

II. Receiving Waters Limitations (RWL) Compliance Report

City of Malibu

FY 2007-2008

Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? **Yes**

Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? **Yes**

If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:

1. A. Description of the pollutants that are in exceedance; and
B. Analysis of possible sources;
2. A plan to comply with the RWL (Permit, Part 2);* this should include Permittee revising the SQMP and an implementation schedule.
3. Changes to the SQMP to eliminate water quality exceedances;
4. A. Enhanced monitoring to demonstrate compliance; and
B. Results of implementation.

The City is aware of exceedances of water quality standards that were discovered during sampling conducted on the City's behalf, for required monitoring pursuant to this Order No. 01-182, the Malibu Creek Bacteria Total Maximum Daily Load (TMDL) Compliance Monitoring Plan, and the Santa Monica Bay Beaches (SMBB) Bacteria TMDL Coordinated Shoreline Monitoring.

This notice and the monitoring reports did not evidence, or conclusively prove *discharges from the City's MS4 that cause or contribute* to a violation of water quality standards. These notifications of water quality standards exceedances in the receiving waters have, however, prompted the City to evaluate its stormwater program and further investigate sources of potential pollutants and ways to treat and prevent stormwater runoff.

The City submitted a RWL Compliance Report to the Los Angeles Regional Water Quality Control Board (LARWQCB) for the reporting year 2006-2007. The City did not receive comments or a notice of approval of the 2006-2007 RWL Compliance Report and therefore, is submitting a new RWL Compliance Report for the current permit year that includes programs and monitoring detailed in last year's report.

The City of Malibu received a Notice of Violation (NOV) from the Los Angeles

Regional Water Quality Control Board dated March 4, 2008 stating that the City is in violation of waste discharge requirements established in Board Order No. 01-182 as amended by Orders R4- 2006-0074 and Order No R4-2007-0042 (MS4 Permit). Regional Board technical staff had concluded that violations of the Receiving Waters Limitations provisions of Part 2.5 of the MS4 Permit have occurred due to prohibited discharges from the Municipal Separate Storm Sewer System (MS4) that cause or contribute to exceedances of bacterial objectives as established through the Basin Plan Amendment for Santa Monica Bay Beaches during Summer Dry Weather.

Based on the Regional Water Quality Control Board NOV dated March 4, 2008, the City of Malibu is required to check “yes” to questions II.A and II.B of the Individual Annual Report (Form U-4) of Los Angeles County Municipal Storm Water Permit Order No. 01-182 and to file a Receiving Water Limitations Compliance Report. As set forth in the City’s response to the NOV and in the report that follows, the City does not necessarily concede responsibility for the alleged exceedances that are the subject of the NOV and is providing this information as a good faith means of fully apprising the Regional Board of its activities and to comply with the provisions of the MS4 permit. If the water quality standards by which the alleged exceedances were gauged are found by a court or otherwise to be invalid and the exceedances referenced in the NOV are no longer exceedances of any applicable water quality standards, the City reserves the right to amend its answer to questions II.A and II.B and amend or withdraw the submittal of the RWL Compliance Report.

Lastly, the Natural Resources Defense Council (NRDC) and Santa Monica Baykeeper filed a citizen suit against the City of Malibu in February 2008, during this annual reporting year. The lawsuit stems from three Notices of Intent to Sue served on the City on May 31, 2007, September 10, 2007 and December 19, 2007 against the County of Los Angeles and the City of Malibu alleging exceedances of various pollutants from monitoring completed between the years of 2002- 2007.

The lawsuit alleges exceedances from the following monitoring programs: Santa Monica Bay Beaches Bacteria TMDL Coordinated Shoreline Monitoring, LA County NPDES Storm Water Annual Monitoring, and Tapia Wastewater treatment Plant Monitoring.

1. A description of the pollutants that are in exceedance and an analysis of possible sources;

A. Description of Pollutants in Exceedance

The NRDC/Baykeeper’s lawsuit alleges that the following pollutants were identified during the reporting years of 2002-2007:

- Sulfate
- Total Dissolved Solids
- Cadmium
- Copper

- Zinc
- Aluminum
- Dissolved oxygen
- pH
- Fecal Indicator Bacteria (fecal coliform, enterococcus and total coliform)

As noted above, the City also received a Notice of Violation (“NOV”) from the LARWQCB March 4, 2008, indicating that results of the Coordinated Shoreline Monitoring as required by the Santa Monica Beaches Bacteria TMDL had exceeded single sample and geometric mean water quality limits for Fecal Indicator Bacteria (FIB).

The LARWQCB stated that “the data submitted in the permittees’ shoreline monitoring reports for the summer dry weather compliance periods, beginning September 14, 2006 through October 31, 2006 and April 1, 2007 through October 31, 2007 reveal violations of the RWLs set forth in Part 2.5 of Order No. 01-182 as amended by Order no. R4-2006-0074 and Order No. R4-2007-0042. These violations occurred at 12 shoreline monitoring sites located along Santa Monica Bay beaches to which the City of Malibu discharges via the MS4, on 493 days, which included 836 instances where the bacteria water quality objectives set to protect water contact recreation, were exceeded.”

