

Appendix A

San Dieguito Watershed Activity Sheets

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San Dieguito Watershed Water Quality Activity Sheets

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TITLE: Santa Maria Creek Protection and Restoration Project
ID #: SD-WQA1

ACTIVITY IMPLEMENTATION

The purpose of the Santa Maria Creek Protection and Restoration Project is to reduce the transport of urban and agricultural pollutants, bacteria, and sediment to downstream receiving waters by restoring, enhancing, and protecting the Santa Maria Creek corridor, which flows through the grasslands of Santa Maria Valley, downstream and west of the community of Ramona. As the creek flows westward, it leaves the urban matrix and enters an extensive area of currently unprotected grasslands and vernal pools, used primarily for cattle grazing. For over a century, cattle have had unrestricted access to most of the stream channel which has resulted in incised banks, impaired recruitment of riparian vegetation, and significant adverse effects on water quality.

This project was partially funded through a Proposition 13 grant from the State Water Resources Control Board (SWRCB). The term of the project agreement was from June 1, 2004 – March 31, 2007, and included a \$1.5 million grant and a match amount of \$990,750 for a sum of \$2,490,750. The match amount of \$905,614 was from the San Diego County Department of Parks and Recreation (Parks and Open Space General Fund), a contribution from The Nature Conservancy, and in-kind contributions from the City of San Diego Water Department and the Wildlife Research Institute.

Water quality monitoring and assessment of project effectiveness will continue during this Permit cycle.

TMDL APPLICABILITY

This activity is not specifically implemented in compliance with a TMDL at this time.

TIME SCHEDULE FOR IMPLEMENTATION

This restoration project was completed in March 2007. Monitoring and assessment are ongoing.

PARTICIPATING WATERSHED COPERMITTEES

- County of San Diego

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

OTHER WATER QUALITY PROBLEM(S) ADDRESSED

- Sediment
- Sulfate
- Phosphorous
- Low Dissolved Oxygen
- Total Dissolved Solids (TDS)

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The San Dieguito Watershed Management Area (WMA) Collective Watershed Strategy identified bacteria as a high priority water quality pollutant throughout the WMA including the Santa Maria Valley (905.4). Urban and agricultural land uses have been identified as potential discharges of bacteria. This activity addresses a high priority water quality problem and

potential source of the problem within the watershed, therefore the activity is consistent with the San Dieguito WMA strategy.

EXPECTED BENEFITS

The water quality monitoring program for the Preserve will be utilized for assessment of the combined effectiveness of stream restoration, grazing management, and re-vegetation for reducing pollutants in Santa Maria Creek.

EFFECTIVENESS ASSESSMENT

Activity effectiveness will be measured by confirming completion of all project elements (Level 1 Outcome). Implementation effectiveness will be measured by monitoring Santa Maria Creek for temperature, dissolved oxygen, pH, stream flow, total suspended solids, conductivity, total dissolved solids, total nitrogen, total phosphorus, total coliform bacteria, chloride, and sulfate. Improvements to water quality in Santa Maria Creek will be assessed once prescribed land management actions are implemented from the Area Specific Management Directives and data collected during this period are compared to the baseline data (Level 6 Outcome). The effectiveness of removing non-native invasive plant species in the upland habitat and adjacent to Santa Maria Creek during the on-going management of the Preserve will also be assessed regarding improved water quality within the creek (Level 6 Outcome).

TITLE: LAND ACQUISITIONS
ID #: SD-WQA2

ACTIVITY IMPLEMENTATION

The San Diego County Board of Supervisors approved the Multiple Species Conservation Program (MSCP) in 1997 as an integral part of the County’s efforts to protect parks and open space. The goal of the MSCP (a 50-year program) is to maintain and enhance biological diversity in the region and maintain viable populations of endangered, threatened, and key sensitive species and their habitats. Land acquisition also provides a significant water quality benefit for the watersheds in which it occurs. MSCP acquisition precludes development from occurring and allows land to retain its natural ability to infiltrate stormwater/runoff.

The MSCP is a cooperative effort among the County and other local jurisdictions and the U.S. Fish and Wildlife Service and the California Department of Fish and Game (the Wildlife Agencies). These public partners work with various private landowners, conservation groups, and community planning groups, developers, and other stakeholders. The County of San Diego has adopted an MSCP for the southwestern portion of the County. MSCP plans for the Northern and Eastern portion of the County are in the planning stages. It is expected that the Northern Subarea Plan may be approved during the lifetime of the current stormwater permit. While the northern and eastern plan have yet to be approved by the County of San Diego, lands have been and will continue to be acquired from willing sellers.

During the FY 2008 reporting period there were 35.68 acres of land acquired in the San Dieguito WMA.

TMDL APPLICABILITY

While it may be supportive of TMDL goals, this activity is not specifically implemented as part of a TMDL compliance program.

TIME SCHEDULE FOR IMPLEMENTATION

The County of San Diego acquires land on an ongoing basis from willing sellers.

PARTICIPATING WATERSHED COPERMITTEES

- County of San Diego

OTHER PARTICIPATING ENTITIES

- U.S. Fish and Wildlife Service
- California Department of Fish and Game
- Private land owners
- Conservation groups
- Community planning groups
- Developers

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- All

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Land acquisition is consistent with the Collective Watershed Strategy in that it averts development, thereby eliminating the possibility of future sources in need of abatement or future pollutant loads in need of reduction.

EFFECTIVENESS ASSESSMENT

Activity effectiveness will be measured by tracking the number and total acreage of land acquisitions within the watershed on an annual basis. It may also be possible to estimate pollutant loadings avoided as a result of these acquisitions. The County will consider presenting load reduction estimations in WURMP Annual Reports if it determines that they are helpful for the purposes of assessing overall program effectiveness.

TITLE:	SAN DIEGUITO WATERSHED MUNICIPAL RAIN BARREL INSTALLATION AND DOWNSPOUT DISCONNECT PROJECT
ID #:	SD-WQA3

ACTIVITY IMPLEMENTATION

The City of San Diego (City) is undertaking a municipal rain barrel installation and downspout disconnect project to reduce pollutant loading at municipal facilities. The municipal rain barrel installation and downspout disconnect project will consist of installing rain barrel systems, including downspout disconnects and infiltration systems, within the San Dieguito Watershed Management Area (WMA) to reduce pollutant loading from urban runoff during storm events. Rain barrels and downspout disconnects help to capture, store and divert storm water to reduce urban runoff, thus contributing to reduced flooding, erosion and the contamination of surface water with sediments, fertilizers, metals, pesticides and other urban runoff pollutants. Rain barrels collect storm water runoff from buildings and residential rooftops and store until discharged. Rain barrels can be connected to a slow-release, gravity-powered landscaping irrigation system in which the stored runoff is released to landscaped areas for irrigation purposes. These landscaped areas can be designed to promote pollutant load reduction using bioretention, bioswales and other Low Impact Development (LID) techniques. These areas can also be designed as lined planter boxes, swales and filtration systems that keep runoff away from existing structures and utilities. Downspout disconnects are an additional option for redirecting runoff from roof areas to landscaped areas or constructed planter boxes, swales or filtration systems. The project will investigate the effectiveness of rain barrels/downspout disconnects in reducing pollutant loading and will assist the City in attaining its water quality goals. The project includes site evaluations and selections, the purchase of rain barrel/downspout disconnect systems and planter boxes, system installation, and effectiveness assessments.

The City is using the prioritization process that is outlined in the *Strategic Plan for Watershed Activity Implementation* to target high priority areas within the San Dieguito WMA and other watersheds for this project. Based on this prioritization plan, the selected site for rain barrel installation, Rancho Bernardo Recreation Center, was in one of the highest priority sectors of the San Dieguito WMA for potential for pollutant loading.

The first phase of this project will focus on installing rain barrel/rain harvesting systems at selected municipal facilities. Ultimately, the City would like to incorporate the use of these LID techniques through a residential program that may include incentives for implementing these systems. Therefore, it is anticipated that the information gathered during this phase of the project will be applied to implementation in residential areas.

Based on these findings, the City may modify its municipal rain barrel installation and downspout disconnect project to increase effectiveness and/or seek City Council approval for additional funding to implement future phases (i.e., incentives) and additional rain barrel/downspout disconnect systems.

A one page information sheet regarding the rain barrels was developed in the summer of 2007. The Rancho Bernardo Recreation Center was chosen as a site for the installation. The site selection process was long and iterative. Field reconnaissance was required to identify sites with adequate roof gutters, downspouts, and locations where rain barrels would be installed to capture flow. Sites were also assessed for sources of electrical power for use with automated systems and for adjacent vegetated areas where captured water could be discharged. Sites

were also selected for education/outreach opportunities. The Rancho Bernardo Recreation Center is a publicly accessible City facility. One of the systems will be installed near the front door and will be used to redirect flow from traveling down the street/sidewalk into the grassy area near the property. In the back of the facility, flow will also be redirected from the parking lot for storage in the the rain barrel.

The Regional Board requested in a letter¹ documenting its review of the WURMPs that the City provide data on the locations selected, number of barrels installed, and the volume of rain water collected. The location is discussed in this implementation section above. The number of rain barrels has yet to be decided, but will be discussed in future reporting. As the rain barrels are not yet installed, the volume of water captured is not known and will also be discussed in future reporting.

TMDL APPLICABILITY

- N/A

TIME SCHEDULE FOR IMPLEMENTATION

Project planning, including site selection, began in July 2007 and is anticipated to continue until the end of calendar year 2008. Initially the project was anticipated to be completed in Spring 2008. Planning, site selection, and procurement of the rain barrels took longer than expected. Some vendor product screening, including rain barrels and concrete planters, was completed in the first quarter of 2008. Product screening for the rain barrels and concrete planters was completed in the first quarter of 2008. Procurement of rain barrels, planter boxes and rain chains began in the second quarter of 2008. Subcontractors will be procured in late 2008. The specifications and installation guidelines will be developed by the end of 2008. A site pre-bid meeting will be held by the end of 2008. Parts and equipment will be installed at the site in March and April 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Metals
- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Implementation of this activity will address the High Priority Water Quality Problem by reducing runoff volume via capture, retention and infiltration.

¹ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito		
MUNICIPAL RAIN BARREL INSTALLATION PROGRAM		
Assess the Efficiency and Effectiveness of Rain Barrel Water Collection Containers at Reducing Runoff		
Management Questions	<ul style="list-style-type: none"> • What is the effectiveness/efficiency of rain barrel/downspout disconnect systems in reducing storm water runoff volume? • What is the loading reduction of the rain barrel/downspout disconnect systems? 	
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Load reduction due to rain barrel installation • Runoff reduction due to rain barrel installation 	
Data Recorded	Estimated cost of site preparation, installation and start-up for site	\$4,234
	Estimated cost of operation and maintenance evaluation for all sites	\$13,086
	Estimated cost of effectiveness monitoring for all sites	\$21,526
Recommended Data	<ul style="list-style-type: none"> • Number/type of barrels installed (Outcome Level 1) • Volume of storm water captured/diverted (Outcome Level 4) • Concentrations of COCs in rainwater or runoff (measured in rain barrel systems) (Outcome Level 4) • Percent capture of the different systems (acres drained) (Outcome Level 4) 	

Objectives

The goal of the municipal rain barrel installation and downspout disconnect assessment is to determine whether rain barrel/downspout disconnect systems reduce storm water runoff, thereby reducing bacteria loads, and if so, which system is most effective and efficient.

Analysis and Results

Procurement of rain barrels and other materials began in the second quarter of 2008. Estimated costs for rain barrel preparation, installation and start-up total approximately \$4,234. Estimated operation and maintenance costs total \$13,086 or \$2,181 per site for each of the seven sites. Estimated costs for effectiveness monitoring total \$13,086 or \$3,587.67 per site for each of the seven sites. Further analysis will be completed after installation of the rain barrel through monitoring.

Conclusions

Effectiveness and efficiency will be determined by comparing load reduction values (determined via monitoring efforts) versus the cost of installing and maintaining the rain barrel system. Conclusions will be made after the assessment is complete.

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TITLE: COASTAL CLEANUP DAY SPONSORSHIP
ID #: SD-WQA4

ACTIVITY IMPLEMENTATION

Each fall, San Diego Coastkeeper (SDCK) conducts the Coastal Cleanup Day event to target various inland and coastal sites in San Diego County in need of trash and debris removal. Coastkeeper recruits and organizes site captains and groups of volunteers for each site. A media center is also designated, which promotes environmental stewardship, including the importance of keeping litter and debris from spoiling the region's watersheds. The whole event is marketed throughout San Diego County through a variety of media, including television, radio public service announcements, newspapers, newsletters, electronic mail, bulletin boards, community outreach activities, calendar listings, and word of mouth.

Coastal Cleanup Day occurred on September 15, 2007. The City of San Diego (City) sponsored the Lake Hodges site in the San Dieguito Watershed Management Area (WMA). Approximately 55 volunteers removed 400 pounds of trash and debris. Volunteers were asked to track the debris collected by filling out data cards provided by the Ocean Conservancy.

