5. SHORT- AND LONG-TERM ACTIVITIES

As water quality issues and associated COCs are identified, validated, and prioritized, watershed Copermittees will work together in an interactive process to identify means to mitigate the water quality problems. This chapter presents the short- and long-term activities associated specifically with the potential high priority water quality problems identified in Chapter 4, Major Water Quality Problems. This chapter also discusses how activities are to be implemented and how the responsibilities for implementation will be divided within the watershed. The Copermittees will use an adaptive management approach so that activities will be continually adapted and updated as new information, data, and techniques become available. Updates to this program will be submitted as part of the Watershed URMP Annual Report and will include the annual evaluation of high priority and other potential water quality problems, describe any changes to the priority listing of water quality problems, and include any revisions to the list of activities.

5.a. Development and Implementation of Activities

Mitigating water quality problems will be a long-term project. Water quality problems may be identified at several levels: jurisdictional (municipal, county or other governmental entity), inter-jurisdictional (watershed), or regional. Generally, a water quality problem that is determined to be specific to a jurisdiction would be referred to the source agency and addressed through their existing program or Jurisdictional Urban Runoff Management Plan (Jurisdictional URMP). In other cases, the source(s) may be found to originate from two or more jurisdictions, in which case the problem would be addressed as part of the watershed- based program. Lastly, the issue may be found to be at a regional level (impacting more than one watershed) and would be referred to the appropriate regional technical committee (Monitoring, Outreach, Budget, etc.) for their assessment and recommendations. Implementation of regional activities that address water quality problems identified in the watershed would subsequently be incorporated as part of the jurisdictional or the watershed program as appropriate. Water quality problems specific to a watershed would generally be addressed through both mechanisms.

Many of the activities addressing water quality problems across the watershed may be similar and applicable across jurisdictions. For these solutions Copermittees will likely work within their current programs (Jurisdictional URMPs) rather than creating a new program. The watershed-based program will focus efforts and bring consistency to Copermittee approaches through systematic evaluation of water quality problems, prioritization, and activity implementation. Watershed projects may be small, for instance adopting consistent monitoring standards, or large, such as developing additional strategic or upstream monitoring to determine sources. The extent to which these projects are implemented, implementation responsibilities, and funding for these projects will vary significantly depending on the list of activities and the complexity of the problems.

The considerations used to develop activities that address water quality problems or issues vary significantly, but may include the following as time and resources permit:

- Extent of each water quality problem (spatial, temporal and magnitude).
- Need for additional data or studies to address data or information gaps.
- Activities in the watershed related to water quality problems, extent of implementation, planned duration of activities, and scheduled time to assess effectiveness in resolving the problem.

- Potential mechanisms to reduce pollutant load and its concentration (structural and non-structural BMPs, education and outreach, etc.).
- Feasibility or appropriateness of urban runoff mitigation, treatment, detention, and MS4 Operation and Maintenance improvements.
- Efficiency, economic impact, and technical feasibility of potential BMP(s) known to mitigate problems and other activities under consideration.
- Funding sources for all activities under consideration, including grants.
- Efficiency of past short- and long-term activities.
- Implementation schedule taking into consideration: funding sources (grants, etc.), economic impact, technical feasibility, benefit to cost analysis, the number of activities proposed, complexity of implementation, and experience by watershed Copermittees with implementation of the activity, seasonal factors, etc.
- Results of these complementary efforts: Illicit Discharge Detection and Elimination Program, Dry Weather Monitoring, Coastal Outfall, and Ambient, Bay and Lagoon monitoring data. Constituents of concern that may have been identified as problematic may have already been mitigated by identifying illicit discharges or connections, spills (caused by sewer overflows, accidents or other identified sources). Copermittees should use Best Professional Judgment and experience to determine if previously identified sources (sewer overflows, spills from accidents or disasters, etc.) have been corrected and/or if the existing correction plan(s) satisfy the requirement of an "activity."

An adaptive management approach will be used so that the process of planning actual implementation and scheduling of activities will be iterative, cooperative, and likely to change as the program develops and needs are identified.

The list of activities and a detailed implementation schedule will be included in the annual update of the Watershed URMP. Short- and long-term activities may be designated for consideration in future years and labeled as tentative projects. This strategy will account for the factors listed above. Short-term activities may in some cases, due to the ease of implementation, be scheduled within a year or two, but staggered to allow for project and workload management.

5.b. Implementation Responsibilities

The designation of the responsible parties will vary depending on the activity. Possible approaches might include:

- Each Copermittee be responsible for implementing selected watershed activities in their own jurisdiction (coordinated as part of the Jurisdictional URMP).
- Activities are recognized as regional in nature and will be addressed by all Copermittees.
- All watershed Copermittees share funding of watershed activities and the implementation is performed as a collaborative effort.
- Fund activities through grants or cooperative, cost-sharing agreements.
- A watershed Copermittee consultant performs implementation of activities.
- Combination of some or all of the above.

