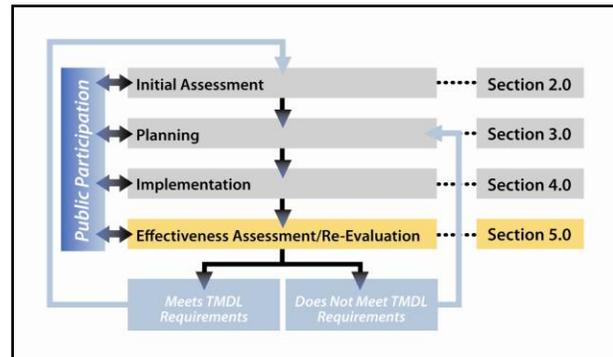


5.0 EFFECTIVENESS ASSESSMENT/RE-EVALUATION

Effectiveness assessment of watershed activities has been included throughout the Integrated TMDL Watershed Approach to determine if pollutant reductions are met, if expected outcomes are achieved, and where management measure refinements are required. The assessment framework used to develop the TMDL Compliance Monitoring Plan is discussed in detail in Tool F of Appendix D, but key components have been discussed in this section.



5.1 Total Maximum Daily Load Compliance Monitoring Plan

The purpose for conducting water quality monitoring within this watershed is to demonstrate compliance with Regional Board Resolution No. R9-2007-043. This resolution adopted an amendment to the water quality control plan for the San Diego Basin to incorporate a TMDL for dissolved copper, lead, and zinc in the Chollas Creek Watershed. The TMDL Compliance Monitoring Plan outlines the compliance monitoring program that includes sampling at the current TMDL compliance points (SD8(1) and DPR2) for dissolved metals as well as Diazinon in compliance with Resolution No. R9-2002-0123. The details of this program are presented in Appendix C. The TMDL Compliance Monitoring Plan was developed with input from the Dischargers and from stakeholders.

Compliance monitoring will be conducted at the two existing mass loading stations designated as DPR2 and SD8(1) located on the south branch and the north branch, respectively (Figure 5-1). These are the current compliance monitoring points under the Diazinon TMDL. The adopted order requires that the water column be sampled for Diazinon during three storm events annually. These samples are to be flow-weighted composites. These sites were selected to represent the cumulative loading in the lower watershed for both of northern and southern drainage areas of the Chollas Creek Watershed. These sites provide the best compliance points to monitor long-term trends in water quality because of the historical data that have been collected at these points.