According to Regional Board staff comments² for other WURMPs the City is involved in (e.g., San Diego River), the City would receive credit only for the first trash cleanup event in the fiscal year. The City, while reporting on multiple trash cleanup events that occurred within the watershed, acknowledges that it will only receive credit for the first one completed in the fiscal year. However, the City also acknowledges that trash cleanups provide more benefits than simply removal of trash – these are events that also involve education, outreach, and public participation. Therefore, the City may choose to continue to implement and report on more than one trash cleanup each year.

In the Regional Board Comment letter, Regional Board staff indicated that the project was completed during FY 2006-2007 and that no WURMP credit would be granted during FY 2007-2008. In this Activity Summary Sheet, the City is reporting on and has provided data for FY 2008.

The City requests that the Regional Board accept this activity as a watershed water quality activity for FY 2008 as the effectiveness assessment below demonstrates that this activity resulted in a measurable pollutant load reduction (Outcome Level 4) during the reporting period.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Coastal Cleanup Day has historically been held in September of each year. Prior to that month, the City will coordinate with Coastkeeper staff to ensure that sites within the San Dieguito WMA are included in the list for cleanups, and that proper sponsorship arrangements are made.

² Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper
- I Love a Clean San Diego (ILACSD)
- Volunteers from general public

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Sponsorship of Coastal Cleanup Day will result in load reduction of trash and debris directly and of bacteria indirectly.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito		
SDCK COASTAL CLEANUP DAY SPONSORSHIP		
Assess the Efficiency and Effectiveness of Sponsoring SDCK's Cleanup Efforts to Remove Litter from Public Areas and Waterways		
Management Questions	<ul style="list-style-type: none"> • What is the load reduction associated with sponsorship? • What is the efficiency of the sponsored cleanup? (\$/person or \$/pound collected) 	
Targeted Measurable Outcome(s)	Achieve load reduction due to reduction of trash (any amount) due to trash cleanup sponsorship	
Assessment Method(s)	<ul style="list-style-type: none"> • Tabulation (e.g., number of participants) • Quantification (e.g., pounds of trash collected) 	
Data Recorded	Pounds of trash removed (Outcome Level 4)	400 lbs
	Number of participants (Outcome Level 1)	55
	Amount of money spent on cleanups for all six watersheds (Outcome Level 1)	\$6,000
	Amount of money spent on cleanups for the Los Peñasquitos watershed (Outcome Level 1)	\$1,000
	Activity Efficiency (Total Cost/Total Pounds Removed)	\$2.50/lb

Objectives

The goal of this assessment is to determine the effectiveness and efficiency of trash cleanup days for actively reducing pollutant loads.

Analysis and Results

Fifty-five participants removed approximately 400 pounds of trash and debris. Debris removal (i.e., load reduction) was tracked using data cards provided by the Ocean Conservancy. The total estimated sponsorship cost for all six watersheds was \$6,000. For cost estimate analysis,

it was assumed that the Los Peñasquitos site was sponsored at the “Garibaldi Sponsor” level, or \$1,000. It was anticipated that the sponsorship fee at that level would remain the same for subsequent years. The event’s efficiency, calculated by dividing the sponsorship cost for the Los Peñasquitos WMA by the pounds of trash removed, was \$2.50 per pound.

Conclusions

Implementation and assessment of load reduction and efficiency for the cleanup sponsorship will occur again in FY 2009. Future results may be used to compare various types of trash cleanups completed and their associated costs, as well as comparing the same types of trash cleanups that are sponsored each year over time.

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TITLE: SEDIMENT AND PEAK FLOW CONTROLS #1
ID #: SD-WQA5

ACTIVITY IMPLEMENTATION

This activity will involve the installation of BMPs to reduce runoff flow velocity and associated erosion and sedimentation. The project may consist of a treatment train composed of, for example, inlet devices to trap gross solids, followed by a storage system to collect runoff and allow for pollutant settlement and slow release, and then a device to treat bacteria. Exact locations and BMPs will be based on monitoring and geotechnical considerations, proximity to other BMPs being implemented, site availability, land use, etc. The pollutant load reduction resulting from this activity will contribute to meeting requirements under the Municipal Permit and current and anticipated TMDLs in the receiving waters of the WMA.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacterial TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007. This project is currently on-hold as staff time and resources are currently allocated to other high-priority projects and significant activities as outlined in the City's *Strategic Plan for Watershed Activity Implementation*. However, this project may be started again in the future.

Furthermore, Regional Board staff indicated³ that this activity will only be given credit for the year it is installed, with pre- and post- installation monitoring conducted and reported to the Regional Board. The City recognizes that if the project moves forward, additional information will need to be reported to the Regional Board such as selected location and effectiveness assessment in order to receive credit.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Gross Pollutants

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria, nutrients, and gross pollutants as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them. Implementation of this activity will address the High Priority Water Quality Problems by managing runoff volume—the transport mechanism for pollutants—and treating runoff of pollutants before discharge into receiving waters.

³ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
SEDIMENT AND PEAK FLOW CONTROLS #1	
Assess the Efficiency and Effectiveness of the BMP Installations	
Management Questions	<ul style="list-style-type: none"> • What is the effectiveness/efficiency of the BMP installation in reducing runoff flow velocity? • What is the loading reduction of the BMPs?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Load reduction due to system installation • Runoff flow velocity reduction due to system installation
Assessment Method(s)	<ul style="list-style-type: none"> • Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance)
Recommended Data	<ul style="list-style-type: none"> • Estimated cost of site preparation, installation and start-up for site (Outcome Level 1) • Estimated cost of operation and maintenance evaluation (Outcome Level 1) • Estimated cost of effectiveness monitoring for all sites (Outcome Level 1) • Number of BMPs installed (Outcome Level 1) • Volume of runoff captured/diverted by treatment trains (Outcome Level 4) • Concentrations of COCs in runoff (Outcome Level 4)

Objectives

The goal of this assessment is to determine the effectiveness and efficiency of the BMPs installed to reduce runoff flow velocity and associated erosion and sediment.

Analysis and Results

This project is currently on hold; therefore, an effectiveness assessment is not possible at this time.

Conclusions

If the City does go forward with this project, water quality monitoring will be conducted before and after construction to assess the effectiveness in reducing runoff velocity and pollutant loading. Efficiency will be determined by comparing future load reductions to the cost of installation, maintenance and monitoring efforts.

TITLE: SEDIMENT AND PEAK FLOW CONTROLS #2
ID #: SD-WQA6

ACTIVITY IMPLEMENTATION

This activity will involve the installation of BMPs to reduce runoff flow velocity and associated erosion and sedimentation. The project may consist of a treatment train composed of, for example, inlet devices to trap gross solids, followed by a storage system to collect runoff and allow for pollutant settlement and slow release, and then a device to treat bacteria. Exact locations and BMPs will be based on monitoring and geotechnical considerations, proximity to other BMPs being implemented, site availability, land use, etc. The pollutant load reduction resulting from this activity will contribute to meeting requirements under the Municipal Permit and current and anticipated TMDLs in the receiving waters of the WMA.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacterial TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007. This project is currently on-hold as staff time and resources are currently allocated to other high-priority projects and significant activities as outlined in the City's *Strategic Plan for Watershed Activity Implementation*. However, this project may be started again in the future.

Furthermore, Regional Board staff indicated⁴ that this activity will only be given credit for the year it is installed, with pre- and post- installation monitoring conducted and reported to the Regional Board. The City recognizes that if the project moves forward, additional information will need to be reported to the Regional Board such as selected location and effectiveness assessment in order to receive credit.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Gross Pollutants

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria, nutrients, and gross pollutants as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them. Implementation of this activity will address the High Priority Water Quality Problems by managing runoff volume—the transport mechanism for pollutants—and treating runoff of pollutants before discharge into receiving waters.

⁴ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
SEDIMENT AND PEAK FLOW CONTROLS #2	
Assess the Efficiency and Effectiveness of the BMP Installations	
Management Questions	<ul style="list-style-type: none"> • What is the effectiveness/efficiency of the BMP installation in reducing runoff flow velocity? • What is the loading reduction of the BMPs?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Load reduction due to system installation • Runoff flow velocity reduction due to system installation
Assessment Method(s)	<ul style="list-style-type: none"> • Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance)
Recommended Data	<ul style="list-style-type: none"> • Estimated cost of site preparation, installation and start-up for site (Outcome Level 1) • Estimated cost of operation and maintenance evaluation (Outcome Level 1) • Estimated cost of effectiveness monitoring for all sites (Outcome Level 1) • Number of BMPs installed (Outcome Level 1) • Volume of runoff captured/diverted by treatment trains (Outcome Level 4) • Concentrations of COCs in runoff (Outcome Level 4)

Objectives

The goal of this assessment is to determine the effectiveness and efficiency of the BMPs installed to reduce runoff flow velocity and associated erosion and sediment.

Analysis and Results

This project is currently on hold; therefore, an effectiveness assessment is not possible at this time.

Conclusions

If the City does go forward with this project, water quality monitoring will be conducted before and after construction to assess the effectiveness in reducing runoff velocity and pollutant loading. Efficiency will be determined by comparing future load reductions to the cost of installation, maintenance and monitoring efforts.

TITLE: SAN DIEGUITO TARGETED INSPECTIONS (COMBINED)
ID #: SD-WQA7, SD-WQA8 & SD-WQA10

ACTIVITY IMPLEMENTATION

The City of San Diego (City) is developing a focused inspection program to target facilities that are potential sources of high priority pollutants. In the San Dieguito Watershed Management Area (WMA), the City is focusing on restaurant and landscaping facilities⁵. The long-term goals of the program are:

- Determine the most efficient frequency of inspections to ensure proper Best Management Practices (BMPs) implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year)
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections)
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions)
- Characterize activities at facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach and enforcement efforts
- Track and analyze inspection and enforcement actions to estimate load reductions resulting from inspections

The City delineated a specific area within the San Dieguito WMA to conduct the targeted inspections based on factors such as facility clustering and proximity to other watershed activities being conducted. The overall approach of the site selection process focused first on the specific business categories within the prioritized sectors in each WMA. If multiple category types were targeted for inspection in a particular WMA, a fairly equal distribution of sites from each category was selected for inspection where possible. In addition, knowledge gained by the City from past inspections was used to consider the likelihood of certain business types and areas of the City to be more problematic than others regarding constituents of concern in each WMA

Originally, the FY 2008 watershed-focused inspection program involved multiple inspections at each facility selected for inspection. Due to time constraints and complications with outreach to the affected community, only one inspection was conducted at each facility. The inspections that were conducted provide baseline data for comparison to future years' watershed-focused inspection programs. Information gathered during the FY 2008 watershed-focused inspection program provides information about different WMAs and facility types in the City, which will be helpful in answering the specific goals of the program in future years.

Fifty full inspection equivalents occurred across the San Dieguito WMA at restaurants and landscaping activities. Full inspection equivalents are equal to the number of full inspections plus one half the number of "other site visits" (site visits that did not result in a full inspection), excluding other site visits where the facility has moved and is gone and a replacement business was found. This metric allows for a more equal comparison of inspection effort among WMAs. There were 34 full inspections conducted for restaurant facilities with 9 follow-ups and 10 full inspections conducted for landscaping-related facilities with one follow-up. A total of 13 "other site visits" occurred in the WMA.

⁵ The 2008 San Dieguito WURMP also identified animal-related facilities as a facility type of interest for the City's targeted inspection program in the WMA; however, these businesses were not inspected in FY 2008. The city has modified its targeted inspection program and will instead inspect these businesses in FY 2009.

This activity is in active implementation, and source abatement information is included in the effectiveness assessment section of this activity summary sheet. The City requests credit for one of the two required watershed water quality activities for this reporting year with this activity.

The City acknowledges Regional Board staff's comment⁶ that recorded data and assessment is needed regarding the inspections and that the inspections must be above and beyond JURMP requirements. Inspections under this activity occurred to facilities that were not inspected under the JURMP program. Recorded data and assessment is included in this report.

Regional Board staff also commented on the activity being given credit for one year and that the activity is expected to become "business and usual." However, the City is implementing this non-capital activity over multiple years in order to optimize the program prior to incorporating the results and recommendations into the JURMP. Specific changes to the JURMP are not yet planned as the study is ongoing at this time. Incorporating this activity into the JURMP at this time would be premature in putting valuable resources toward wide-scale implementation before the program is optimized. With optimization the City anticipates gaining the strongest improvement to storm water discharge quality that is achievable at this point in time. Therefore, the activity is continuing under the WURMP and not being incorporated into the JURMP as "business as usual."