As noted in the May 21, 2008, letter from Bob Brager to Tracey Egoscue on behalf of the City of Malibu and in response to the NOV, the City contends that a number of the violations were wrongly identified at the following eight monitoring sites: SMB 1-07, 1-09, 1-10, 1-12, 1-13, MC- 01, 02 and 03. The City also contends that a number of the identified violations at the following sites were not associated with MS4 discharges that are the responsibility of the City of Malibu: SMB 1-06, 1-08, 1-13, and MC -02. For a detailed discussion of the violations that the City contends were wrongly identified, please see Malibu’s full response letter to the NOV and 11383 Order and attachments sent to Tracey Egoscue, Executive Officer of the Los Angeles Regional Water Quality Control Board, on May 21, 2008.

The City has also been notified of the existence of pollutants at the monitoring locations reported during the 2007-2008 Permit Year from the following monitoring programs:

1) Malibu Creek Bacteria TMDL Compliance Monitoring Plan

The Malibu Creek Compliance Monitoring Program (“CMP”) consists of in-stream sampling throughout the watershed in Malibu Creek and in tributary streams. Site MC-1 is in the Malibu Lagoon; however, samples from flow from these creeks and at this monitoring site do not necessarily evidence the presence of discharge from the MS4.

Indicator Bacteria (Total Coliform, Fecal Coliform, E. Coli and Enterococcus) were reported at sample site MC-1. In May, one Fecal Coliform exceedance and in June, one exceedance each of E. Coli., Fecal Coliform when the lagoon was not

breached and one exceedance each of Total Coliform, E. Coli., and Enterococcus when the lagoon was breached were reported.

2) Santa Monica Bay Beaches Bacteria TMDL Coordinated Shoreline Monitoring

The storm drain outlets that have been monitored as part of the Santa Monica Bay Beaches Bacteria TMDL Coordinated Shoreline Monitoring are not owned or operated by the City. Most monitoring in this program occurs at the shoreline mouths of natural creeks.

Indicator Bacteria (Total Coliform, Fecal Coliform, and Enterococcus). Exceedances in wet and dry weather were found at various shoreline monitoring locations along the North Santa Monica Bay downstream of the City.

Sampling at the outfalls of the City's MS4 is not required and the City has not conducted such sampling. With 323 total catch basins/culverts, no major open channels, and 21,755 feet of closed stormdrain, much of the City's MS4 is in rural and rugged settings which the outfall drains to vegetated canyons. There is minimal infrastructure and the City does not have an extensive system of curb and gutter, drainage pipes, or flood control channels operated by the City. The City of Malibu is not aware of any discharges directly from the MS4 that cause or contribute to violations of water quality standards.

B. Analysis of Possible Sources

i. Indicator Bacteria (Total Coliform, Fecal Coliform, Enterococcus, and E. coli):

Sources are numerous, variant and oftentimes unidentifiable. Total coliform can be attributed to the decay of any organic matter. Soils, decaying leaves, and animals are all potential sources of total coliform. Fecal coliform can originate in the intestines of any warm-blooded animal including birds, domestic pets, humans, or wildlife. Enterococcus also originates from the intestinal tracts of warm-blooded animals but can additionally live within the intestines of some fish species. Fluctuations in bacteria levels are not only related to the variety of sources, but studies have established correlations to seemingly innocuous factors as tide change, rack-line, moon phase, and season. It has also been found in high levels in the sand and on kelp.

It is well documented in literature that total coliform, fecal coliform and enterococcus bacteria, which are the indicator bacteria used in setting recreational standards for water quality and for setting compliance targets under the SMBBB TMDL, are ubiquitous in both the natural and developed environments. Consequently, indicator bacteria present at a particular shoreline monitoring location may be the result of activity in the

immediate vicinity of the monitoring station, e.g., marine mammals, birds, or human recreational activity including that associated with fishing piers, or if there is flow of runoff conveyed via a storm drain or even a natural watercourse to the shoreline then the source of indicator bacteria is also likely to be associated with many different land use activities within the drainage area tributary to the location of interest.

Monitoring at the reference beach, SMB 1-01, under the Coordinated Shoreline Monitoring Plan (CSMP) exhibited eleven (11) single-sample exceedance days during summer 2006 and zero (0) single sample exceedances during the summer of 2007 for a total of eleven (11) single-sample dry weather exceedance days over the two-summer period. Other monitoring sites in Malibu, where the watersheds are most similar to the reference watershed, exhibited a better record of single-sample exceedance days than the reference beach during the two summers of 2006 and 2007. Clearly this is an indication that even under summer dry weather conditions natural background occurrence of indicator bacteria associated with subwatersheds that are more than 90% undeveloped such as the Arroyo Sequit Subwatershed (SMB 1-1) are likely to produce occasional exceedances of the receiving water limitations for indicator bacteria.

Southern California Coastal Water Research Project's (SCCWRP) study *Fecal Indicator Bacteria Levels During Dry Weather in Southern California Reference Streams*, (Tiefenthaler et. al. 2008) attempted to quantify naturally occurring background levels of bacteria in streams during base flow (i.e. non-storm) conditions over an extended period of time. This study was done as a requirement of the Malibu Creek Bacteria TMDL. The overall approach to the study was to characterize dry weather bacteria levels at a set of sites that is representative of existing natural conditions in southern California. The specific study design consisted of an intensive sampling regime with collection of weekly dry weather bacteria data for an entire year. This study found that Indicator Bacteria levels fluctuated seasonally with an average of 79% of both enterococci and total coliforms exceedances occurring during summer months (June-August). Seventy-five percent of enterococci and 83% of total coliforms exceedances occurred during the summer months. Temperature, at all sites, explained about one-half the variation in total coliforms density suggesting that stream temperatures regulated bacterial populations. It also found that a total of 18.2% of the indicator bacteria samples (for all three indicators) from the natural sites exceeded daily (single sample) water quality standards. In addition, the study found that these natural streams exceeded the 30-day Geometric mean criterion for enterococcus for the months of June, July, August and September. Furthermore, the absence of *B. thetaiotaomicron* indicated that the Fecal Indicator Bacteria (FIB) in reference streams were likely of non-human origin.