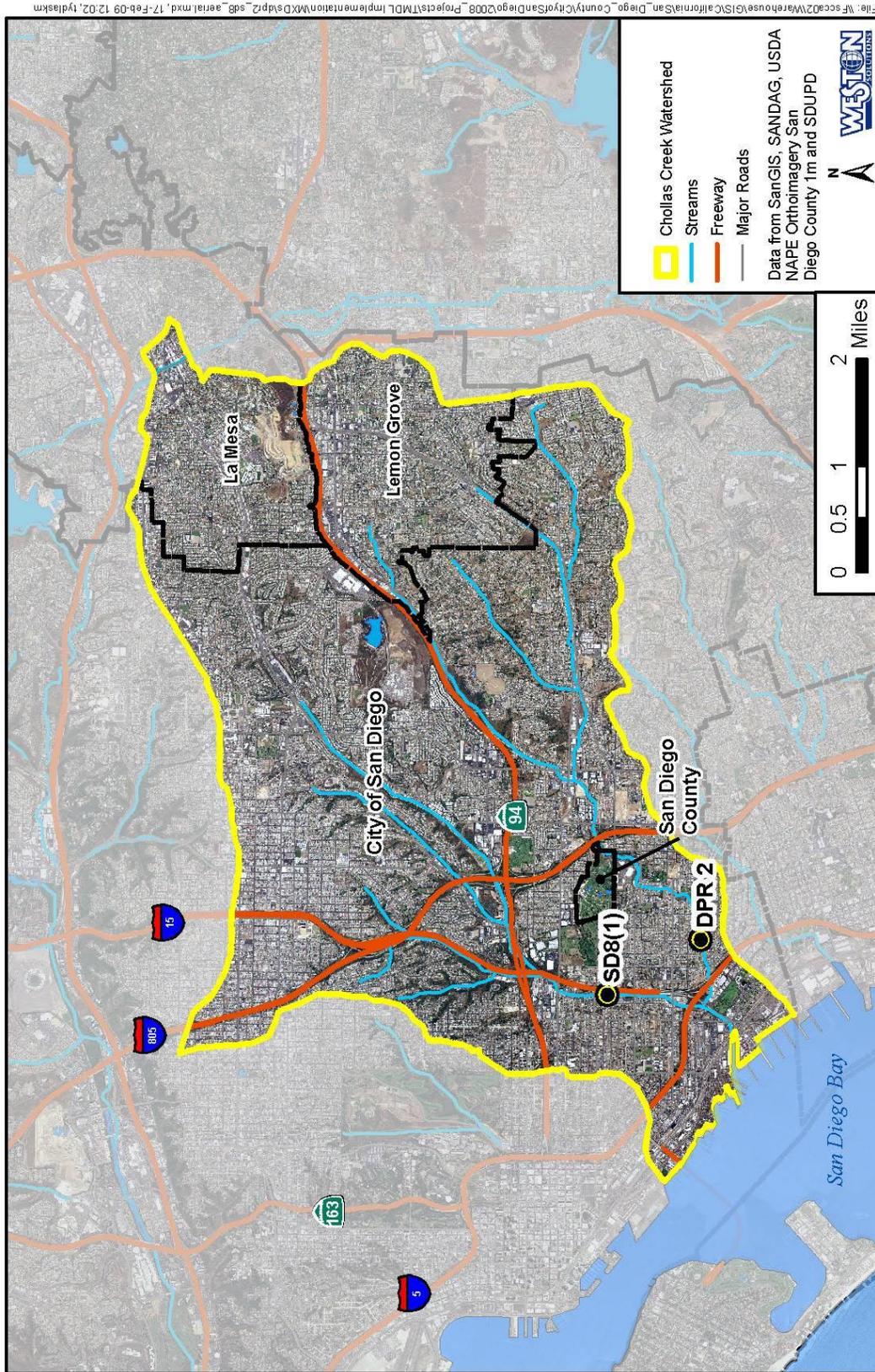
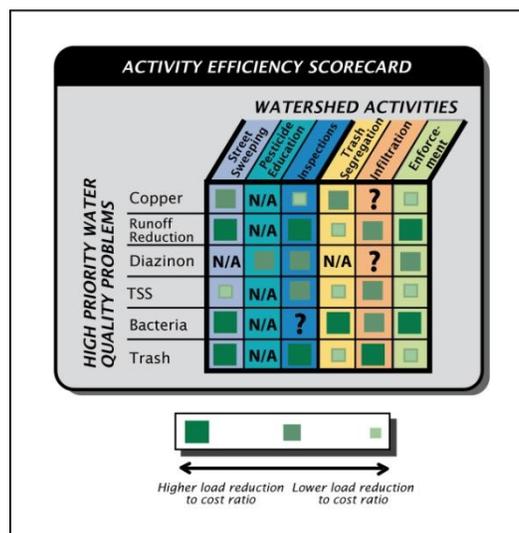


Figure 5-1. Total Maximum Daily Load Compliance Sample Locations Required under San Diego Regional Water Quality Control Board Order R9-2004-0277

5.2 Watershed Activity Scorecard

The watershed activity effectiveness assessments serve several key purposes: 1) to coordinate the assessment of the watershed, creek, and canyon ecosystems, 2) to prioritize management measures, 3) to determine effects of adaptive watershed management, 4) to involve community stakeholders, and 5) to link pollutant stressors with actual impact to beneficial uses. Watershed activity scorecards (Tool F of Appendix D) provide Dischargers with a framework to evaluate and share information learned from watershed activity assessments. The scorecard may not be applicable to all watershed activities. Using this tool, Dischargers will be able to make educated decisions by comparing the relative scores of different activities for the projects with specific study questions or management implications.

To create a meaningful watershed activity scorecard, watershed activities have been designed to answer carefully crafted study questions and to achieve specific goals (see examples in Section 4.1). Since this Implementation Plan is integrated into the San Diego Bay Watershed WURMP and jurisdictional/Discharger-specific programs under their storm water NPDES Permits, data needed for effectiveness assessment of watershed activities may also be obtained through the Dischargers’ overall storm water programs across San Diego County. Using this tool, Dischargers can track the outcomes of implementation (for multiple projects, as needed) and form the basis for the next phase of Planning in accordance with the Integrated TMDL Watershed Approach.