The lead watershed Copermittee for the Carlsbad Watershed, the City of Encinitas, currently acts as the responsible party for submittal of the Watershed URMP for 2002-03 and other general activities associated with implementation strategy and reporting. The Copermittees in the watershed have developed a cost-sharing agreement to cover the management efforts for the first year of the watershed program and development of the Watershed URMP.

Copermittees within each watershed may elect to manage and fund other common or shared activities using a variety of mechanisms and strategies.

5.c. Short-Term Activities

Activity No. 1 – Bacteria Source Investigation Project

Based on the assessment provided in Chapter 4, it has been determined that bacterial levels are elevated in the watershed and are a potential high priority water quality problem as evidenced by the data reviewed up to 2002 and as designated in the 303(d) List of Water Quality Limited Water bodies for this watershed. Because of the limited amount of data used for the assessment, additional verification and validation using water quality data from a variety of sources is required. Further refinement of this activity will be needed to identify persistent sources of bacteria contributing to the listed areas. Existing data obtained by individual jurisdictions (dry weather, costal outfall, etc.) will be collected and reviewed. Additional MLS data from wet weather testing in 2002-2003 will also be reviewed for any changes compared to 2001-2002 and the historical data at the AHC MLS. Until a comprehensive data review is performed, it cannot be positively stated that source(s) or cause(s) can be finalized and remedied.

Unless significant additional resources become available, this short-term activity will focus on data collection and evaluation from current jurisdictional programs (dry weather monitoring, coastal outfall and lagoon monitoring, etc.) as a first phase of source identification.

As part of a second phase of this activity, Copermittees will assess the information and results from existing source identification projects currently underway in Mission Bay and San Diego River that address similar problems. The design, implementation and outcome of these two projects may provide a model and/or direction to solving the bacterial indicator problem for the Carlsbad Watershed and implementing BMPs for specific, discrete sources known to contribute bacteria to the receiving waters.

The City of Carlsbad submitted a Clean Beaches Initiative grant application to the State Water Quality Control Board in October 2002 seeking monetary aid to perform a project that includes:

- Collecting and assessing all bacteria monitoring data and information from previous studies and identifying data gaps.
- Sampling and testing to eliminate data gaps and verify previous findings.
- Determining potential sources of bacteria and designing a verification strategy (monitoring, observations, infrastructure maintenance and integrity, etc.).
- Abating confirmed sources of bacteria by applying Best Management Practices.

5.d. Long-Term Activities

Carlsbad Watershed Copermittees have identified addressing sedimentation and siltation as a long-term activity based on the water quality assessment performed in 2002. Copermittees will be tracking and reporting the implementation of several programs already underway in 2001 that are closely related to the sedimentation and siltation problem.

Activity No. 2 - SUSMP Implementation

This issue will be tracked to address the sedimentation and siltation water quality problem that is likely caused by excessive solids (total and/or suspended) discharged to the receiving waters. The analytical data available suggest the presence of suspended solids and turbidity which are likely indicators of the water quality problem in this watershed. Carlsbad Watershed Copermittees are in the process of implementing additional measures to reduce pollutant loadings, including sediment and silt (measured as total suspended solids and turbidity by the Monitoring program) conveyed by the municipal storm sewer system (MS4) to the receiving waters. The new measures are contained in the Model Standard Urban Storm Water Mitigation Plan to be implemented in each jurisdiction beginning in December 2002.

The Model Standard Urban Storm Water Mitigation Plan (SUSMP) was developed collectively by the Copermittees to address post-construction urban runoff pollution from new development and redevelopment projects that fall under "priority project" categories. The goal of the Model SUSMP is to develop and implement practicable policies to ensure to the maximum extent practicable that development does not increase pollutant loads from a project site and considers urban runoff flow rates and velocities. This goal may be achieved through site-specific controls and/or drainage area-based or shared structural treatment controls. The Model SUSMP, collectively developed by the Copermittees, identified appropriate Best Management Practices (BMPs) for certain designated project types to achieve this goal. Each Copermittee may opt to develop a Local SUSMP based on the Model SUSMP to accommodate jurisdictional components.