It should be noted that all of the inspections (restaurants and landscaping facilities) are being reported on one activity summary sheet for FY 2008 due to the structuring of this year's program. The inspections were previously detailed as separate activities in the 2008 San Dieguito WURMP. For consistency, the activity numbers are included in the heading of this summary sheet. The City is not expecting to receive two watershed water activity credits (one for each type of facility) for this program year; the City is requesting credit for one of the two required activities in this program year. However, the program may be restructured in the future and depending on the scale of implementation, the City may request credit for different facilities in the future.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL (restaurant inspections)

TIME SCHEDULE FOR IMPLEMENTATION

Activity planning began in July 2007. The City selected and hired a consultant who implemented the watershed-focused project from the end of March through June 2008. The City will continue to evaluate ways to optimize the inspection of various facilities in the future. The City is currently developing its 2009 program and anticipates continuing piloting the targeted inspections through FY 2012.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

⁶ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

The San Dieguito WMA inspections target the following High Priority Water Quality Problems:

- Bacteria – Restaurants
- Nutrients – Landscaping Related

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria and nutrients as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them. Implementation of this targeted inspection activity would contribute to addressing discharges, correcting behaviors, and abating sources associated with bacteria and nutrients at a variety of business types.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito		
TARGETED FACILITY INSPECTIONS		
Assess the Efficiency and Effectiveness of Restaurant Facility Inspections		
Management Questions	<ul style="list-style-type: none"> • Do inspections increase rate of BMP implementation? • Does increased rate of BMP implementation effect source abatement? • What is the optimal frequency of inspection (point of diminishing returns)? • Are spot inspections more effective than scheduled inspections? • Does enforcement alter future behavior (implementing BMPs)? • Does education increase rate of BMP implementation? • How can an estimate of source abatement be made from inspection data? 	
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Source abatement due to inspections • Increased BMP implementation due to inspections 	
Assessment Method(s)	<ul style="list-style-type: none"> • Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections) • Quantification (e.g., use frequency of BMP implementation to estimate source abatement) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) • Reporting (e.g., estimates of source abatement for BMPs from 3rd party data) 	
Data Recorded	Number of restaurant facility full inspections, spot and scheduled (Outcome Level 1)	34
	Number of restaurant follow-up inspections (Outcome Level 1)	9
	Number of landscaping facility full inspections, spot and scheduled (Outcome Level 1)	10
	Number of landscaping follow-up inspections (Outcome Level 1)	1

	Number of Sites Needing Corrective Action (Outcome Level 1)	43
	Number of Sites that Implemented Some Corrective Action During Inspection (BMPs implemented) (Outcome Level 3)	1
	Number of Sites with Assumed Source Abatement (based on corrective actions taken) (Outcome Level 4)	1
	Number of missing BMPs (Outcome Level 1)	42
	Total IC/IDs Observed (Outcome Level 1)	1
	Total IC/IDs Eliminated During Inspection (Outcome Level 4)	0
	Total IC/IDs Receiving Notice of Violation, and therefore abatement (Outcome Level 4)	1
	Total number of full equivalent inspections, spot and scheduled (Outcome Level 1)	50*
Recommended Data	<ul style="list-style-type: none"> • Change (%) in BMP implementation pre and post-education (Outcome Level 3) • Number of educational information items passed out (Outcome Level 3) • Potential Pollutant Discharge Assessment (Outcome Level 4) 	

* Includes "other site" visits in calculation of the total.

Objectives

The goal of this effectiveness assessment is to determine the most efficient frequency (e.g., once vs. twice per fiscal year) and type (e.g., random inspections vs. scheduled inspections) of inspections, and to ensure proper BMP implementation to reduce pollutant loading.

Analysis and Results

A breakdown of the number of sites needing corrective action, and number of sites that implemented at least some corrective action during the inspection, were included in the Watershed-Focused Storm Water Compliance Inspection Program Report⁷ and (see Table 1). The table also includes the number of Illegal Connections/Illicit Discharges (IC/ID) observed during the inspections, and the total number of IC/IDs abated during the inspections. One of the 44 sites implemented corrective action during the inspection, which resulted in source abatement at those facilities.

Table 1. Corrective Actions Implemented at Time of Inspection

Area	Number of Sites Needing Corrective Action	Number of Sites That Implemented Some Corrective Action During Inspection	Total IC/IDs Observed	Total IC/IDs Eliminated During Inspection
SDG	43	1	1	0

Although a load reduction was not calculated for each location, abatement of potential sources (Outcome Level 4) may be assumed with corrective actions being implemented due to the inspections. Future years' analysis will include a detailed pollutant discharge potential assessment to better show this source abatement. Inspected facilities were assigned a rating to reflect the level of BMP implementation noted at the site, and a separate rating to reflect the

⁷ D-MAX Engineering, *Watershed-Focused Storm Water Compliance Inspection Program* (September 2008).

facility manager/responsible party’s level of storm water knowledge. Inspectors evaluated BMP assessment ratings based on the cleanliness of the site and the number of recommended corrective actions given to each facility.

Table 2 presents a breakdown of the average knowledge and average BMP implementation scores for the inspected facilities in each WMA. In the San Dieguito WMA, the Average BMP Implementation Score increased while the Average Knowledge Score decreased. While some conclusions can be drawn based on the results of the FY 2007 and FY 2008 inspection programs, the number of inspections completed, the individual sites visited, and the business types targeted in each WMA were not the same in FY 2008 as in FY 2007. Because of these differences, drawing definitive conclusions is difficult. The City is modifying its strategy for future years, and the use of a new inspection form should provide the ability to derive more solid conclusions in future years to help optimize the City’s jurisdictional industrial and commercial facility inspection program to meet Municipal Permit and TMDL requirements.

Table 2. Breakdown of Average Knowledge and BMP Implementation Scores by Area

Area	Average Knowledge Score FY 2007	Average BMP Implementation Score FY 2007	Average Knowledge Score FY 2008	Average BMP Implementation Score FY 2008
SDG	2.0	2.9	2.4	2.4

Conclusions

The inspections that were conducted in the San Dieguito WMA provide baseline data for comparison to future years’ watershed-focused inspection programs in the WMA. More inspection data is anticipated in FY 2009 to build on what was gathered in FY 2008. Specifically, information gathered during the FY 2008 San Dieguito WMA targeted inspection program provides information about different WMAs and facility types in the City, which will be helpful in answering the specific goals of the program in future years. Further analysis of inspection efficiency, BMP implementation and education and their source abatement effectiveness is required before conclusions can be made and will include the cost of inspections, BMP implementations, education data, and enforcement follow-ups.

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TITLE: TARGETED MUNICIPAL FACILITY INSPECTIONS
ID #: SD-WQA9

ACTIVITY IMPLEMENTATION

The City of San Diego (City) had planned to develop a focused inspection activity to target municipal facilities within the San Dieguito WMA. The purpose of the activity was to:

- Determine the most efficient frequency of inspections to ensure proper BMP implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year)
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections)
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions)
- Characterize activities at municipal facilities to determine which activities cause the greatest pollutant discharges to better direct focused education/outreach and enforcement efforts
- Track and analyze inspection and enforcement actions to estimate load reductions resulting from inspections

Based on Regional Board staff comments⁸, the City will no longer pursue this activity under the WURMP section of the Municipal Permit. The City may choose to reconsider this as a significant JURMP activity in the future, though staff time and resources are currently allocated to other high-priority projects and significant activities as outlined in the City's *Strategic Plan for Watershed Activity Implementation*. The reporting of this activity will cease with this annual report.

Regional Board staff further commented that this activity is an internal audit and credit would not be granted as a watershed water quality activity. As noted above, the City will not implement this activity under the WURMP. If the City chooses to move forward with the activity, it may be considered under the JURMP.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Planning and implementation is not yet scheduled for this activity. If it moves forward, it would be reported under the JURMP.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

⁸ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Nutrients
- Bacteria

CONSISTENCY WITH THE WATERSHED STRATEGY

If implemented under the WURMP, this activity would have been consistent based on the City’s *Strategic Plan for Watershed Activity Implementation*, which identifies bacteria and nutrients as High Priority Water Quality Problems in the San Dieguito WMA, and recommends implementing load reduction/source abatement activities to address them. Implementation of this targeted inspection activity if pursued would contribute to addressing discharges, correcting behaviors, and abating sources associated with bacteria and nutrients at municipal facilities.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
TARGETED MUNICIPAL FACILITY INSPECTIONS	
Assess the Efficiency and Effectiveness of Targeted Municipal Facility Inspections	
Management Questions:	<ul style="list-style-type: none"> • Do inspections increase rate of BMP implementation? • Does increased rate of BMP implementation affect the incidence of illicit discharge? • What is the optimal frequency of inspection (point of diminishing returns)? • Are spot inspections more effective than scheduled inspections? • Does enforcement alter future behavior (implementing BMPs)? • Does education increase rate of BMP implementation?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Achieve reduced rate of illicit discharge from optimized inspection rate • Achieve greater BMP implementation from optimized inspection rate (over time)
Assessment Method(s)	<ul style="list-style-type: none"> • Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections) • Quantification (e.g., use frequency of BMP implementation to calculate estimated probability of illicit discharge) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials) • Reporting (e.g., estimates of load reduction for BMPs from 3rd party data)

<p>Assessment Measures, Assessment Outcome Levels & Data:</p>	<ul style="list-style-type: none"> • Number of inspections (spot and scheduled) (Outcome Level 1) • Number of BMPs implemented (Outcome Level 1) • Change (%) in BMP implementation pre and post-education (Outcome Level 3) • Number of missing BMPs (Outcome Level 1) • Number of follow-up inspections (Outcome Level 1) • Number of enforcement follow-ups (Outcome Level 1) • Number of educational information items passed out (Outcome Level 1) • How much money spent on inspections (follow ups, initial inspections, enforcement actions)? (Outcome Level 1) • Literature review or other information to provide data to estimate load reductions (Outcome Level 3) • Dataset of discharges abated (Outcome Level 4)
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City will no longer pursue this activity under the WURMP section of the Municipal Permit. The City may choose to reconsider this as a significant JURMP activity in the future, which would trigger an effectiveness assessment at that time.

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TITLE: BERNARDO CENTER DRIVE TRASH SEGREGATION BMP
ID #: SD-WQA11

ACTIVITY IMPLEMENTATION

The Bernardo Center Drive Trash Segregation BMP Project will involve the installation of catch basin inserts in the San Dieguito Watershed Management Area (WMA) to prevent trash and debris from entering the MS4. The inserts will be installed directly in the existing curb inlets along Bernardo Center Drive and Bernardo Heights Parkway. The Bernardo Center Drive site will include the installation of storm drain catch basin inserts as retrofits within the existing storm drain system. The catch basin inserts will be used to reduce the amount of trash, leaves, sediment, and oils and grease that make its way into the storm drain system.

This project was originally identified as “Trash Segregation Device Installation” in the 2008 San Dieguito WURMP. In June 2008 the site along Bernardo Center Drive was selected and the conceptual design was released for this project.

According to Regional Board staff comments⁹, this activity will only be given credit for the year it is installed, with pre- and post- installation monitoring conducted and reported to the Regional Board. The City agrees that the Municipal Permit precludes capital activities from achieving compliance credit in multiple years. Section E.2.f(4) states that “capital projects are in active implementation for the first year of implementation only.”

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacterial TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning began in July 2007, with design anticipated to continue through FY 2009. Installation is anticipated to occur in FY 2010. Water quality monitoring will be conducted before and after installation to assess the effectiveness of the project in reducing bacteria and trash loading.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City’s *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Implementation of this activity will address bacteria via the facilitation of trash and debris removal.

⁹ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
BERNARDO CENTER DRIVE TRASH SEGREGATION BMP	
Assess the Efficiency and Effectiveness of Catch Basin Inserts	
Management Questions	<ul style="list-style-type: none"> • What is the load reduction efficiency of the catch basin inserts? • How effective are these catch basin inserts at reducing priority pollutant loads? • Does the implementation of catch basin inserts result in a detectible receiving water quality improvement?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Reduction in priority pollutant loads • Receiving water quality improvement
Assessment Method(s)	<ul style="list-style-type: none"> • Inspections (e.g., ensure the catch basin inserts are working as designed) • Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance) • Reporting (e.g., estimates of load reduction from 3rd party data)
Recommended Data	<ul style="list-style-type: none"> • Number of inspections (Outcome Level 1) • Change (%) in bacteria load reduction pre and post-implementation (Outcome Level 4) • How much money spent on inspections and maintenance (Outcome Level 1)

Objectives

The goal of this assessment is to determine the effectiveness of installing catch basin inserts in curb inlets along Bernardo Center Drive and Bernardo Heights Parkway in preventing trash and debris from entering the MS4. The catch basin inserts will be used to reduce the amount of trash, leaves, sediment, and oils and grease that make its way into the storm drain system.

Analysis and Results

Short-term assessment is not possible at this time, as the catch basins have not yet been installed and no priority pollutant load data have been taken.

Conclusions

The conceptual design was released in June 2008, and catch basins will be installed in FY 2010. Water quality monitoring will be conducted before and after installation to assess the effectiveness of the catch basin inserts in reducing bacteria and trash loading. Effectiveness and efficiency will be determined by comparing load reduction to implementation costs.

TITLE:	ALPHA PROJECT FOR THE HOMELESS, INC. CLEANUP SPONSORSHIP
ID #:	SD-WQA12

ACTIVITY IMPLEMENTATION

The City of San Diego (City) partnered with Alpha Project for the Homeless, Inc., through a Memorandum of Understanding to conduct trash and debris cleanups and potentially homeless encampment removals throughout the City’s jurisdiction in various watersheds in FY 2008.