5.3 Reporting

Dischargers will prepare an annual Progress Report detailing the results of water quality compliance monitoring conducted at SD8(1) and DPR2. In addition, the Dischargers will document the progress of the watershed activities identified in this Implementation Plan and the status of special studies. The Progress Report will include status updates and results of any pilot studies or implemented watershed activities. The Progress Report may also include updates to this Implementation Plan and modifications to Dischargers’ Watershed Activity Lists, as appropriate, and reports will be submitted in accordance with the schedule presented in Table 5-1. Dischargers will continue to engage stakeholders through a public participation process when assessing the results and implications of completed pilot studies.

Table 5-1. Schedule for Submitting Progress Reports

DISCHARGER	DUE DATE
San Diego County Copermittees ⁽¹⁾	January 31 of each year
Caltrans	April 1 of each year

(1) City of La Mesa, City of Lemon Grove, City of San Diego, County of San Diego, and Port of San Diego.

5.4 Recommendations for Special Studies

Dischargers included special studies designed to answer the data gaps identified during the Initial Assessment as Tier II BMPs in some of the Watershed Activities Lists. Recommended special studies were based in part on those listed in the City of San Diego's *Chollas Creek TMDL Source Loading Assessment, BMP Evaluation, and Recommended Monitoring Strategy Report* (WESTON, 2006). A list of the data gaps and the status of current special studies being performed to address these data gaps is presented in Table 5-2.

Table 5-2. Data Gaps Summary and Special Studies Status

DATA GAP	STUDY QUESTIONS	TYPE OF SPECIAL STUDY REQUIRED	STATUS OF SPECIAL STUDY
Metals source ID study by Discharger or Priority Sector	What are the actual sources of copper, zinc, and lead pollution?	Source ID study and/or data-coordinated effort with permitted industrial and commercial facilities in Chollas Creek Watershed.	This is a possible coordinated effort for all Dischargers. See Special Monitoring Study description in Appendix B.1.
Design storm	When considered in combination with the pollutant reductions that may be achieved first with Tier I and Tier II BMPs, what volume of storm flow will require treatment to achieve the WLA?	Pollutograph studies and associated pollutant loading combined with an assessment of the expected load reductions for BMPs.	The City of San Diego completed pollutograph monitoring in November 2008. The design storm concept has been presented in Section 3.2.4.
Aerial deposition	How much does wet weather aerial deposition contribute to metals pollutant loading?	Special study of wet weather aerial deposition.	The City of San Diego is currently working a series of aerial deposition studies. This is a possible coordinated effort for all Dischargers.
Bacteria source ID study by Discharger or Priority Sector	What are the actual sources of bacterial pollution? What is the contribution of bacterial re-growth in the channelized portions of Chollas Creek? What is the human contribution to the bacterial loads in Chollas Creek?	Source ID study.	The City of San Diego has conducted bacteria source ID studies in Tecolote Creek Watershed and at the mouth of Chollas Creek. Further bacterial studies are planned for San Diego River. These studies are being coordinated to allow for assessment of bacteria sources in the region. This is a possible coordinated effort for all Dischargers. See Special Monitoring Study description in Appendix B.1.
Industrial/commercial facility water quality data	What are the metals contributions from industrial and commercial facilities in the Chollas Creek Watershed?	Source ID study and/or data-coordinated effort with permitted industrial and commercial facilities in Chollas Creek Watershed.	This type of study/activity could be a coordinated effort involving all Dischargers.
First-flush effect	Why and to what degree do earlier wet weather events have larger pollutant loadings?	Evaluate the load contributions of metals, bacterial, and other priority water quality problems from ponded dry weather flows, and study first storms.	This question is being studied as part of the bacterial source studies in Tecolote Creek Watershed and the pollutograph sampling in Chollas Creek, Tecolote Creek, and La Jolla Areas of Special Biological Significance (ASBS) watersheds by the City of San Diego.
First-flush and dry weather ponding effects	What is the impact of ponded dry weather and early first-flush flows on pollutant loadings?	Evaluate the contribution of ponded dry weather flows and first-flush phenomenon for bacteria and other constituents.	This is being studied as part of the first-flush effect study discussed above.
Non-point sources of pesticides	Is the source of pesticides predominantly due to non-point sources?	Source ID study supplemented by special study regarding residential and commercial pesticide usage.	This is a possible coordinated effort for all Dischargers. See Special Monitoring Study description in Appendix B.1.