementing the Performance Standards, monitoring projects and continuous improvement process, the Program believes that its strategy should focus on developing better programmatic indicators and on collecting and analyzing programmatic data. Focus areas include:

- ◆ Encouraging more consistent and thorough reporting of illicit discharge incidents.

- ◆ Improving the compilation and analysis of industrial inspection data to make it easier to target future inspections.
- ◆ Geo-referencing of industrial sites and illicit discharge incident locations so these can be summarized by sub-watershed.
- ◆ Continuing periodic measurements of public opinion, public awareness and public involvement.

Environmental Monitoring and Assessment

While continuing the programmatic approach to measuring compliance, the Program Co-permittees are committed to monitoring and assessing their creeks and wetlands, and San Francisco Bay. To measure and assess the effects of their activities on creeks, wetlands, and the Bay, the Program will apply environmental indicators and develop new indicators in coordination with, the Watershed Management Initiative.

Based on discussions in the BASMAA Monitoring Committee, the investigation of beneficial uses and causes of impairment will be greatly facilitated by implementation of the Regional Board's Regional Monitoring and Assessment Strategy (RMAS). The Program is committed to continuing its efforts to facilitate technical and stakeholder workgroups that will assist Regional Board staff to implement the RMAS.

With appropriate policy and guidance from the Regional Board, it should be possible to develop practical, implementable indicators (including physical and biological indicators) and protocols to assess beneficial uses in creeks, wetlands, and the Bay. These indicators and protocols are necessary a step toward establishing a sound regulatory basis for locally based watershed management.

Data Management Strategy

Preliminary results of the Stormwater Environmental Indicators Demonstration Project indicate that the Program needs to enhance its ability to gather, analyze and share data to improve evaluation programmatic indicators and environmental assessments. Specifically, to support both "prongs" of its Monitoring Strategy, the Program must implement a Data Management Strategy that manages:

1. Data collected in the course of Co-permittee implementation of Performance Standards (control measures), to support programmatic measures of how effectively the Performance Standards are being implemented.
2. Data collected in the course of environmental monitoring, to determine if Performance Standards (control measures) are having the intended effect, and to develop new and improved control measures.

Functionally, the first category of data supports the continuous improvement process — with emphasis on programmatic assessments, targeting of Co-permittee activities, and prioritization of activities.

The second category of data supports environmental assessments. Here the emphasis is on a long-term compilation of data and the development of capabilities to access and interpret data to support watershed planning. Much original data will be generated by other public agencies,

supplemented by targeted field investigations sponsored by the Program and Co-permittees. This data management approach will be consistent with and support data management efforts underway by the WMI.

Each “prong” of the Data Management Strategy must support many different users:

- Systems to manage programmatic data must meet the needs of the 15 Co-permittees, who have consistent Performance Standards but different local conditions, institutional habits and capabilities.
- Systems to manage environmental data must meet the needs of WMI stakeholders who have an interest in the data but need assistance in assembling and interpreting the data (i.e. making data into information).

The possible objectives for programmatic data management include:

- Follow up on the results of the Demonstration Project by improving the Program’s ability to apply programmatic indicators.
- Improve Co-permittees’ ability to target activities to meet Performance Standards.
- Improve timely communication of information among Co-permittees. Examples include real-time compilation of data from the District’s creek walk program, with timely communication to municipal public works departments, and development of a database of illegal dumping complaints against mobile cleaners.

The principal challenges in fulfilling these objectives are to identify the needs of front-line staff to achieve consistent reporting. The design for data collection must be based on the principle that reporting must facilitate staff’s day-to-day work providing services to the community.

Interim objectives for the management of environmental data include:

- Creating and maintaining a library of reports and research, including on-line publication of Program reports and links to related sites.
- Preparing regular updates on how the Program’s monitoring efforts are integrated with those of the Bay Area Stormwater Management Agencies Association, the Regional Monitoring Program, and other regional and statewide efforts.
- Exploring ways to use GIS information to improve beneficial use assessment.

Pursuit of objectives for managing environmental data will be driven by the WMI stakeholders in fulfilling their overall objective of developing watershed management plans. The WMI’s long-term data management plan is currently being developed by its Data Management Subgroup. The Program is an active participant in the subgroup and, in that role, will help ensure that Program and WMI data management approaches are consistent.

As the WMI stakeholders work toward consensus on a long-term data management plan, the Program will help identify which of the WMI’s needs are already being met by the Program and which additional WMI needs it might make sense for the Program to fulfill. In this way, the Program can maximize its value to the WMI while avoiding duplication of effort. When completed, the WMI’s long-term data management plan should state which specific data-management functions the Program can provide to the WMI.

Outreach

The goals of the Public Information and Participation (PI/P) Element of the Program's 1997 Urban Runoff Management Plan are to:

- Increase the understanding and appreciation of streams and the Bay, leading to a change in values.
- Change specific behaviors which adversely affect water quality.

For the past ten years, the Program and the Co-permittees have conducted extensive regional and local PI/P efforts focused on increased understanding of urban runoff, storm drain systems and their connection to creeks and the Bay, and the impacts of certain behaviors on water quality. Recent years' efforts have expanded from general outreach to include targeted outreach (pollution prevention messages targeting a specific audience), outreach through educational institutions, and citizen participation.

The vision of the Program's role in watershed management includes a new strategy for watershed education and outreach. Citizens that are educated about the interconnectedness of the natural resources of their watershed and the impacts of their behaviors within their watershed will be more motivated to change their behaviors to protect the watershed and participate in watershed stewardship. A strategy focused on education about watersheds further bridges the activities of the Program to the goals and objectives of the SCBWMI. The products and action plans of the SCBWMI will be better understood, more readily accepted, and more willingly implemented by a public knowledgeable about watersheds.

The Watershed Education and Outreach Strategy

In FY 98-99, the Program funded development of a watershed education and outreach strategy that will be consistent with the Program's goals and the outreach efforts of the SCBWMI. As part of the strategy's development, a baseline survey was conducted to determine the general public's level of awareness of watershed issues. The results of the survey indicated that residents have very little understanding of the basic facts about what watersheds are, how water flows through the Santa Clara Basin, and how individual behavior impacts pollution in the Basin. The survey also helped identify the target audiences, the most effective messages, and the best types of media for communication.

During FY 99-00, the strategy was finalized and approved by both the Program Management Committee and the SCBWMI Core Group. A detailed description of the Watershed Education and Outreach Strategy is provided in Attachment 1.

The goals of the strategy are to:

- Educate residents on the Santa Clara Basin watershed and how to protect the watershed.
- Promote public involvement in watershed stewardship.
- Change behaviors that negatively impact watersheds.

The strategy contains specific measurable objectives and key messages for reaching the target audiences. The primary audiences include Santa Clara Basin adults, school children, and

underserved (primarily Spanish-speaking) communities, with secondary audiences being community leaders and businesses.

The core strategy consists of implementation of a three-year coordinated watershed outreach campaign during FY 00-01 through FY 02-03. In addition to the use of mass media to communicate watershed messages, elements of the campaign will likely include continuation of the Program's community grants program ("Watershed Action Fund") and events for public involvement such as creek clean-ups. The annual work plans for the campaign will be linked to the major work products, reports and activities of the SCBWMI. Program staff are currently assisting a Program work group develop a request for proposals for a consultant to develop and implement the outreach campaign. In FY 03-04, a post-campaign awareness survey will be conducted to assess any changes in public awareness and/or behavior as a result of the campaign and guide future outreach efforts by the Program and Co-permittees.