The City focused on high priority sites for its trash/debris cleanup program partnership with Alpha Project. In FY 2008, the City did not locate any high priority sites requiring cleanup within the San Dieguito WMA.

According to Regional Board staff comments¹⁰, the City would receive credit only for the first trash cleanup event in the fiscal year. As no high priority sites requiring cleanup were located within the San Dieguito WMA, the City is not requesting a credit for a trash cleanup activity as a watershed water quality activity.

TMDL APPLICABILITY

- N/A

TIME SCHEDULE FOR IMPLEMENTATION

The City will not continue the Alpha Project trash cleanup sponsorship in FY 2009. The reporting of this activity will cease with this annual report.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- Alpha Project for the Homeless, Inc.

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City’s *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Cleanups by the Alpha Project result in load reduction of trash and debris directly and of bacteria indirectly.

EFFECTIVENESS ASSESSMENT

The City will not continue its partnership with Alpha Project in FY 2009. The reporting of this activity will cease with this annual report. Assessment for effectiveness was not completed for this activity because no cleanups occurred in this watershed during FY 2008.

¹⁰ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

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TITLE: I LOVE A CLEAN SAN DIEGO TRASH CLEANUP SPONSORSHIP
ID #: SD-WQA13

ACTIVITY IMPLEMENTATION

Each spring, I Love A Clean San Diego (ILACSD) conducts its Creek to Bay Cleanup event to target various inland and coastal sites in San Diego County in need of trash and debris removal. ILACSD recruits and organizes site captains and groups of volunteers for each site. A media center is also designated, which promotes environmental stewardship, including the importance of keeping litter and debris from spoiling the region's watersheds. The whole event is marketed throughout San Diego County through a variety of media, including television, radio public service announcements, newspapers, newsletters, electronic mail, bulletin boards, community outreach activities, calendar listings, and word of mouth.

The ILACSD Creek to Bay Cleanup occurred on 26 April 2008. The City of San Diego (City) sponsored the Lake Hodges site in the San Dieguito Watershed Management Area (WMA). Approximately 98 volunteers removed 364 lbs of trash and debris and recycled 318 pounds of trash and debris over a 10-mile area.

According to Regional Board staff comments¹¹, the City would receive credit only for the first trash cleanup event in the fiscal year. The City, while reporting on multiple trash cleanup events that occurred within the watershed, acknowledges that it will only receive credit for the first one completed in the fiscal year. However, the City also acknowledges that trash cleanups provide more benefits than simply removal of trash – these are events that also involve education, outreach and public participation. Therefore, the City may choose to continue to implement and report on more than one trash cleanup each year.

The City requests that the Regional Board accept this activity as a watershed water quality activity for FY 2008 as the effectiveness assessment below demonstrates that this activity resulted in a measurable pollutant load reduction (Outcome Level 4) during the reporting period.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

The Creek to Bay Cleanup has historically been held in April of each year. Prior to that month, the City will coordinate with ILACSD staff to ensure that sites within the San Dieguito WMA are included in the list for cleanups and that proper sponsorship arrangements are made.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- ILACSD
- Volunteers from general public

¹¹ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Sponsorship of the Creek to Bay Cleanup will result in load reduction of trash and debris directly and of bacteria indirectly.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito		
ILACSD CREEK TO BAY CLEANUP SPONSORSHIP		
Assess the Efficiency and Effectiveness of Sponsoring ILACSD Cleanup Efforts to Remove Litter from Public Areas and Waterways		
Management Questions	<ul style="list-style-type: none"> • What is the load reduction associated with sponsorship? • What is the efficiency of trash cleanup? (\$/person or \$/ton collected) 	
Targeted Measurable Outcome(s)	Load reduction due to reduction of trash (any amount) due to trash cleanup sponsorship	
Assessment Method(s)	<ul style="list-style-type: none"> • Tabulation (e.g., number of participants) • Quantification (e.g., pounds of trash collected) 	
Data Recorded	Pounds of trash removed (Outcome Level 4)	364 lbs
	Pounds of trash recycled (Outcome Level 4)	318 lbs
	Total pounds of trash removed (Outcome Level 4)	682 lbs
	Number of participants (Outcome Level 1)	98
	Amount of money spent on cleanups for all watersheds (Outcome Level 1)	\$5,000
	Efficiency (Total Cost/Pounds of Debris Removed)	\$1.22/lb

Objectives

The goal of this assessment is to determine the effectiveness and efficiency of trash cleanup days for actively reducing pollutant loads.

Analysis and Results

On April 26th 2008, 98 participants removed approximately 364 pounds of trash and debris and recycled approximately 318 pounds of trash and debris from numerous sites in the San Dieguito WMA. The average estimated sponsorship cost was \$833.33 per watershed (\$5,000/6 watersheds). Thus, there was a 682 pound load reduction associated with sponsorship per yearly event, and an efficiency of \$1.22 per pound collected.

Conclusions

Implementation and assessment of load reduction and efficiency for the ILACSD Creek to Bay Cleanup will occur again in FY 2009. Future results may be used to compare various types of trash cleanups completed and their associated costs as well as comparing the same types of trash cleanups that are sponsored each year over time.

TITLE: PARK AND OPEN SPACE IRRIGATION AND CONTROLLERS
ID #: SD-WQA14

ACTIVITY IMPLEMENTATION

As part of the review of water quality issues within the San Dieguito Watershed, Copermittees had previously identified overwatering from residential and municipal sources as an activity with a high potential for water quality impacts from nutrients and bacteria. The City of Del Mar had previously identified overwatering as a potential cause of higher levels of bacteria and nutrients in the southern portions of the City, and proposed the replacement of median and park irrigation timed irrigation controllers with “smart” controllers which adjust the amount of water used based on weather conditions. This activity provides for the use of these irrigation controllers in City parks and open space areas. The City of Del Mar has allocated \$60,000.00 of grant and general fund monies for the implementation of this program. In addition to the installation of the controllers, City of Del Mar staff continue to monitor these sites to ensure that runoff from over irrigation has been minimized to the maximum extent practicable. This includes periodic inspections of the site by the Clean Water Manager, and coordination with the City’s landscape contractor.

The Water Conservation in Landscaping Act of 2006 (Act) requires the State Department of Water Resources to update a model Water Efficient Landscape ordinance for adoption by local agencies. To date, the new model ordinance has **not** yet been developed by the State, and implementation of the requirements is not anticipated until the year 2010. The City of Del Mar acknowledges Regional Board staff’s comment¹² that the activity appears to be solely a response to the Act. However, the City of Del Mar respectfully disagrees with this opinion. Development of this activity took place as a result of Copermittees analysis of specific water quality issues within the WMA, and as part of the investigations conducted in Anderson Canyon. While, one of the key components of the Act is the use of “smart” controllers for irrigation, by addressing runoff using these controllers, the City of Del Mar is able to meet challenges proposed by the Act, and address specific water quality concerns related to overwatering. Further, the City of Del Mar believes that the efficient use of public funds, such as this program, to address multiple needs and requirements is a prudent course of action, and credit should be granted for the Activity.

The City of Solana Beach recently installed a state-of-the-art weather station located at the newly constructed Fletcher Cove Community Park. This weather station has the ability to collect up to the minute real time weather conditions and remotely communicate with similar recently installed “smart” controllers at other City parks, including the Coastal Rail Trail and highway medians. The City now plans to upgrade older controllers at its last remaining park, La Colonia Community Center, so that all City parks will have “smart” controllers connected remotely to the weather station located at Fletcher Cove Community Park. Not only do these “smart” controllers automatically adjust to the local weather, but they also include alarm systems to notify City personnel remotely if there are any abnormalities in flow, resulting from leaking or broken irrigation lines and/or sprinklers. This will provide the City with complete instantaneous wireless control over the irrigation system to prevent any over-irrigation and water waste, resulting in the elimination of over-irrigation at all City facilities, the pollutant transport mechanism during dry weather conditions.

¹² Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

These controllers are beneficial from an NPDES perspective as they operate more efficiently, conserve water, and reduce the potential for runoff from over irrigation.

TMDL APPLICABILITY

None presently identified.

TIME SCHEDULE FOR IMPLEMENTATION

This project is budgeted for FY 2008 and FY 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of Del Mar
- City of Solana Beach

OTHER PARTICIPATING ENTITIES

This project involves monies and support from the State Department of Water Resources and the Metropolitan Water Department.

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

OTHER WATER QUALITY PROBLEM(S) ADDRESSED

- TDS
- Nutrients
- Sediment

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The San Dieguito WMA Collaborative Watershed Strategy identified bacteria as a High Priority Water Quality Problem in all areas of the WMA, including the Solana Beach Hydrologic Area (905.1). Landscaping for parks and open space areas has been identified as potential discharges of bacteria from over-irrigation. In addition, other non-priority pollutants have been identified including TDS, nutrients, and sediment as potential discharges from over-irrigation. This activity addresses a High Priority Water Quality Problem and potential source of the problems within the WMA; therefore, the activity is found to be consistent with the 2008 San Dieguito WURMP.

EXPECTED BENEFITS

Primary Activity Goal – Dry Weather Load Reductions: A reduction in runoff from over-irrigation will reduce the dry weather transport mechanism and thereby reduce pollutant loads in urban runoff.

EFFECTIVENESS ASSESSMENT

Once implemented, the cities of Del Mar and Solana Beach can track water consumption through the use of flow metering and other use management techniques which demonstrates a Level 4 Outcome (Quantifiable Load Reduction).

TITLE: MEDIAN IRRIGATION SYSTEM REPLACEMENT
ID #: SD-WQA15

ACTIVITY IMPLEMENTATION

As part of the review of water quality issues within the San Dieguito Watershed, Copermittees had previously identified overwatering from residential and municipal sources as an activity with a high potential for water quality impacts from nutrients and bacteria. The City of Del Mar had previously identified overwatering as a potential cause of higher levels of bacteria and nutrients in the southern portions of the City, and proposed the replacement of median and park irrigation timed irrigation controllers with “smart” controllers which adjust the amount of water used based on weather conditions. This activity provides for the use of these irrigation controllers in the City of Del Mar along the medians on Camino Del Mar, through the center of the village. The City of Del Mar has allocated \$60,000.00 of grant and general fund monies for the implementation of this program. In addition to the installation of the controllers, City of Del Mar staff continue to monitor these sites to ensure that runoff from over irrigation has been minimized to the maximum extent practicable. This includes periodic inspections of the site by the Clean Water Manager, and coordination with the City’s landscape contractor.

The Water Conservation in Landscaping Act of 2006 (Act) requires the State Department of Water Resources to update a model Water Efficient Landscape ordinance for adoption by local agencies. To date, the new model ordinance has **not** yet been developed by the State, and implementation of the requirements is not anticipated until the year 2010. The City of Del Mar acknowledges Regional Board staff’s comment¹³ that the activity appears to be solely a response to the Act. However, the City of Del Mar respectfully disagrees with this opinion. Development of this activity took place as a result of Copermittees analysis of specific water quality issues within the WMA, and as part of the investigations conducted in Anderson Canyon. While, one of the key components of the Act is the use of “smart” controllers for irrigation, by addressing runoff using these controllers, the City of Del Mar is able to meet challenges proposed by the Act, and address specific water quality concerns related to overwatering. Further, the City of Del Mar believes that the efficient use of public funds, such as this program, to address multiple needs and requirements is a prudent course of action, and credit should be granted for the Activity.

The City of Solana Beach recently installed a state-of-the-art weather station located at the newly constructed Fletcher Cove Community Park. This weather station has the ability to collect up to the minute real time weather conditions and remotely communicate with similar recently installed “smart” controllers at other City parks, including the Coastal Rail Trail and highway medians. The City now plans to upgrade older controllers at its last remaining park, La Colonia Community Center, so that all City parks will have “smart” controllers connected remotely to the weather station located at Fletcher Cove Community Park. Not only do these “smart” controllers automatically adjust to the local weather, but they also include alarm systems to notify City personnel remotely if there are any abnormalities in flow, resulting from leaking or broken irrigation lines and/or sprinklers. This will provide the City with complete instantaneous wireless control over the irrigation system to prevent any over-irrigation and water waste resulting in the elimination of over-irrigation at all City facilities.

¹³ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

These controllers are beneficial from an NPDES perspective as they operate more efficiently, conserve water, and reduce the potential for runoff from over irrigation.

TMDL APPLICABILITY

None presently identified.

TIME SCHEDULE FOR IMPLEMENTATION

This project is budgeted for FY 2008 and FY 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of Del Mar
- City of Solana Beach

OTHER PARTICIPATING ENTITIES

This project involves monies and support from the State Department of Water Resources and the Metropolitan Water Department.

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

OTHER WATER QUALITY PROBLEM(S) ADDRESSED

- Nutrients
- TDS
- Sediment

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The San Dieguito WMA Collaborative Watershed Strategy identified bacteria as a High Priority Water Quality Problem in all areas of the WMA, including the Solana Beach Hydrologic Area (905.1). Landscaping for parks and open space areas has been identified as potential discharges of bacteria and nutrients from over-irrigation. In addition, other non-priority pollutants have been identified including TDS, nutrients, and sediment as potential discharges from over-irrigation. This activity addresses a High Priority Water Quality Problem and potential source of the problems within the WMA; therefore, the activity is found to be consistent with the 2008 San Dieguito WURMP.

