

8 Water Quality

As described in the Mission Bay and La Jolla Watersheds Urban Runoff Management Plan (2004), water quality pollution in Mission Bay, particularly bacterial contamination, has been the focus of investigations by various entities, since the early 1980's. Results of the initial comprehensive investigation indicated that the interception of pollutants before they reached the Bay would likely provide the most effective means of improving water quality within the Bay during the dry season as re-configuration of the Bay was shown to result in insignificant circulation and associated water quality improvements. The recommended approach was implemented in phases by the City of San Diego and has resulted in the construction of a low-flow interceptor system that diverts dry weather urban runoff out of the storm drain system into the sanitary sewer system at a cost of approximately \$10 million. Additionally, the City made significant improvements to the sewer system within the area, replacing and upgrading old pipes and pump stations, to help prevent future sewer overflows as well and cost over \$200 million. Over the last two decades since the initiation of these efforts, frequent postings due to bacterial contamination have continued to occur.

In 2002 the City of San Diego developed the Mission Bay Water Quality Management Plan that identified seven individual projects, including the Rose and Tecolote Creeks Water Quality Improvement Project, which is the first project to extend beyond the Bay and its adjacent land uses up into the tributary drainages of the two primary watersheds draining to the Bay. Other projects recently undertaken by the City of San Diego include: Mission Bay Bacteria Source Identification Project; Mission Bay Water Quality Survey; Mission Bay Epidemiology Study; Mission Bay Contaminant Dispersion Study; Mission Bay Water and Sediment Testing Project; Coastal Low Flow Storm Drain Diversion Project; Tecolote Creek Treatment Wetland Project; and the aforementioned Rose and Tecolote Creek Water Quality Improvement Project. Information on these projects have been collected and reviewed to determine how their findings, recommendations, or project configurations may provide insight, opportunities, or constraints to the analyses and recommendations associated with this assessment.

Understanding the pollutants of concern within Mission Bay and the RCW being addressed by the City of San Diego and others is important. Understanding which pollutants they are, what the likely sources are, and how they are transported can identify opportunities for indirect benefits within this

assessment's recommendations as they are developed and refined. Additionally, it is important to ensure that the recommendations generated by this assessment do not exacerbate the conditions that are contributing to the water quality issues to begin with.

8.1 Water Quality Issues

The San Diego Regional Water Quality Control Boards (SDRWQCB) have, through the CWA 303(d) Listings, identified the mouth of Rose Creek as being impaired by Lead and Eutrophic conditions, and all of Mission Bay with Bacterial contamination. These have been on the 303(d) list since 1996 and are identified as medium and low priorities for TMDL develop within the 2002 303(d) list. In addition to these pollutants the Rose and Tecolote Creeks Water Quality Improvement Project also referred to the Standard Urban Storm Water Mitigation Plan for San Diego County and determined that due to the land uses present within both the Rose and Tecolote Creeks watersheds that sediment, nutrients, other heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, and pesticides should also be considered pollutants of concern.

The City of San Diego has undertaken three recent projects that have focused on water quality within the RCW: 1) Constructed Wetlands in the Rose Creek Watershed, City of San Diego Water Department - 2001; 2) Rose and Tecolote Creek Water Quality Improvement Project, City of San Diego Storm Water Pollution Prevention Program - 2003; and 3) Mission Bay Water Quality Survey, City of San Diego Storm Water Pollution Prevention Program. These three projects have focused on collecting dry and wet weather water quality samples and investigating the types of water quality improvement projects that may be most effective within the watershed.

The Constructed Wetlands in the Rose Creek Watershed focused on investigating the potential to construct different types of wetlands, their design requirements, including water supply, their potential to improve water quality, and on obtaining preliminary comments from community stakeholders and regulatory agencies. The research collected, design criteria developed, and comments received will all be leveraged and utilized during the development and refinement of recommendations pertaining to wetland restoration and enhancement within this assessment.

The Rose and Tecolote Creek Water Quality Improvement Project focused on identifying potential locations for the installation of structural water quality treatment devices and then evaluate several

alternate treatment devices for each site. Eight categories of structural treatment devices were considered: biofiltration, constructed wetlands, extended detention basins, infiltration, filtration, hydrodynamic separators, inlet filters, and off-line treatment plants. A total of 34 potential treatment locations were identified in the RCW and were processed through an evaluation procedure to determine which treatment alternatives would work best at each site. A ranking of these sites helped in identifying potential implementation phases and then rank the sites to establish which sites should be further evaluated for potential implementation. Three potential locations were identified within the RCW for further evaluation: 1) Clairemont Regents Road; 2) University City La Jolla Colony; and 3) University City Marcy Park West Outfall. After further evaluation, only the Clairemont Regents Road location was recommended for further design and implementation as a biofilter. The project has currently been put on hold due to community opposition voiced during initial public meetings.

The Mission Bay Water Quality Survey, initiated by the City of San Diego Metropolitan Wastewater Department in 2001, collected data from 14 stations within the RCW (Figure 8-1). The focus of this monitoring has been on bacterial contaminants, but other physical and chemical analytes have been collected as well. This program collected weekly samples during both dry and wet weather conditions for 36-months. The results from this effort will be incorporated into this assessment once they are available. Additionally, as part of the MOU with the City of San Diego for the project, the City has continued to collect dry weather monitoring data within the RCW at the 14 original stations, as well as from 10 additional stations. Sixteen of these stations are being used as field screening stations only and eight are being used for both field screening and laboratory analysis. As the results from this monitoring effort are released they will be incorporated into this assessment.

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Figure 8-1: City of San Diego Dry and Wet Weather Monitoring Stations

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