- ii. Sulphate: The Los Angeles County 2007-08 Annual Stormwater Quality Monitoring Report states “Large quantities of greenish rock with amphiboles and sediment are found near the Mass Emission station in the Malibu Creek Watershed. The hillside is mainly composed of what appears to be very decomposed, somewhat grainy, greenish marine or lagoonal sediment/glaucinite and less decomposed, greenish-brown shale with clear fossils and embedded detritus. These sediments are known to be sulfur bearing. Representative field samples gathered initially had a distinct moderate sulfur (musty, rotten eggs) odor. Sulfate concentrations can be largely attributable to the presence of eroded sulfur-rich sediment. Fungal and bacterial processes within the creek and surrounding areas may facilitate the release of sediment bound sulfur into the water column.”
- iii. Total Dissolved Solid: Dissolved solids can come from organic sources such as leaves, silt, plankton, and industrial waste and sewage. Other sources may be air deposition, runoff from urban areas including fertilizers and pesticides used in landscaping. Certain naturally occurring total dissolved solids arise from the weathering and dissolution of rocks and soils that may contain calcium bicarbonate, nitrogen, iron phosphorous, sulfur, and other minerals.
- iv. Total Aluminum: The Los Angeles County 2007-08 Annual Stormwater Quality Monitoring Report states “A 2005 online article by Scorecard, The Pollution Information Site, *Aluminum and Compounds*, indicated that Aluminum is one of the most abundant metals in the earth’s crust. It does not exist as pure Aluminum, but forms compounds primarily with silica, oxygen, and fluorine. Natural sources include bauxite and alum.” The report also states that the most likely sources of Aluminum in stormwater would be alum in water treatment plants, bentonite in water purification systems, metal working industries, and some pesticides, rodenticides, and fungicides. Other sources of aluminum may be crushed and broken stone mining, and metal working machinery.
- v. Total Cadmium: According to the Illinois Department of Public Health www.idph.state.il.us/cancer/factsheets/cadmium.htm cadmium is found naturally in small quantities in air, water, and soil. Since cadmium is a metal, it does not break down and can accumulate over time. Burning household or industrial waste and burning coal or oil may release cadmium into the air. Cadmium also can be released from car exhaust, metal processing industries, battery and paint manufacturing, and waste hauling and disposal activities. Once cadmium is in the air, it spreads with the wind and settles onto the ground or surface water as dust. Higher levels of cadmium may be found in soil or water near industrial areas or hazardous waste sites. High levels of cadmium in surface soils usually result from cadmium particles settling from the air. Soils near roads may contain high levels of cadmium from car exhaust. Surface water also can contain low

levels of dissolved cadmium. Cadmium in water tends to sink and accumulate in bottom sediments.

A *Technical Factsheet on Cadmium* put out by the US Environmental Protection Agency (EPA) confirms many of the above listed sources. In addition, industrial releases of cadmium can be due to wastestreams and leaching of landfills, and from a variety of operations that involve cadmium or zinc. The remaining cadmium emissions are from fossil fuel combustion, fertilizer application, and sewage sludge disposal. Cadmium also occurs as a by-product of corrosion of some galvanized plumbing and distribution system materials.

- vi. Copper: Copper is a naturally occurring element present in many minerals and can be transported to surface waters by erosion. It can be carried in runoff or be transported by air deposition. Anthropogenic sources are primarily non-point and include vehicle brake pads, automotive fluids (leaked or spilled), algacides, pesticides, wood preservatives, anti-fouling paint, architectural uses such as pipes and roofs. Copper in rocks is likely to be more mobile under acidic than alkaline conditions, so acid rain is of concern.
- vii. Zinc: Zinc is a naturally occurring element most commonly in the mineral sphalerite (ZnS), which is often associated with the sulphides of other metallic elements, e.g., lead, copper, cadmium, and iron. Zinc is commonly used for galvanizing iron and steel, the production of brass plumbing and heating fittings, and in the die-casting industry to produce builders' hardware and automobile fittings. It is common for zinc to leach from galvanized pipes and fittings therefore water discharged to the wastewater plant including potable water could be a substantial source of zinc. Zinc is also used in household products including cleaning products, personal care products such as shampoo, deodorants, and lotions, and health and nutritional supplements. Remaining industrial uses include paints, rubber, rayons, yarns, inks, matches, and chemicals such as in printing, textile dyeing, and fat purification. Zinc salts are used as wood preservatives, fertilizers, and pesticides. It can be carried in runoff or can also be transported by air deposition.
- viii. Dissolved oxygen (DO): DO is due to microscopic bubbles of oxygen mixed in the water and occurs between water molecules. Oxygen is produced during photosynthesis and consumed during respiration and decomposition. In fast-moving streams, rushing water is aerated by bubbles as it flows over rocks and waterfalls. These fast streams are usually saturated with oxygen. In slow, stagnant waters, oxygen only enters the top layer of water, and deeper water is often