EXPECTED BENEFITS

Primary Activity Goal – Dry Weather Load Reductions: A reduction in runoff from over-irrigation will reduce the dry weather transport mechanism and thereby reduce pollutant loads in urban runoff.

EFFECTIVENESS ASSESSMENT

Once implemented, the cities of Del Mar and Solana Beach can track water consumption through the use of flow metering and other use management techniques which demonstrates a Level 4 Outcome (Quantifiable Load Reduction).

TITLE: INCREASE TRASH RECEPTACLES AND DOGI-POT STATIONS
ID #: SD-WQA16

ACTIVITY IMPLEMENTATION

This activity will increase the number of pet waste and trash receptacles within the San Dieguito WMA. Pet waste and trash receptacles provide pet owners with litter bags and trash receptacles for easy disposal of pet waste, reducing the amount of pollutants entering receiving waters. Participating jurisdictions will determine locations to increase the number of pet waste bag receptacles, Dogi-Pot stations, and trash receptacles by identifying areas of high pet activity such as parks and trails and areas where trash and animal waste typically accumulate. Increasing the number of stations or bags will further reduce the amount of pet waste present in these areas.

Escondido: This activity will increase the number of Dogi-Pot stations in areas of high pet activity throughout parks and other areas located in the San Dieguito WMA such as Kit Carson Park.

Poway: The City of Poway plans to increase the number of trash cans and Dogi-Pot stations around popular trails in the WMA. The City intends to focus these efforts on popular trails utilized by hikers with dogs; and trails where trash or animal waste is found frequently by City staff.

San Diego: This activity will target areas frequented by pet owners such as municipal parks and/or street and sidewalk right of ways in the San Dieguito WMA. When pet waste bags are available, pet owners are more apt to pick up pet wastes and dispose of it properly, thereby eliminating pollutants from the environment and potentially from receiving waters. Pet waste bag dispensers will be installed in areas lacking them or in need of additional ones

Solana Beach: This activity will increase the number of trash receptacles and Dogi-Pot stations in areas of high pet activity throughout parks and other areas located in the San Dieguito WMA such as the Coastal Rail Trail, Plaza Street Park and La Colonia Community Center.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Escondido: Installation of additional Dogi-Pot stations is expected to occur at sites such as Kit Carson Park in FY 2010.

Poway: Plan development will occur in FY 2010 and implementation will occur in FY 2011

San Diego: Project planning and coordination is anticipated to begin in FY 2009. Implementation is anticipated to begin in FY 2010.

Solana Beach: Installation of additional trash receptacles and Dogi-Pot stations are ongoing in City parks and new Dogi-Pot stations and trash receptacles will be installed at

Plaza Street Park and the Coastal Rail Trail in FY 2009/2010, and at La Colonia Park in FY 2011.

PARTICIPATING WATERSHED COPERMITTEES

- City of Escondido
- City of Poway
- City of San Diego
- City of Solana Beach

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The San Dieguito WMA Collective Watershed Strategy identified bacteria as a High Priority Water Quality Problem throughout the entire watershed and nutrients as a High Priority Water Quality Problem in the San Pasqual Hydrologic Area (905.3). Pet waste has been identified as a potential source of bacteria and nutrients. This activity addresses High Priority Water Quality Problems and potential source within the WMA. Therefore, this activity is consistent with the 2008 San Dieguito WURMP.

EXPECTED BENEFITS

This proposed activity is designed to provide pet owners with a convenient means to dispose of pet waste, thereby reducing pollutants in runoff to receiving waters. As a result, Copermitees hope to see a reduction in concentrations of pollutants associated with pet waste in receiving waters.

EFFECTIVENESS ASSESSMENT

This activity is designed to raise awareness of the potential water quality impacts associated with pet waste and change pet owner behavior by providing a means for pet waste disposal (Levels 2 and 3). Proper disposal of pet waste will reduce pollutant loads in runoff (Level 4).

The City of San Diego will use the following approach to effectiveness assessment for this activity:

Watershed: San Dieguito	
PET WASTE BAG DISPENSER PROGRAM	
Assess the Effectiveness of Pet Waste Bag Disposal	
Management Questions	<ul style="list-style-type: none"> • Does the implementation of dog waste bag dispenser stations help reduce bacteria? • What is the estimated load reduction efficiency of implementing dog waste bag dispenser stations? • Can the number of pet waste bags dispensed be related to a reduction in bacteria in run-off from the park?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Number of pet waste bags distributed • Reduction in bacteria in run-off from the park
Assessment Method(s)	<ul style="list-style-type: none"> • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Quantification (e.g., use number of pet waste disposal bags and their average weight to calculate estimated load)

	reduction) <ul style="list-style-type: none"> • Tabulation (e.g., amount of money spent on implementation and maintenance, amount of money spent on educational materials, amount of money spent on pet waste disposal bags)
Recommended Data	<ul style="list-style-type: none"> • Change (%) in load reduction pre and post-implementation (Outcome Level 4) • How much money spent on implementation and maintenance • Dataset of load contributions for specific activities (Outcome Level 4) • Change in use of pet waste disposal bags (Outcome Level 3)

Objectives

The goal of this assessment is to determine the effectiveness and efficiency of installing pet waste bag dispensers to reduce bacteria loading and improve water quality.

Analysis and Results

An effectiveness assessment of this activity is not possible at this time as project planning and coordination is scheduled to begin in FY 2009. Program launch is anticipated to occur in FY 2010.

Conclusions

Effectiveness and efficiency will be determined by comparing load reduction values (determined via monitoring efforts) to the cost of installing and maintaining the pet waste bag dispensers. Conclusions will be made after the assessment is complete.

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TITLE: TARGETED RESTAURANT FACILITY INSPECTIONS AND OUTREACH
ID#: SD-WQA17

ACTIVITY IMPLEMENTATION

The Cities of Escondido and Solana Beach will conduct focused inspections of restaurants within the San Dieguito WMA to target the pollutants generated by food service facilities. Activities and areas at restaurants such as grease handling and disposal, spills, dumpster and loading docks, parking lots, landscaping and ground maintenance and cleaning of equipment can generate pollutants that have the potential to enter the receiving waters. Pollutants that may be generated by restaurant areas and activities include bacteria from organic materials (i.e., food wastes), oil and grease, trash, and chemicals.

In Del Mar during the 2007-2008 reporting year, Coastal Storm Drain Monitoring activities detected sporadic, higher than normal levels of bacteria in the outfall that drains the 15th Street area of Del Mar. While not at levels warranting in-depth source identification studies, this drainage area includes a large number of the City’s restaurants and commercial activities with a “high” or “moderate” potential for water quality issues, and as such the sporadic levels were warranted further study, and enhancement of efforts in this area. The program will focus on activities and areas at restaurants such as grease handling and disposal, spills, dumpster and loading docks, parking lots, landscaping and ground maintenance and cleaning of equipment which may generate pollutants that have the potential to enter receiving waters. Pollutants that may be generated by restaurant areas and activities include bacteria from organic materials (i.e., food wastes), oil and grease, trash and chemicals. This program is in addition to the required education and outreach programs, and will supplement the required annual inspections within the JURMP.

ACTIVITY IMPLEMENTATION

During FY 2008-2009, the City of Del Mar will begin implementation of a targeted outreach and inspection program for the restaurants and outdoor vendors within this drainage area. Program development is planned for FY2008-2009, with implementation by the City of Del Mar occurring in FY2009-2010. The program is expected to include specific training for the restaurants in the area, including catering businesses who service the Power House Community Center, and the adjacent parks. The training program is intended to be a collaborative effort between the City of Del Mar and the Del Mar Village Association. Also included in the program plans are additional inspections and focused trainings for restaurants who have received citations or Notices of Violation for stormwater violations during the past reporting period, and those operations which are suspected of contributing to the problems in the drainage area based on anecdotal evidence. The purpose of the activity is to:

- Attempt to determine the most efficient frequency of inspections to ensure proper BMP implementation and reduce pollutant loading (e.g., once vs. twice per fiscal year);
- Determine the most efficient type of inspection to ensure proper BMP implementation and reduce pollutant loading (e.g., random inspections vs. scheduled inspections);
- Determine the most efficient combination of enforcement action to ensure proper BMP implementation and reduce pollutant loading (e.g., education/flyers vs. monetary fines vs. onsite direct interactions);
- Work directly with restaurateurs and their staff to develop a more effective training program for use in the specific restaurants in the area; and
- Track and analyze inspection and enforcement actions to estimate potential load reductions resulting from increased inspections and targeted outreach.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

City of Del Mar: As identified above, the program will be in initial planning stages during FY 2009, and implemented during the FY 2010 reporting period. After implementation, the program will be included as a part of the City of Del Mar JURMP.

City of Escondido: The focused inspections will be conducted during FY 2010.

City of Solana Beach: The focused inspections will be conducted during FY 2010.

PARTICIPATING WATERSHED COPERMITTEE(S)

- City of Del Mar
- City of Escondido
- City of Solana Beach

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Nutrients
- Bacteria

CONSISTENCY WITH THE WATERSHED STRATEGY

The San Dieguito WMA Collective Watershed Strategy identified bacteria as a High Priority Water Quality Problem throughout the WMA. Restaurants have been identified as a potential discharge of bacteria. This activity addresses a High Priority Water Quality Problem and potential sources of the problem within the WMA. Therefore, the activity is consistent with the 2008 San Dieguito WURMP.

EXPECTED BENEFITS

This focused inspection activity will contribute to reducing discharges, characterizing activities, correcting behaviors, and abating sources associated with bacteria at restaurant facilities.

EFFECTIVENESS ASSESSMENT

The results of focused inspections will be compared with traditional approaches and used to enhance routine inspections and improve outreach communications. Measures will be primarily at Levels 1 through 4, with marginal measurement capability at Level 5 (discharge quality improvements).

Monitoring data from coastal outfall monitoring and previous inspections will be compiled and restaurant NOV status analyzed using GIS. Further narrowing the drainage area to potential sources will be conducted to target the inspections and outreach activities as appropriate. The results of focused inspections will be compared with traditional approaches and used to enhance routine inspections and improve outreach communications. Measures will be primarily at Levels 1 through 4, with marginal measurement capability at Level 5 (discharge quality improvements).

TITLE: STORMWATER QUALITY MASTER PLANS FOR SPECIAL DRAINAGE FEE AREAS
ID #: SD-WQA18

ACTIVITY IMPLEMENTATION

The County of San Diego is in the process of preparing Storm Water Quality Master Plans (SWQMPs) for ten Special Drainage Fee Areas (SDAs). The SWQMPs address water quality impacts within each area, and are being prepared concurrently with a GIS-based Drainage Facilities Master Plan (DFMP). The County has identified a need to replace or upgrade portions of the drainage systems within its SDAs to meet current drainage design standards. In the process of planning for the proposed drainage facility improvements, the County is seizing the opportunity to identify potential regional BMPs that would assist in improving watershed water quality and minimize associated drainage facility maintenance costs.

Ultimately, the SWQMPs will identify and prioritize for implementation a list of potential regional BMPs. BMPs could include extended detention basins, hydrodynamic separators, or other BMP types. Prioritization criteria will include considerations of cost, BMP type, location, land use, and funding. Construction of recommended BMPs is contingent upon the approval of SDA fee increases by the County Board of Supervisors.

SWQMPs with the potential to propose BMPs in the San Dieguito Watershed include:

- SDA 8 (Ramona)
- SDA 9 (San Dieguito)
- SDA 10 (North County Metro)

TMDL APPLICABILITY

This activity is not specifically implemented in compliance with a TMDL.

TIME SCHEDULE FOR IMPLEMENTATION

SWQMPs are in various stages of completion. Construction of recommended BMPs is contingent upon approval of SDA fee increases by the County Board of Supervisors. The Board is likely to consider fee increases in 2009. Construction is therefore unlikely to occur anytime before FY 2010.

PARTICIPATING WATERSHED COPERMITTEES

- County of San Diego

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- To be determined

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

To be determined

EXPECTED BENEFITS

The SWQMPs will recommend regional structures or devices intended to improve watershed water quality. Regional BMPs address large mixed-use watershed areas, rather than smaller watersheds from individual development projects.

EFFECTIVENESS ASSESSMENT

To be determined

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TITLE: PET WASTE DISPENSER PROGRAM IN COUNTY PARKS
ID #: SD-WQA19

ACTIVITY IMPLEMENTATION

The County of San Diego provides pet waste bag dispensers at County Parks. The County installs, maintains, and inventories pet waste bag dispensers in its parks throughout the year. Two important goals of this program are to reduce the amount of pet waste found in parks and to educate the public on the need to cleanup after their pets. Realization of these goals will result in the reduction of pollutant loads, particularly bacteria and nutrients.