The overall goal of the Jurisdictional URMP land use planning component is to establish a programmatic framework for the implementation of activities to minimize the impact of new land development and redevelopment projects on receiving waters and other environmental resources in the County of San Diego. As part of many of the individual jurisdiction's Standard Urban Stormwater Management Plan (SUSMP), certain discretionary projects are required to prepare a Stormwater Management Plan (SWMP) or similar document (e.g. Local SWPPP) for review and approval. The purpose of the SWMP is to provide all the information needed to fully and adequately characterize the existing water quality, analyze the drainage, develop effective post-construction storm water protection and ensure the effectiveness of the Best Management Practices (BMP) through proper maintenance and long-term fiscal responsibility. The Copermittees will continue to require storm water management documents for those new land development and redevelopment projects that have the potential to directly impact storm water quality.

Activity No. 3 - Ambient Bay and Lagoon Monitoring Program

Starting in 2003, the Ambient Bay and Lagoon Monitoring (ABLM) Program will include sampling and testing in Buena Vista, Agua Hedionda, Batiquitos and San Elijo Lagoons as well as eight other lagoon or coastal estuaries. This program is part of the Core Monitoring Program established for the San Diego Region. The program consists of collecting sediment chemistry, toxicity, and ecological community data (benthic infauna) to establish a baseline and assess overall health. In subsequent years, the data can be analyzed and compared to establish temporal trends and identify similarities and differences in conditions between each of the lagoons and bays. To help interpret the ABLM data, additional information from upstream testing including rapid stream bioassessments, toxicity and chemical testing at the MLS's will be used. The long term goal of the ABLM Program is to determine which of these water bodies are impacted by urban runoff and to what degree.

The data collected will include sediment particle size that may assist Copermittees in evaluating the sedimentation and siltation issue in Agua Hedionda and other Carlsbad Watershed Lagoons. Additional details about the program design for the first year are found in Section 7 of the Monitoring Report.

5.e Potential Activities to Track and Re-assess

Carlsbad Watershed Copermittees identified several potential long-term activities in the 2002-2003 Watershed URMP that will be tracked. These potential long-term activities are not associated with a high priority water quality issue or problem, but it has been deemed appropriate to track developments in preparation for yearly re-assessment, re-prioritization of water quality evaluations and corresponding activity development.

Integrated Pest Management

Diazinon has been identified as a potential water quality problem based on the limited amount of available data for Agua Hedionda and Escondido Creeks. This potential water quality problem resulting from residential and commercial use of this pesticide is a regional issue and appears to be a concern in several other San Diego watersheds.

Watershed Copermittees plan to develop a greater understanding of the use of Diazinon in order to develop an effective approach to the potential problem. An Integrated Pest Management campaign will be considered to target pesticide use in general in order to avoid the introduction of the next generation of pesticides into the environment. Copermittees will participate in regional efforts to minimize the impact of Diazinon and other pesticides on water quality.

Data Collection and Management

As additional data from a variety of jurisdictional programs or studies becomes available, it will be imperative to review the results and conclusions from these efforts to provide the most complete assessment possible of water quality problems. The data generated from these independent program efforts will be easier to manage if collected using pre-established protocols developed for the watershed and subsequently the region. This recommendation may be fulfilled by existing efforts in the region, but still require coordination at the watershed level. Data may be centralized for ease of management and analysis in the future.

Complementary programs generating significant amounts of data and information that may be used in the future to evaluate watershed water quality include:

- Copermittee dry weather monitoring reports
- Special studies or monitoring information
- Lagoon and coastal outfall monitoring
- Copermittee Illicit Discharge Detection and Elimination reports

For example, the Jurisdictional URMPs for each of the watershed Copermittees (Cities of Carlsbad, Encinitas, Escondido, Oceanside, Vista, San Marcos, Solana Beach and the County of San Diego) include the implementation of a Dry Weather Monitoring Program using regional, uniform data gathering standards. This first year water quality assessment should be followed by a review of the compiled results of these jurisdictional efforts. The review will seek to identify

any potential links between the constituents of concern and prioritized water quality problems in this Watershed URMP.

Therefore, future data and information review may lead to re-prioritization of water quality problems and new short- and long-term activities. Specifically, data collection and analysis for the potential water quality issues would benefit from this effort.

A long-term benefit of centralized data collection and management effort is the identification of potential temporal and spatial data gaps for the watershed.

Assess Watershed Water Quality

This recommendation is aimed at addressing the need for continued assessment of benthic community health and toxicity monitoring that will assist watershed Copermittees with future water quality assessments. No new actions are needed to fulfill this recommendation.

Municipal and Domestic Water Supply

Tracking the regional concern over levels of Total Dissolved Solids (TDS) and associated regulatory changes is recommended in order to reassess any potential impacts on the watershed on a yearly or periodic basis.

Carlsbad Watershed Copermittees represent one of five watersheds that have TDS levels above the Basin Plan water quality objective. The other affected watersheds are: San Luis Rey, San Dieguito, Peñasquitos and Sweetwater.