low in DO concentration due to decomposition of organic matter by bacteria that live on or near the bottom of the reservoir. Dams slow water down, and therefore can affect the DO concentration of water downstream. DO is greatly affected by temperature, therefore slower and/or shallower waters which would tend to have warmer temperatures would be subject to lower DO. In addition, the lower Malibu Creek Watershed would be affected by water flowing over the Rindge Dam. Low DO concentrations can also mobilize trace metals. Eutrophication and urban runoff can exacerbate low DO conditions by adding organic matter and other pollutants to the system thereby accelerating the rate of oxygen depletion.

- ix. pH: The pH of an aquatic system is determined by a number of factors. The pH can be affected by many sources including natural erosion of the surrounding rock and soil (could raise or lower pH based on the geologic composition), anthropogenic sources due to urban runoff, and air deposition. Water can become acidic because of the presence of minerals containing sulfide (which may form sulfuric acid). Sulfur is also discussed in ii. Sulfate above. The pH can also be affected by acid rain.

The City will continue researching potential sources and provide further information should the City identify potential sources.

1. A Plan to comply with the RWL (Permit, Part 2);

The City is actively involved in developing and instituting multiple implementation plans for the region, proactively and in response to water quality regulations, as well as passing local legislation to eliminate and reduce sources of pollution and activities that degrade the environment. A list of local ordinances is included at the end of this document.

Malibu Civic Center Integrated Water Quality Management Plan

The City Council is committed to water quality and is taking bold steps to construct additional treatment facilities, adopt stricter control ordinances, and to educate the community (residents, business, and visitors) about personal stewardship of the environment and actions they can take to prevent pollution.

In November, 2004, the City Council authorized Questa Engineering Corporation to conduct a Service Area and Options Analysis for Centralized Wastewater Treatment in the Malibu Civic Center. The study scope was amended twice by the City Council: first, with approval on February 14, 2005, to include an integrated assessment of stormwater management possibilities for the Civic Center area; second, on March 14, 2005, to include additional groundwater modeling scenarios. The study had several components. The first was to define the needs and the priorities for different development sub-areas that could potentially be

serviced by community wastewater treatment in the Civic Center area. This task was guided by the results of the Risk Assessment (mentioned later in this document) as well as further detailed analysis of the data collected. An important criterion applied in the analysis was the time of travel model with respect to bacteria and nitrogen. Once the service area priorities were defined, the second step covered an analysis of potentially viable options for locating and sizing all elements of a community wastewater treatment system. This included collection, treatment, disinfection and dispersal elements. All of these were analyzed in the options evaluated.

In February 2004, the City Council amended the scope of work to include stormwater management in the Civic Center Area. An objective look at the stormwater management needs of the area had been overlooked. Because of the potential benefit and synergy resulting from integrating and addressing stormwater management and wastewater treatment at the same time, this element was added to the scope of this project, resulting in the change in name to an integrated water quality management feasibility study.

Since this study, the City has constructed the Civic Center Storm Water Treatment Facility (more information can be found in Attachment 07-08 MBU III C- SQMP) and is finalizing the design and CEQA review of the stormwater and park elements for Legacy Park.

Legacy Park will reduce the City's contribution to nutrient loads in Malibu Creek, Malibu Lagoon and nearby beaches by constructing a centralized collection system and advanced treatment facility for wastewater management in areas identified in previous studies as high priorities for addressing nitrogen contamination. This project is moving immediately into its final design stage, with the intent of starting construction in late 2008/2009.

The Legacy Park Project also includes the evaluation of wastewater collection system and treatment options to help address nutrient loading from onsite wastewater treatment systems in the Civic Center area. Final design of a gravity collection system, membrane bioreactor (MBR) treatment facility and recycled water distribution system will be completed as part of subsequent phases to this project.

In addition to the stormwater treatment improvements provided by the Civic Center SWTF and Legacy Park project, the City has also begun to incorporate stormwater treatment and runoff solutions into their other municipal projects. The Cross Creek Road Improvement Project, provides an excellent example of how improvement projects can be constructed in a manner that protects against water quality degradation from stormwater runoff and maximizes the potential for water reuse. This environmentally superior project provides several benefits such as minimizes stormwater runoff with permeable pavers for all on street angled vehicle parking, permeable pavement for all sidewalk areas, incorporates an

enhanced landscaping plan that will allow for increased stormwater infiltration, allows for the eventual connection to an irrigation supply that uses treated stormwater or recycled water that has been treated to Title 22 standards.

Paradise Cove Stormwater Treatment Facility

The City was awarded a Clean Beaches Initiative grant to design and construct an upgraded stormwater treatment system for Ramirez Canyon Creek to eliminate any bacteria from the discharge to ocean at Paradise Cove during dry weather and potentially some wet weather. It is in its final design and permitting stages and construction will start late 2008/early 2009.