The County maintains nine dispenser stations at a total of three parks within the San Dieguito WMA, including one new park location and six new dispensers installed during the FY 2008 reporting period. Dispenser locations include:

- Felicita Park (3 new dispensers, 3 total dispensers)
- San Dieguito Park (3 new dispensers, 5 total dispensers)
- Holly Oaks Park (no new dispensers, 1 total dispenser)

TMDL APPLICABILITY

N/A

TIME SCHEDULE FOR IMPLEMENTATION

- Maintenance of existing pet waste dispensers – Ongoing
- Addition of new dispensers in County parks – Ongoing

PARTICIPATING WATERSHED COPERMITTEES

- County of San Diego

OTHER PARTICIPATING ENTITIES

- None

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Bacteria and nutrients have been identified as High Priority Water Quality Problems in the San Dieguito WMA. Parks, and pet waste in particular, are potential sources of bacteria and nutrients. Since this activity addresses a High Priority Water Quality Problem and a priority source, it is consistent with the Collective Watershed Strategy.

EFFECTIVENESS ASSESSMENT

Facility Name	FY 2008		
	# of Stations	# of Bags Used	Dog Waste Removed (lbs)
Holly Oaks Park	1	4,199	840
Felicita Park	3	12,597	2,519
San Dieguito Park*	5	20,995	4,199
Total	9	37,791	7,558

*San Dieguito County Park is counted in both the Carlsbad and San Dieguito HU Totals

Cumulatively, the County maintains nine stations among three County Parks within the San Dieguito WMA. These stations distributed approximately 37,791 bags during the FY 2008 reporting period, preventing an estimated 7,558 lbs. of pet waste from entering the WMA. Bacteria load reduction estimates are based on the number of bags distributed and the following assumptions obtained from a 2004 study completed by the County at the San Elijo Lagoon Ecological Reserve:

- Assumption 1: The average weight of pet waste per bag is approximately 0.2 lbs
- Assumption 2: In addition to the bags taken from the County's dispensers, an additional 30% of pet waste bags are brought to the parks by the pet owners themselves.

TITLE:	IRRIGATION CONTROLLER AND XERISCAPING INCENTIVE PROGRAM
ID #:	SD-WQA20

ACTIVITY IMPLEMENTATION

This activity will involve launching a pilot incentive program to encourage the use of weather-based irrigation devices and xeriscaping to reduce over-irrigation and the overall need for landscaping irrigation. Specific residential and commercial areas will be targeted and monitored to assess the efficiency of the incentive program in reducing runoff volume and pollutant loads. It is also anticipated that the program will include a component to investigate the challenges to getting residents and businesses to participate in this incentive program to better focus subsequent education and outreach efforts and determine whether broad-scale implementation should be pursued.

In the Regional Board Comment letter¹⁴, Regional Board staff indicated that this activity is a combination of smart irrigation system placements with environmentally sound landscaping and education. The Regional Board also stated that the activity addresses residents and does not appear to be a direct response to The Water Conservation in Landscaping Act of 2006. The City agrees.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Project planning and coordination is anticipated to begin in July 2010. Program launch is anticipated to occur in FY 2012.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter
- City of San Diego Water Department (to be invited to participate)
- San Diego County Water Authority (to be invited to participate)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Nutrients
- Gross Pollutants
- Dissolved Minerals

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria, nutrients, gross pollutants, and dissolved minerals as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them.

¹⁴ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

Implementation of this activity will address the High Priority Water Quality Problems by reducing dry weather flows resulting from over-irrigation.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
IRRIGATION CONTROLLER AND XERISCAPING INCENTIVE PROGRAM	
Assess the Efficiency and Effectiveness of the Xeriscaping Incentive Program	
Management Questions	<ul style="list-style-type: none"> • What is the effectiveness/efficiency of the incentive program in reducing storm water runoff volume? • What is the loading reduction of the irrigation controller and xeriscaping?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Load reduction due to system installation • Runoff reduction due to system installation
Assessment Method(s)	<ul style="list-style-type: none"> • Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction) • Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction) • Tabulation (e.g., amount of money spent on implementation and maintenance, amount of money spent on educational materials)
Recommended Data	<ul style="list-style-type: none"> • Estimated cost of site preparation, installation and start-up for site (Outcome Level 1) • Estimated cost of operation and maintenance evaluation for all sites (Outcome Level 1) • Estimated cost of effectiveness monitoring for all sites (Outcome Level 1) • Number of systems installed (Outcome Level 1) • Volume of storm water captured/diverted (Outcome Level 4) • Concentrations of COCs in rainwater or runoff (measured in rain barrel systems) (Outcome Level 4) • Percent capture of the xeriscaping systems (acres drained) (Outcome Level 4)

Objectives

The goal of this assessment is to determine the effectiveness and efficiency of using weather-based irrigation devices and xeriscaping to reduce over irrigation and the overall need for landscaping irrigation.

Analysis and Results

An effectiveness assessment of this activity is not possible at this time as project planning and coordination is scheduled to begin in July 2010. Program launch is anticipated to occur in FY 2012.

Conclusions

After project launch, specific residential areas will be targeted and monitored to assess the effectiveness and efficiency of the incentive program in reducing runoff volume and pollutant loads. The program will also include a component to investigate the challenges in convincing

residents to participate in this incentive program to better focus subsequent education and outreach efforts, and to determine whether broad-scale implementation of this activity should be pursued.

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TITLE: SWEEPING ROUTE POSTING AND ENFORCEMENT PROJECT
ID #: SD-WQA21

ACTIVITY IMPLEMENTATION

The City of San Diego (City) is developing an activity to determine the water quality benefits associated with posting previously non-posted routes for street sweeping. The City would post specific routes with no parking signage to allow for street sweeping to occur along the gutters of streets where currently vehicles are allowed to park on days that street sweeping occurs. The vehicles block the street sweepers' access to the gutters along these non-posted routes. This activity will be used to determine whether posting routes improves the effectiveness of street sweeping activities. Water quality monitoring and/or debris volume monitoring will occur to allow for assessment. This activity will occur in three watersheds, including the San Dieguito Watershed Management Area (WMA). One control site will be chosen in one watershed.

The City has adopted an integrated, tiered, and phased strategy to ensure the implementation of activities most efficient in protecting and improving water quality. This activity conforms to this strategic approach providing a phased approach. The Street Sweeping Route Posting and Enforcement Project will be piloted first to determine whether posting the routes improves the effectiveness of street sweeping activities before broad scale implementation.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

Planning is anticipated to be developed in FY 2009 and into FY 2010. Implementation is anticipated to occur in FY 2010 and FY 2011, with final assessment and conclusions being prepared in the first half of FY 2012.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Metals
- Sediment
- Trash

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Implementation of this activity will address a High Priority Water Quality Problem by targeting increased sweeping and removal of sediment and trash from the City streets.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
SWEEPING ROUTE POSTING AND ENFORCEMENT PROJECT	
Assess the Effectiveness of Posting Routes on Improving Street Sweeping Activities	
Management Questions	<ul style="list-style-type: none"> • Is posting previously un-posted sweeping routes effective in removing bacteria and sediment contaminants? • Is sweeping more frequently more effective than less frequent street sweeping in debris removal? • What is the optimal street sweeping frequency/method? • What is the impact of street sweeping on COCs in storm water runoff?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Achieve load reduction for bacteria and sediment based on monitoring information
Assessment Method(s)	<ul style="list-style-type: none"> • Monitoring (e.g., collect data to estimate loads, concentrations of COCs in runoff) • Tabulation (e.g., amount of money to post additional signage) • Quantification (e.g., load estimate comparison pre and post-signage)
Recommended Data	<ul style="list-style-type: none"> • Total pounds of debris removed (Outcome Level 4) • Total broom miles swept (Outcome Level 4) • Cost of sweeper repairs/maintenance (Outcome Level 1) • Total pounds of debris removed by land use (Outcome Level 4) • Frequency of removal correlated to pounds of debris removed (Outcome Level 1 and 4) • Post-sweeping COC concentrations in runoff (Outcome Level 4)

Objectives

The goal of the assessment is to investigate whether posting previously non-posted routes for street sweeping improves the effectiveness of street sweeping activities.

Analysis and Results

An effectiveness assessment of this activity is not possible at this time as project planning and coordination is scheduled to begin in FY 2009 and into FY 2010. Implementation is anticipated to occur in FY 2010 and FY 2011, with final assessment and conclusions being prepared in the first half of FY 2012.

Conclusions

Effectiveness and efficiency will be determined by comparing load reduction values (determined via water quality and/or debris monitoring efforts) to the cost of project installation, operation and maintenance. Conclusions will be made after the assessment is complete.

TITLE: CITY OF SAN DIEGO STRATEGIC PLAN IMPLEMENTATION
ID #: SD-WQA22

ACTIVITY IMPLEMENTATION

In spring 2006, the City of San Diego (City) initiated efforts to proactively address present and anticipated Total Maximum Daily Load (TMDL), Area of Special Biological Significance (ASBS) protection, and Municipal Storm Water Permit requirements using an integrated approach to maximize resources and achieve efficiencies. The result of these efforts was the *Strategic Plan for Watershed Activity Implementation* (Strategic Plan). Its preparation involved reviewing and assessing available monitoring and source data, land use data, and current and anticipated regulatory drivers. The review and assessment were used to prioritize the water quality problems and their sources for the Watershed Management Areas (WMAs) that the City has jurisdiction in and to geospatially prioritize the City’s portion of each of those WMAs, using best professional judgment, for activity implementation.

The Strategic Plan uses an integrated, tiered, and phased approach with regards to activity implementation. Activities that address multiple regulations simultaneously and offer multiple environmental sustainability benefits are favored over those that do not (integration). Activities that target pollutant sources and prevent pollutant generation and release in the first place are emphasized and maximized before the implementation of more expensive structural and treatment solutions (tiering). Furthermore, the City pilots activities on a limited scale to measure their effectiveness and efficiency before it implements them on a broad scale (phasing).

In addition, the City is of the opinion that the integration of storm water and urban runoff pollution management with other environmental efforts and infrastructure improvements is crucial for achieving efficiencies and cost savings in a period of seemingly perpetual municipal budget deficits. This integration is also crucial for obtaining the public’s support of storm water and urban runoff pollution management efforts.

Development of the Strategic Plan included the formulation of a list of activities to implement over a five-year period. These activities have been integrated into the various Watershed Urban Runoff Management Programs (WURMPs) that the City implements in conjunction with other local jurisdictions. Each fiscal year, the City updates its list of activities to reflect new data, schedule changes, and staffing and budgetary considerations. Many of these activities are reported as watershed water quality and education activities in the various WURMPs. However, the City has a list of project types and sources it plans to implement/target with no specific information. Because these are so conceptual in nature, the City does not report on them as specific activities. Those that are concepts not yet into development but planned for initiation within the next few years are listed in the table below.

City of San Diego Strategic Plan Activities and Projects

ACTIVITY IMPLEMENTATION	Activity Type Classification	Type	Class	Primary Target Pollutant
Tecolote Watershed "Green Street" Infiltration Retrofit	Green Street	Water Quality	Structural	Bacteria, Metals & Sediment
Mission Bay Drive Trash BMP	Inlet Trash/Debris Separation	Water Quality	Structural	Trash

ACTIVITY IMPLEMENTATION	Activity Type Classification	Type	Class	Primary Target Pollutant
County Operations Center Green Roof Project Collaboration	Roof Rain Harvesting	Water Quality	Structural	Targeted Multiple Pollutants
Erosion & Sediment Control Detention Basin	Erosion/Sediment Control BMP	Water Quality	Structural	Sediment, TSS, Metals, Pesticides & Trash
Maple Canyon Water Quality Improvement Project	Sustainable Canyons	Water Quality	Structural	Metals, TSS, Bacteria, Pesticides & Trash
"Green Mall" Infiltration Retrofit	Green Mall	Water Quality	Structural	Targeted Multiple Pollutants
Green Roof Project	Roof Rain Harvesting	Water Quality	Structural	Targeted Multiple Pollutants
Copper Brake Pad Alternative Legislative Mandate	Product Substitution	Water Quality	Non-structural	Metals
Tijuana River Solid Waste Removal and Transfer Facility	Trash/Debris Separation	Water Quality	Structural	Trash, bacteria
Wild Animal Park Demonstration Wetlands Treatment Project	Large-Scale Storm Flow Storm and Multi-Pollutant Treatment System	Water Quality	Structural	Bacteria, Dissolved Minerals, Gross Pollutants, Metals, Nutrients, Oil & Grease, Organics, Pesticides, & Sediment
Residential Landscaping Retrofit Pilot Project	Residential Landscaping Retrofit	Water Quality	Non-structural	Targeted Multiple Pollutants
Smart Irrigation and Controller Incentive/Giveaway Program	Smart Irrigation Control Incentive Program	Water Quality	Non-structural	Targeted Multiple Pollutants
Basin Plan Triennial Review	N/A	Monitoring	Non-structural	N/A
Pet Waste Dispenser Program	Doggie Bag Dispenser	Water Quality	Non-structural	Bacteria
Posted Street Sweeping Routes	Street Sweeping	Water Quality	Non-structural	Metals, Trash & TSS