City of Malibu Local Regulations

The City has: ordinances banning smoking on public beaches, the use of expanded polystyrene foam packaging, and the point of sale distribution of plastic shopping bags; an ordinance establishing an inspection and permitting program for Onsite Wastewater Treatment Systems including a “Point of Sale” element; and ordinances establishing an administrative citation procedure to impose administrative fines for violation of certain Municipal Code regulations. The City has a stringent development review process and an aggressive wastewater management program. These efforts and many more are detailed in various sections of this year’s City of Malibu Individual Annual Report for 2007-2008. A list of current relevant ordinances is included at the end of this document.

“It’s Time to Get Serious” Resolution and Water Conservation Ordinances

The City has an emergency water conservation ordinance that was enacted in December 1991 to prevent waste or unreasonable use of water—a consequence of which is the reduction of incidental residential runoff. However, the City passed a resolution March 24, 2008 to partner with West Basin Municipal Water District to update water conservation ordinances and efforts as it is recognized that eliminating irrigation runoff helps eliminate potential pollutant transport. The City is currently reviewing draft model water conservation ordinances and anticipates enacting them this year.

Integrated TMDL Implementation Plan for the Malibu Creek Watershed and SMBB Wet-Weather Bacteria TMDL Implementation Plan for J1/4

Some of these plans were developed as a requirement of the Bacteria Total Maximum Daily Loads (TMDLs) specifically. Two of these plans have previously been submitted to the RWQCB (Santa Monica Bay Beaches Bacteria Wet-Weather TMDL Implementation Plan and the Integrated TMDL Implementation Plan for the Malibu Creek Watershed). However, they were developed as integrated plans with multiple pollutants in mind. As the projects listed in the plans are constructed and the programs are implemented, a decrease in the levels and frequencies of pollutant exceedances addressed in the plan should result. Additional copies of these plans will be provided upon request.

Wastewater Management Plan Implementation

The City is now considered a leader in the State when it comes to regulation of Onsite Wastewater Treatment Systems (OWTS). The City has signed a Memorandum of Understanding with the State for local management of OWTS with fewer than 2,000 gallons and at non-food service related facilities in the City of Malibu. Systems outside of this classification are managed by the LARWQCB. The City has also developed several programs for tracking, inspecting and permitting OWTS.

A web-based data management tool was created to provide oversight of 6,000 onsite wastewater treatment systems (OWTS) within the City. This data being collected on the OWTS within the City of Malibu will be shared with the RWQCB's Integrated Wastewater Information Management System;

Ordinance 321 a Comprehensive Onsite Wastewater Treatment System Inspection and Operating Permit Program Scheme was adopted on March 10, 2008 by the Malibu City Council. Following EPA guidance regarding management options, this program provides a means of system inventory, assurance of system functionality and system sustainability. This program requires that owners of real property served by an onsite wastewater treatment system (OWTS or septic system) obtain an inspection of the OWTS, apply for an operating permit, and make any necessary repairs or upgrades in accordance with the following schedule:

- New Developments—before a certificate of occupancy is issued
- Existing properties:
 - Whenever a permit for repair, alteration, replacement, renovation or relocation of an existing OWTS occurs
 - Whenever a remodeling or repair results in addition of plumbing fixtures or increase in load to the existing OWTS
 - Prior to any purchase or change in ownership
- Restaurants—by March 10, 2009
- Other commercial uses—by March 10, 2009
- Multi-family or Condominiums—by March 10, 2010

Once issued, renewal of operating permits, including a required inspection must occur according to the following schedule:

- Commercial or multifamily uses—every two years
- Single-family uses with alternative OWTS technology—every three years
- Single-family uses with conventional OWTS technology—every five years

All Inspectors must be registered and approved by the City of Malibu. To qualify as an Inspector they must possess a valid California License as a Certified Engineering Geologist, Registered Professional Geotechnical, Civil Engineer, or a Registered Environmental Health Specialist. All inspectors must have attended specific OWTS inspection training provided by a nationally recognized entity and

a City sponsored training. Each component requires the successful completion of an examination. Other aspects of this Plan are discussed in Section 2.1

Escalated Restaurant Inspections

The City of Malibu, has implemented annual inspections (rather than twice per five years as required in the MS4 Permit) of all food service establishments including restaurants, grocery stores, and coffee shops to reduce any impacts on water quality due to urban runoff from these businesses. Goals of the inspections include compliance verification, enforcement as needed, public education regarding storm water and urban runoff issues, recycling and related environmental quality efforts such as the bans on expanded polystyrene food packaging and one-time use plastic shopping bags. The City is using a comprehensive 28-point storm water inspection checklist that is modeled on the Santa Monica Bay Restoration Commission's Clean Bay Restaurant Certification program. This year the City of Malibu will look into partnering to institute the certification aspect of the program requiring 100% compliance in order for the facility to be awarded a Clean Bay Restaurant Certification by the Santa Monica Bay Restoration Commission.

Malibu Local Coastal Program

The City of Malibu Local Coastal Program as certified by the California Coastal Commission includes a Land Use Plan (LUP) and Local Implementation Plan (LIP) that detail many environmental quality and protection standards, objectives and implementation measures for new development and redevelopment projects. These include requirements for water conservation, protection of native vegetation, and landscaping with native vegetation. All landscape plans are reviewed by the City's contract biologist. A water quality mitigation plan is required for all new development or redevelopment projects that include vineyards, orchards or confined animal facilities, regardless of size.

As part of the local coastal plan review process the City conditions new development and redevelopment projects to prevent discharges and stormwater runoff into the ASBS and requires the applicant to provide a drainage system that incorporates Low Impact Development (LID) practices and does not discharge directly into the ASBS.

ASBS Special Protections

The City of Malibu has a pending application for exception to the Ocean Plan and intends to comply with the Special Protections that are being developed by the State Water Resources Control Board staff to regulate the Areas of Special Biological Significance. These regulations are currently in draft form and staff does not yet know when the final document will be adopted by the State and what the special protections will ultimately provide for. However, the protections have three fundamental requirements¹:

¹ March 3, 2008 State Water Resources Control Board. *Special Protections for Selected Storm Water and Nonpoint Source Discharges into Areas of Special Biological Significance.*

1. Cessation of non-storm water runoff;
2. Maintenance of natural water quality within ASBS, including during precipitation (design storm) events, by limiting wastes in urban stormwater runoff and other activities that would otherwise cause a degradation of ocean water quality in the ASBS; and
3. Monitoring water quality and marine aquatic life within ASBS to ensure the protection of beneficial uses over time.

The draft Special Protections also clearly state that:

It is not the intent of these Special Protections to restrict flows from naturally occurring streams that flow into ASBS. The return of clean fresh water into the ocean via naturally occurring streams is an essential component of coastal ecology that must be maintained.

In the meantime, the City has been taking steps to cease all non-stormwater runoff in that area and Citywide by increased education and enforcement activities.

For example, the City has submitted a Proposition 84 grant proposal to fund the creation of a new staff position, the Coastal Preservation Specialist. The City of Malibu submitted the ASBS Grant Proposal to fund the position for two years to conduct a focused education and outreach program targeted to oceanfront homeowners and visitors. At this time, creation of this position is contingent upon receipt of the grant funds. The City has been asked back to compete in the second round of the proposal process.

The traditional public outreach methods implemented by the City to inform residents have been successful, but more work should be done to achieve the highest degree of effectiveness needed for properties adjacent to the ASBS. For such these properties, this project will utilize a multi-faceted approach combining community-based social marketing techniques, a GIS database tool to document and track systematic contact coverage and follow up, and objective effectiveness assessment. The program will target: water conservation, proper septic system maintenance, elimination of any dry weather discharges via private drains that might exist, reducing dry weather runoff that may be caused by excessive irrigation runoff, and reducing wet weather runoff by retrofitting residential landscapes and incorporating low-impact design into outdoor living spaces.

The City has also applied for grant funding to retrofit some catch basins in two neighborhoods in the ASBS. Implementation of these projects is contingent upon funding.

City staff continues to produce new public outreach materials and partner with other local agencies to implement source control programs. The City is continuing and expanding efforts with District 29 to investigate and eliminate irrigation runoff, and our water providers (Metropolitan and West Basin Water Districts) to implement more water conservation programs. The City is

supporting Surfrider Foundation and West Basin Municipal Water District with promoting their Ocean Friendly Gardens Program and will continue to seek partnerships which share a common message and goal of protecting the environment and preserving resources. The City is also working on a green and sustainable building policy that would include water conservation and pollution prevention measures.

2. Changes to the SQMP to Eliminate Water Quality Exceedances;

The City is currently implementing the Countywide Stormwater Quality Management Plan (SQMP); in addition City staff collaborated with the Watershed Management Committee to develop a watershed-wide “Plan Blue” for runoff reduction. As major elements of Plan Blue were incorporated into the Integrated Total Maximum Daily Load Implementation Plan for the Malibu Creek Watershed (Malibu Creek IP), it is superseded by Malibu Creek IP and other regulatory documents. However, Plan Blue still exists as a programmatic design document.

The City believes that source control measures being implemented City-wide listed above in “A Plan to Comply with RWL” including programs as part of the City’s NPDES MS4 compliance program, the SMBBB Implementation Plan for Jurisdictional Groups 1 & 4, and the Integrated TMDL Implementation Plan for the Malibu Creek Watershed, along with compliance with ASBS Special Protections and grant programs are the most appropriate measures for these subwatersheds at this time. Therefore no changes are recommended.

3. Monitoring Programs

A. Enhanced monitoring to demonstrate compliance

Civic Center Stormwater Treatment Facility Monitoring Program

The treatment facility is currently designed to intercept urban runoff and stormwater up to 1,400 GPM from three drains in the civic center area that would drain into Malibu Creek, remove gross solids, and then clean the water through filtration and ozonation. The City monitors the water entering and exiting the Civic Center Stormwater Treatment Facility to ensure proper function of the system. In the future, a storage basin/intermittent wetland on the Legacy Park site will be added to increase the flows that can be treated by this facility. This disinfected and treated water is then spread on land and not discharged to the creek. The treated water will eventually be used as irrigation water on the Legacy Park site and other potential uses in the Civic Center area.

Despite not discharging this water to the creek, the City has been testing the water for FIB since mid 2007. Sampling occurs once a week as water enters and exits the treatment system. Samples are analyzed for bacterial indicators. Monitoring and analysis are in the early stages and results are not yet available. By

constructing this facility and implementing a monitoring plan the City has shown its ongoing commitment the environment and ensuring water quality is protected.

Malibu Creek Bacteria TMDL Monitoring Program.

City and County agencies listed as responsible parties under the Malibu Creek Bacteria TMDL have developed and implemented a FIB monitoring program throughout the Malibu Creek Watershed as approved by the LARWQCB. Details of this program are included in Attachment 07-08 MBU V-Monitoring to this report. Results have been provided to LARWQCB Staff since April 2008 and are available upon request.