ACTIVITY IMPLEMENTATION	Activity Type Classification	Type	Class	Primary Target Pollutant
Municipal Park Artificial Turf Pilot Project (1)	Artificial Turf	Water Quality	Non-structural	Targeted Multiple Pollutants
Municipal Park Artificial Turf Pilot Project (2)	Artificial Turf	Water Quality	Non-structural	Targeted Multiple Pollutants
Municipal Park Artificial Turf Pilot Project (3)	Artificial Turf	Water Quality	Non-structural	Targeted Multiple Pollutants
Targeted Mobile Hazardous Household Waste Collection Centers	Hazardous Waste Collection	Water Quality	Non-structural	Metals, Trash, Oil & Grease
Residential Rain Barrel, Downspout Disconnect, and Xeriscaping Incentive Program (1)	Downspout Disconnect; Rain Barrel Incentives	Water Quality	Non-structural	Targeted Multiple Pollutants
Residential Rain Barrel, Downspout Disconnect, and Xeriscaping Incentive Program (2)	Downspout Disconnect; Rain Barrel Incentives	Water Quality	Non-structural	Targeted Multiple Pollutants
Rain Garden, Xeriscaping, and Landscape Filtration (1)	Rain Garden, Xeriscaping, and Landscape Filtration	Water Quality	Structural or Non-Structural	Targeted Multiple Pollutants
Rain Garden, Xeriscaping, and Landscape Filtration (2)	Rain Garden, Xeriscaping, and Landscape Filtration	Water Quality	Structural or Non-Structural	Targeted Multiple Pollutants
Sediment Basin Endowment Fund (1)	Sediment Basin Endowment	Water Quality	Non-structural	Sediment
Sediment Basin Endowment Fund (2)	Sediment Basin Endowment	Water Quality	Non-structural	Sediment
Commercial Pest Control Art Turf or Product Sub	Product Sub	Water Quality	Non-Structural	Pesticides
Residential Pesticide Management Art Turf or Prod Sub	Product Sub	Water Quality	Non-Structural	Pesticides
LID Regulatory Barriers and Solutions	Municipal Code Modification	Water Quality	Non-structural	Targeted Multiple Pollutants
Roof Rain Harvesting/Incentives	Roof Rain Harvesting	Water Quality	Structural or Non-structural	Targeted Multiple Pollutants
Targeted Storm Drain Cleaning Pilot Project	Storm Drain Maintenance	Water Quality	Non-structural	Targeted Multiple Pollutants

ACTIVITY IMPLEMENTATION	Activity Type Classification	Type	Class	Primary Target Pollutant
Targeted Behavioral Training (staff)	Targeted Behavioral Training (staff)	Education	Non-structural	Specific to Activity
Rose Creek Homeless Reduction Program Sponsorship	Homeless Encampment Removal	Water Quality	Non-structural	Bacteria & Trash
Enforcement Referrals	Enforcement Referrals	Water Quality	Non-structural	Specific to Activity
Infiltration Vault/Pit Installation (1)	Infiltration Vault/Pit	Water Quality	Structural	Targeted Multiple Pollutants
Infiltration Vault/Pit Installation (2)	Infiltration Vault/Pit	Water Quality	Structural	Targeted Multiple Pollutants
Green Street Filtration	Green Street	Water Quality	Structural	TSS, Metals, Bacteria, Pesticides & PAHs
Green Lot Filtration	Green Lot	Water Quality	Structural	TSS, Metals, Bacteria, Pesticides & PAHs
Green Mall Filtration	Green Mall	Water Quality	Structural	TSS, Metals, Bacteria, Pesticides & PAHs
Limited Low-Flow Storm Drain Inlet Multi-Pollutant Treatment System (1)	Low-Flow Storm Drain Inlet Multi-Pollutant Train	Water Quality	Structural	Targeted Multiple Pollutants
Limited Low-Flow Storm Drain Inlet Multi-Pollutant Treatment System (2)	Low-Flow Storm Drain Inlet Multi-Pollutant Train	Water Quality	Structural	Targeted Multiple Pollutants
Limited Low-Flow Storm Drain Inlet Multi-Pollutant Treatment System (3)	Low-Flow Storm Drain Inlet Multi-Pollutant Train	Water Quality	Structural	Targeted Multiple Pollutants
Small-Scale Storm Flow Storage and Multi-Pollutant Treatment System (1)	Small Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants
Small-Scale Storm Flow Storage and Multi-Pollutant Treatment System (2)	Small Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants
Small-Scale Storm Flow Storage and Multi-Pollutant Treatment System (3)	Small Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants

ACTIVITY IMPLEMENTATION	Activity Type Classification	Type	Class	Primary Target Pollutant
Large Scale Storm Flow Storage and Multi-Pollutant Treatment System (1)	Large Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants
Large Scale Storm Flow Storage and Multi-Pollutant Treatment System (2)	Large Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants
Large Scale Storm Flow Storage and Multi-Pollutant Treatment System (3)	Large Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants
Hydromodification BMP (1)	Hydro mod BMP	Water Quality	Structural	Sediment & TSS
Hydromodification BMP (2)	Hydro mod BMP	Water Quality	Structural	Sediment & TSS
Hydromodification BMP (3)	Hydro mod BMP	Water Quality	Structural	Sediment & TSS
Erosion/Sediment Control BMP (1)	Erosion/Sediment Control BMP	Water Quality	Structural	Sediment & TSS
Erosion/Sediment Control BMP (2)	Erosion/Sediment Control BMP	Water Quality	Structural	Sediment & TSS
Home Auto Activities (Metals) Code Mod and Outreach	Outreach	Education	Non-structural	Metals, Oil & Grease & PAHs
Commercial Landscaping Targeted Enforcement	Targeted Enforcement	Water Quality	Non-structural	Nutrients & Pesticides
Targeting Marinas and Boat Repair as a Pollutant Source	Targeted Source	Water Quality	Structural or Non-Structural	Metals & Bacteria
Construction Contractors - Home and Commercial Improvements Inspection Generated Enforcement	Inspection Generated Enforcement	Water Quality	Non-structural	Metals, Sediment, Gross Solids & Oil & Grease
Alley Cleanup and Sweeping Pilot Project	Street Sweeping	Water Quality	Non-structural	Bacteria, Trash & Metals

TMDL APPLICABILITY

- Chollas Creek Diazinon TMDL
- Chollas Creek Dissolved Metals TMDL
- San Diego Region Beaches and Creeks Bacteria TMDL

Note: In addition to current and pending TMDLs, the Strategic Plan reviewed the Clean Water Act 303(d) list of impaired water bodies for the San Diego region and used the information to help prioritize the water quality problems, pollutant sources, and areas of the City to target for activity implementation.

TIME SCHEDULE FOR IMPLEMENTATION

Each activity has its own specific implementation schedule. However, implementation of Phase I of the Strategic Plan (the piloting stage before implementation on a broader scale) is anticipated to occur from FY 2008 through FY 2013.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- None

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- All Water Quality Problems are addressed as the goal of the Strategic Plan is to address multiple problems simultaneously as feasible to achieve efficiencies

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Subsequent to the adoption of the Municipal Storm Water Permit (Order No. R9-2007-0001) in January 2007, the Copermittees developed a Model Watershed Strategy to help guide their planning, implementation, and assessment efforts in the various WMAs. The Model Watershed Strategy assists the Copermittees in developing a Collective Watershed Strategy for each WMA. Application of the Model Watershed Strategy results in prioritizing areas within each WMA for activity implementation; selecting and prioritizing appropriate watershed activities, including monitoring and pollutant source identification studies, for each of the prioritized areas; and identifying data gaps with regards to monitoring and pollutant sources, which need to be filled to enable more refined future management decisions.

Although developed independently of each other, the City's Strategic Plan and the Copermittees' Model Watershed Strategy share the approach of reviewing the best available data (e.g., water quality and pollutant source data) and analyzing them geospatially to make management decisions regarding: (1) water quality problems to target and activities to implement; and (2) geospatial prioritization of the WMAs for focused activity implementation.

Note that the Strategic Plan is primarily an activity implementation approach. However, the conclusions that it makes regarding priority water quality problems are in harmony with the conclusions made in Section 3, Water Quality Assessment, of this WURMP.

EFFECTIVENESS ASSESSMENT

Each activity will be assessed independently, and programmatic assessment will occur annually in Section 4 of the WURMP annual report.

Assessment of the Strategic Plan is a long-term effort and will involve tracking the City's progress on piloting activities over the next five years to be able to make conclusions on how to optimize the efficiency of its storm water program to meet water quality goals and regulations.

San Dieguito Watershed Education Activity Sheets

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TITLE: RESIDENTIAL WATER CONSERVATION OUTREACH
ID #: SD-WQEA1

ACTIVITY IMPLEMENTATION

The Water Conservation in Landscaping Act of 2006 requires the State Department of Water Resources to update a model Water Efficient Landscape ordinance for adoption by local agencies.

While the new ordinance is not yet adopted, one key element has been identified: the replacement timed irrigation controllers with “smart” controllers which adjust the amount of water used based on weather conditions. While this planned activity does not directly replace controllers in the residential zones of the City, it provides for outreach through direct mail and utility bill enclosures to encourage water-wise approaches to landscaping, including the use of native plants, smart controllers and drip irrigation systems. This is beneficial from an NPDES perspective since any reduction in water usage, including the use of efficient irrigation systems, reduces the potential for runoff from over irrigation.

TMDL APPLICABILITY

None presently identified.

TIME SCHEDULE FOR IMPLEMENTATION

This project is proposed for implementation in FY 2009 and FY 2010.

PARTICIPATING WATERSHED COPERMITTEES

- City of Del Mar
- City of Solana Beach

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

OTHER WATER QUALITY PROBLEM(S) ADDRESSED

- TDS
- Nutrients

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

The San Dieguito WMA Collaborative Watershed Strategy identified bacteria as a High Priority Water Quality Problem in all areas of the WMA, including the Solana Beach Hydrologic Area (905.1). Landscaping for parks and open space areas has been identified as potential discharges of bacteria from over-irrigation. In addition, other pollutants have been identified including TDS and nutrients as potential discharges from over-irrigation. This activity addresses a High Priority Water Quality Problem and potential source of the problem within the WMA; therefore, the activity is found to be consistent with the 2008 San Dieguito WURMP.

EXPECTED BENEFITS

Primary Activity Goal – Dry Weather Load Reductions: Education and outreach to the community regarding water quality benefits that couple with water conservation activities should result in an overall reduction in runoff from over-irrigation and will reduce the pollutant loads in urban runoff.

EFFECTIVENESS ASSESSMENT

Quantification of contacts with the residents regarding water conservation water quality activities can be tracked demonstrating a Level 2 outcome (Change in Knowledge).

TITLE: LID AND WATERSHED PLANNING EDUCATION FOR COMMUNITY PLANNING AND SPONSOR GROUPS
ID #: SD-WQEA2

ACTIVITY IMPLEMENTATION

The LID and Watershed Planning Education activity involves educating local planning and sponsor groups throughout the unincorporated County on Low Impact Development (LID) and watershed planning principles, practices, and requirements. Since the recommendations of local planning and sponsor groups have some influence over whether, and under what conditions, development projects are approved within the unincorporated County, this education is intended to aid these groups in making informed recommendations on aspects of development projects that would affect watershed water quality.

During training, members of the planning or sponsor groups are provided with copies of the LID handbook, including the Management Strategies, the Appendices and the Literary Guide. Advisory groups and audience members who wish to participate are given a pre- and post-survey to assess their general knowledge of watershed planning and LID both before and after the presentation. The training sessions average fifty minutes depending upon the amount and type of questions that are asked during the presentation.

This education program was successfully developed during the spring of FY 2008, on schedule. The program consists of a PowerPoint presentation with a specific focus on the watershed(s) within which the community lies. Although County staff began conducting presentations to planning and sponsor groups in other watersheds during FY 2008, none were conducted in the San Dieguito WMA.

TMDL APPLICABILITY

This activity is not specifically implemented in compliance with a TMDL.

TIME SCHEDULE FOR IMPLEMENTATION

Local planning and sponsor groups to be trained within the San Dieguito WMA during the FY 2009 timeframe include:

- Palomar/North Mountain (TBD)
- Ramona (TBD)
- San Dieguito (8/14/2008)
- Pala-Pauma (TBD)
- Julian (TBD)
- Valley Center (9/8/2008)

PARTICIPATING WATERSHED COPERMITTEES

- County of San Diego

OTHER PARTICIPATING ENTITIES

- None

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

This activity focuses on impacts to the WMA as a result of new and re-development. Specifically, impacts from increased impervious cover and any types of pollutants associated with runoff (both urban runoff and stormwater runoff) as it traverses a variety of types of land uses.

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

New development has been identified as having potentially significant impacts on watershed health. As such, this activity is consistent with the Collective Watershed Strategy.