North Santa Monica Bay (NSMB) Source Identification Study

The County of Los Angeles is conducting the North Santa Monica Bay Bacteria Source Investigation Study (Source ID Study) as a project in partnership with area stakeholders. A Technical Advisory Committee that includes staff from the Los Angeles Regional Water Quality Control Board, Heal the Bay, SCCWRP, City of Malibu, and various Los Angeles County Departments developed the study protocol. The Source ID Study was designed to provide information regarding the sources and potential health risks associated with elevated bacteria levels at Escondido Beach (SMB-1-08) and Paradise Cove (SMB-1-07) and subsequently to develop an effective methodology that can be applied to other subwatersheds to track sources of pollution. The study ran from March 2007 through July 2007 when it was discontinued after six weeks because the beach locations did not exceed bacteria standards during the study period and the upstream data did not identify any substantial hotspots within either watershed (Ramirez nor Escondido). The group decided that further sampling should be postponed until conditions warranted upstream tracking. The study was resumed this past March.

In a letter dated February 13 2007 sent to the County of Los Angeles, Jonathon Bishop, then Executive Officer of the LARWQCB, recognized the effort of this study and supported it “in lieu of requiring the County to conduct other investigations of exceedances at beaches influenced by natural streams for the upcoming summer dry weather period.” The letter went on to recognize that this project was a collaborative effort among several agencies including the City of Malibu.

Reference Watershed Study

A Reference Watershed Study, titled *Fecal Indicator Bacteria Levels During Dry Weather in Southern California Reference Streams*, commissioned by responsible agencies in the Malibu Creek Watershed was conducted by Southern California Coastal Water Research Project (SCCWRP). This study is discussed further in Section 4. B. *Results of Implementation* and Section 1.B *Analysis of Possible Sources* of this RWL Report.

Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas in the City of Malibu

This comprehensive study was conducted in 2004 to evaluate the environmental impacts of current and future levels of onsite wastewater management provided a

baseline to refine its citywide wastewater management program and found that shallow groundwater in the Malibu Creek study area is significantly influenced by bacteria from sources other than On-site Wastewater Treatment Systems (OWTS). It is being included here as an example that results of implementing programs may take years for results to be observed and that additional studies have been added as a result of this study.

Groundwater “Mounding Analysis”

The City Council authorized the City Manager to execute a professional services agreement for the Hydrology Study of Cumulative Impacts for the Civic Center Area (Ground Water Mounding Analysis) July 14, 2008. This will be building on the information learned in the Integrated Water Management Plan Feasibility Study to help guide decisions for development in the Civic Center area.

State Water Resources Control Board (SWRCB) Area of Special Biological Significance (ASBS) Efforts

The City is participating in the Regional Monitoring and Bight08 ASBS Monitoring Programs. This collaborative effort between regulators, regulated communities (and associated consultants), and non-governmental environmental organizations seeks to define water quality conditions in the ASBS. This combined effort stems from the need to meet regulatory requirements for “natural water quality” in the receiving water while leveraging resources for the most effective combination of monitoring within Northern and Southern California.

The monitoring protocols chosen seek to answer three primary questions:

1. What is the range of natural conditions in reference watersheds? (to develop natural water quality limits)
2. How does the ASBS in the City’s jurisdiction compare to the natural water quality limits? (to determine if there is an issue)
3. How do ASBS as a whole compare to natural water quality in areas with discharges and those without? (to determine if these areas may be affected by influences outside of controllable discharges)

The monitoring efforts began with pilot sampling events in the winter of 2008. The official studies will begin this upcoming storm season 2008-2009.

The City is also preparing to comply with Special Protections that are being developed by the SWRCB staff to regulate the ASBS. These regulations are currently in draft form but will include additional monitoring water quality and marine aquatic life within ASBS that is not covered by the regional or Bight efforts to ensure the continued protection of beneficial uses over time.

Malibu Creek Monitoring Program (Proposition 13)

The monitoring associated with this program was completed outside of this permit year. However, the final report was submitted to the SWRCB in March 2008.

B. Results of Implementation.

Civic Center Stormwater Treatment Facility Monitoring Program

The new monitoring site the City added was at the stormwater treatment facility. The treatment system's influent and effluent are analyzed weekly for Total Coliform, E. Coli, and Enterococcus. Monitoring results have shown that on the average bacterial indicators in the effluent from the system tested below the laboratory detection levels..

Malibu Creek Bacteria TMDL Monitoring Program.

This program was newly implemented in March 2008. Results have been provided to LARWQCB Staff and are available upon request. The effects of implemented programs as they relate to water quality have not been fully analyzed at the time this report was submitted and will be reported in future reporting years.

Malibu Creek Monitoring Program (Proposition 13)

The final report from this study was submitted to the SWRCB as a deliverable for the funding program. Recommendations from the report are tied to the Integrated TMDL Implementation Plan for the Malibu Creek Watershed and are being put into practice by the responsible agencies. The structural BMPs recommended in the plan will be undergoing feasibility and alternatives studies in the upcoming year. A consultant has been hired and will be under contract to Los Angeles County.

NSMB Source Identification Study

This study is active and a final report has not been published at this time.

Reference Watershed Study

Southern California Coastal Water Research Project's (SCCWRP) study *Fecal Indicator Bacteria Levels During Dry Weather in Southern California Reference Streams*, (Tiefenthaler et. al. 2008) attempted to quantify naturally occurring background levels of bacteria in streams during base flow (i.e. non-storm) conditions over an extended period of time. Please see Section 1.B above for full description of the study results.

State Water Resources Control Board (SWRCB) Area of Special Biological Significance (ASBS) Efforts

This monitoring program is in its early stages and results are not yet available

Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas in the City of Malibu

This study has influenced how the City manages OWTS in the City, in particular in the areas adjacent to the Malibu Creek and lagoon. It has also greatly affected and restricted development in the Civic Center area. Other lasting effects of this study include development of regulations such as the Malibu Creek Bacteria TMDL and focused the implementation plan development priorities.

As part of the development of the Santa Monica Bay Beaches Bacteria Wet Weather TMDL Implementation Plan, a Source Identification and Prioritization Analysis was conducted for Jurisdictional Groups 1 and 4 to identify and evaluate potential sources of water quality impairment in the affected subwatersheds and to prioritize these sources. Aspects of this study are also relevant for dry weather bacteria conditions since the sources may be similar even though the transport mechanisms can be different. Based on the results of the *Risk Assessment of Decentralized Wastewater Treatment Systems*, the source identification and prioritization effort focused on other potential sources (e.g., restaurants, horses, and urban runoff). The data did not support the identification of one conclusive source, but did identify the effects of urbanization, particularly urbanization in proximity to water bodies as linked to exceedance of water quality standards. As a result, the focus of the prioritization effort shifted from source prioritization to targeted Subwatershed prioritization.

The current protocol is sufficient to determine the presence of elevated pollutant levels, in particular bacteria indicators; however, more monitoring in the future may be able to help identify sources of pollutants. .

More analysis of the pollutants listed as exceedances earlier in this document is required before the City can determine whether additional monitoring within the City's jurisdiction would be useful. There are additional monitoring programs in the early and late planning stages.

- I. The final reports of the various studies and monitoring programs in the area may shed additional light on the sources of pollutants, seasonal variability, and potential options to eliminate and reduce some sources of pollution.

The results of the implementation of projects and programs are still being assessed. As these are in various stages of implementation, the benefits of combined structural and non-structural BMPs are also still being assessed. The City and other responsible and cooperating agencies intend to follow an iterative and adaptive approach to address the existence of any discharges that lead to exceedances of water quality standards.

Local Ordinances and Regulations

The following documents, referred to in Section 2 above, provide necessary regulatory authority to the City to protect various aspects of the environment and protect against degradation of water quality. Most of these ordinances have been codified and are available on the City's website at www.ci.malibu.ca.us and hardcopies can be provided upon request:

- 1) Malibu Municipal Code (M.M.C.) Chapter 9.08.060. Offenses Against Property

- 2) City of Malibu Ordinance No. 46. (M.M.C. Chapter 9.20) Water Conservation
- 3) City of Malibu Ordinance No. 51U. Urgency Amendment to the Excavation Grading Standards of the Building Code, Establishing Stormwater Management Standards, and Amending the M.M.C.
- 4) City of Malibu Ordinance No. 96. (M.M.C. Chapter 17.44) Water Conservation Landscaping Requirements
- 5) City of Malibu Ordinance No. 157. Regulating Stormwater and Urban Runoff Pollution
- 6) City of Malibu Ordinance No. 219. Amending the Stormwater and Urban Runoff Pollution Control Ordinance to Provide Stormwater Pollution Control for Planning and Construction of New Development and Redevelopment Projects
- 7) City of Malibu Ordinance No. 242. (M.M.C. 15.12) Incorporating the California Plumbing Code to Require Operating Permits for Residential and Commercial Facilities to Use Onsite Wastewater Treatment Systems
- 8) City of Malibu Ordinance No. 264. (M.M.C. Chapter 13.04) Stormwater and Discharge Control
- 9) City of Malibu Ordinance No. 265. (M.M.C. Chapter 12.05.035) Prohibiting Smoking on City Beaches
- 10) City of Malibu Ordinance No. 286. (M.M.C. Chapter 9.24) Ban on Expanded Polystyrene Food Packaging
- 11) City of Malibu Ordinance No. 321. (M.M.C. Chapter 15.14) Operating Permit Program with a Point of Sale Element for Onsite Wastewater Treatment Systems
- 12) City of Malibu Ordinance No. 323. (M.M.C. Chapter 9.28) Prohibiting the Use of Plastic Shopping Bags
- 13) City of Malibu Ordinance 324 (M.M.C. Chapter 1.10) Establishing an Administrative Citation Procedure to Impose Administrative Fines for Violations of the Malibu Municipal Code
- 14) City of Malibu Ordinance 325 (M.M.C. 5.04.020(A) and 5.20.140) Amending Various Sections of the Malibu Municipal Code to Make Specified Code Violations Subject to the Administrative Penalty Provisions of Chapter 1.10.

NOTE: The Malibu General Plan and Local Coastal Program are available on the City website at www.ci.malibu.ca.us.

The Memorandum of Understanding between California Regional Water Quality Control Board, Los Angeles Region, and City of Malibu Regarding Onsite Wastewater Treatment Systems is on file at the City and a hardcopy is available upon request.