EFFECTIVENESS ASSESSMENT

Activity effectiveness is assessed by tracking the number of presentations conducted, the number of participants in attendance, and the number and type of materials distributed during the presentation (Level 1 Outcome). Since no presentations to groups in the San Dieguito WMA were conducted during FY 2008, there are no Level 1 outcomes to assess. The County is targeting presentations to 6 community-planning and sponsor groups during FY 2009.

As described above pre- and post-presentation survey evaluation forms are administered before and after each presentation. The pre- and post- survey form consists of five multiple choice questions and one open answer section which asks the participant to provide information on drainage within the community planning area (CPA). The survey results are calculated to obtain a mean average (in percentage) of the overall results of the survey. The pre- and post- survey results are then compared, with the anticipated result being a higher percentage obtained on the post-survey to show an increase in knowledge of watershed planning and LID principles (Level 2 Outcome). Since no presentations to groups in the San Dieguito were conducted during FY 2007-08, there are no Level 2 outcomes to assess.

TITLE: PUBLIC SERVICE ANNOUNCEMENT: KARMA, KARMA SECOND CHANCE, KARMA TOURIST
ID #: SD-WQEA3

ACTIVITY IMPLEMENTATION

The City of San Diego (City) secured a contract with a film production company, American Dream Cinema, to create three Think Blue Public Service Announcements (PSAs) specifically focused on bacteria, with gross pollutants (trash) profiled as a vector. The PSAs are entitled *Karma*, *Karma Second Chance*, and *Karma Tourist*. The goal of the PSAs is to educate the public about causes of pollution and to encourage positive behavioral change. The PSA used humor to convey the importance of the public's part in the proper disposal of trash and the impacts litter and pollution have on our waterways and beaches. The PSAs were broadcast in both English and Spanish.

According to Regional Board staff comments¹⁵, the City will need to answer effectiveness measurement questions in the annual report. Effectiveness will continue to be measured via surveys comprised of a random sample of the residents living in the San Dieguito WMA to determine whether this activity results in a change in knowledge and awareness associated with storm water issue, or results in a change in pollution-related behavior. Efficiency will be calculated by comparing measurable changes in knowledge, awareness and/or change in behavior with the cost of this activity.

The City requests that the Regional Board accept this activity as a watershed education activity for FY 2008 as the effectiveness assessment below demonstrates that this activity resulted in a change in pollutant-related behavior (Outcome Level 3) during the reporting period.

TMDL APPLICABILITY

- N/A

TIME SCHEDULE FOR IMPLEMENTATION

These PSAs were developed in FYs 2007 and 2008 and were broadcast on several TV and radio stations throughout the San Dieguito Watershed Management Area (WMA) between February and April 2008. The City will continue to work with various broadcast media outlets to distribute and air the PSAs, as well as produce additional pollutant specific spots in FY 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- None

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

¹⁵ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. The *Karma*, *Karma Second Chance*, and *Karma Tourist* Public Service Announcements will result in increased knowledge and awareness regarding bacteria and trash as a vector, and result in future load reduction of trash and debris directly and of bacteria indirectly.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito		
PUBLIC SERVICE ANNOUNCEMENT: KARMA, KARMA SECOND CHANCE, KARMA TOURIST		
Assess the Efficiency and Effectiveness of Public Service Announcements		
Management Questions	<ul style="list-style-type: none"> • What changes in awareness/attitude regarding bacteria and gross pollutants was achieved after implementation? • How efficient is this education activity based on total cost versus number of people (targeted audience) reached? 	
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Reach goal of number of listeners (radio) and homes (television) reached, based on survey results • Increased level of knowledge/attitude based on post-activity surveys 	
Assessment Method(s)	<ul style="list-style-type: none"> • Survey (e.g., administer survey to assess knowledge and attitude of participants) • Quantification (e.g., number of residents reached by PSA) 	
Data Recorded	Number of impressions made in homes through television in the San Dieguito WMA (Outcome Level 1)	608,746
	Number of impressions made to the public through radio announcements in the San Dieguito WMA (Outcome Level 1)	195,186
	Change in knowledge or attitude from survey results (Outcome Level 2)	45% increase
	Change in pollutant-related behavior from survey results (Outcome Level 3)	Yes*

*There was a 5% decrease in the percentage of residents who reported hosing down their driveways, but the few other decreases in pollutant-related behavior were percentages too small to fall within the acceptable range for statistical outcomes at a 95% confidence level. For those behaviors, the percentages of change were so small that they cannot be assumed to be a result of the activity based on this year's survey and method of assessment.

Objectives

The goal of this assessment is to determine the effectiveness of the *Karma*, *Karma Second Chance*, and *Karma Tourist* PSAs in educating the public about the causes of bacteria and trash loading, and to encourage positive behavioral change.

Analysis and Results

The PSAs were developed in the FY 2007-2008, and broadcast on several TV and radio stations throughout the San Dieguito WMA from February 2008 to April 2008. The PSAs were broadcast in both English and Spanish.

Out of 800 total residents from all WMAs who participated in a random digit-dial *Think Blue* survey, 52% of residents became aware of the *Think Blue* message by seeing the television ads, and 13% of residents heard the radio announcements in FY 2008. The respondents were selected randomly in order to fairly and accurately represent the City as a whole. To estimate the number of impressions made in the San Dieguito WMA, the total number of estimated City-wide impressions (15,680,381 for television and 5,027,700 for radio ads) was multiplied by the proportion of residents living in the San Dieguito WMA (4% of the City's total population). According to the random survey, groups most likely to have seen the television ad were: residents who knew that storm water was untreated (25%); people without college degrees (25%); and residents of the San Diego Bay (26%) and San Diego River (25%) WMAs. Groups most likely to have heard the radio ad were: residents who are white (9%); residents in the 35-49 age group (9%); and people between the ages of 18 and 35 (9%).

Conclusions

The City will work with various broadcast media outlets to continue distribution of the PSAs in FY 2008-2009. Effectiveness will continue to be measured via surveys comprised of a random sample of the residents living in the San Dieguito WMA to determine whether this activity results in a change in knowledge and awareness associated with storm water issue, or results in a change in pollution-related behavior. Efficiency will be calculated by comparing measurable changes in knowledge, awareness and/or change in behavior with the cost of this activity.

Furthermore, the *2008 San Diego Storm Water Survey* statistics were reported with a 95% confidence level for citywide results. Of the percentage of residents in all watersheds who participated in the random survey, 45% reported exposure in 2008. These results show a 5% reported decrease in the percentage of residents hosing down their driveways, and a 2% reported decrease in residents using pesticide or weed killers. While some of the percentage changes are not statistically significant, they still represent a positive behavioral change as fewer people are reportedly engaging in negative storm water practices.

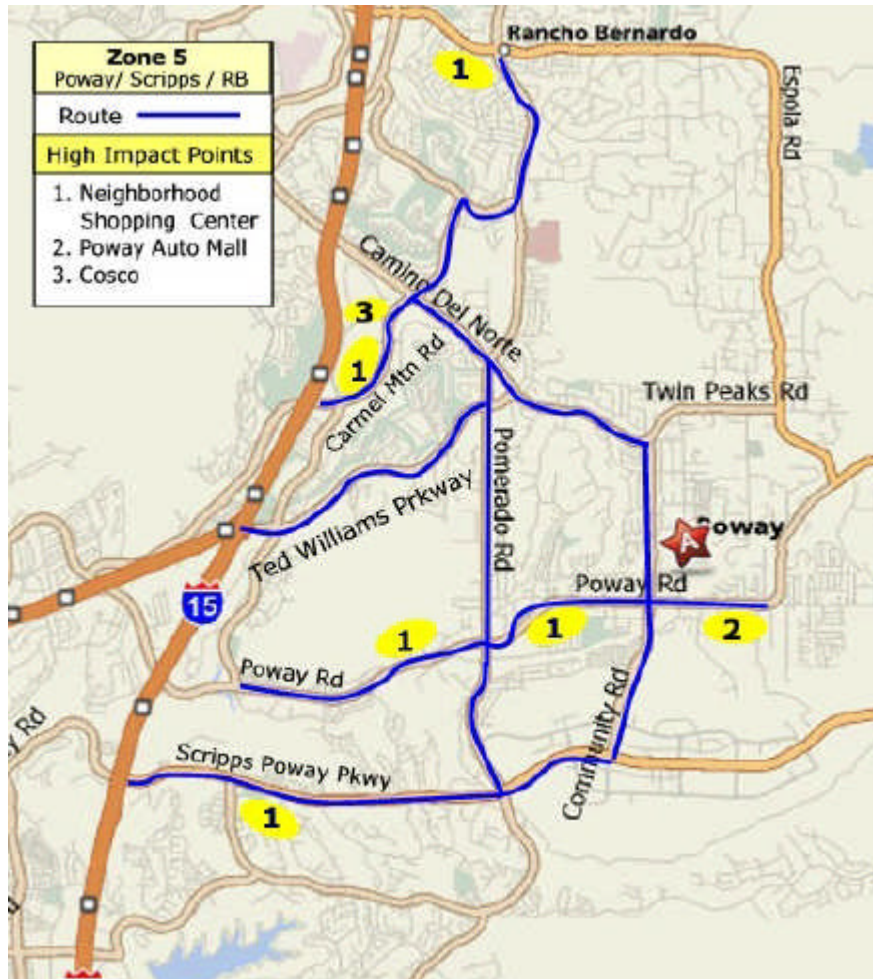
It is worth noting that the City's PSAs continue to reach new individuals in the San Dieguito WMA, as evident by the estimated number of individual impressions from television and radio announcements watershed-wide. Although a direct, statistical correlation is not clear, the number of impressions and the results of the random survey indicate that this activity is effective in reaching residents and disseminating information to raise knowledge, awareness and/or create a change in behavior regarding storm water issues. This activity will continue in future fiscal years with the hopes that a long-term assessment will provide more complete results.

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TITLE: MOBILE ADVERTISING
ID #: SD-WQEA4

ACTIVITY IMPLEMENTATION

The City of San Diego (City) has retained a contract with a mobile advertising firm to advertise *Think Blue* messages on its static billboard trucks in the San Dieguito Watershed Management Area (WMA). The City created advertisements that target behaviors associated with bacteria. The goal of mobile advertising is to educate the public about the causes of storm water pollution, and to encourage positive behavioral change. These advertisements were developed in FY 2008 and were displayed in both English and Spanish. The estimated audience was 879,200 impressions per four-week period. The following image shows the San Dieguito WMA route that was driven using a Tri-vision Adtruk.



According to Regional Board staff comments¹⁶, the City will need to answer effectiveness measurement questions and provide routes in the annual report. The routes are provided above. Effectiveness will continue to be measured via surveys comprised of a random sample

¹⁶ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

of the residents living in the San Dieguito WMA to determine whether this activity results in a change in knowledge and awareness associated with storm water issue, or results in a change in pollution-related behavior. Efficiency will be calculated by comparing measurable changes in knowledge, awareness and/or change in behavior with the cost of this activity.

The City requests that the Regional Board accept this activity as a watershed education activity for FY 2008 as the effectiveness assessment below demonstrates that this activity resulted in a change in pollutant-related behavior (Outcome Level 3) during the reporting period.

TMDL APPLICABILITY

- None

TIME SCHEDULE FOR IMPLEMENTATION

The City developed the design of the advertisements and had them placed on the company's static billboard trucks in FY 2008. The Mobile truck was driven around pre-determined routes in the San Dieguito WMA in an effort to reach targeted, high priority areas within the watershed to increase awareness and promote behavior change. The City plans to continue to implement mobile advertising in FY 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- None

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy identify bacteria as a High Priority Water Quality Problem in the San Dieguito WMA, and recommend implementing load reduction/source abatement activities to address it. Utilizing the mobile billboard truck will result in increased knowledge and awareness regarding bacteria (and trash as a vector) directly, and will promote behavior change and future load reduction of trash and debris directly and of bacteria indirectly.

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
MOBILE ADVERTISING	
Assess the Efficiency and Effectiveness of Advertisement on Static Billboard Trucks	
Management Questions	<ul style="list-style-type: none"> • What changes in awareness /attitude regarding bacteria was achieved after implementation? • How efficient is this education activity based on total cost versus number of people (targeted audience) reached?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Reach pre-set percentage of residents within target watershed • Increased level of knowledge/attitude based on post-activity surveys

Assessment Method(s)	<ul style="list-style-type: none"> • Survey (e.g., administer survey to assess knowledge and attitude of participants) • Quantification (e.g., number of residents reached by advertisements) 	
Data Recorded	Number of impressions in the San Dieguito WMA (Outcome Level 1)	43,960 DEC*
	Change in knowledge or attitude based on survey results (Outcome Level 2)	45% increase
	Change in pollutant-related behavior based on survey results (Outcome Level 3)	Yes**
Recommended Data	Advertisement costs (Outcome Level 1)	

*The Daily Effective Calculation (DEC) was calculated using a weighted average of traffic flow, including adjustments for daily traffic, intersection and pedestrian viewship, and vehicle load (1.3 occupants over age 18 per car). The initial estimated total impressions per 4 week period in the FY 2008 were 879,200 impressions.

**There was a 5% decrease in the percentage of residents who reported hosing down their driveways, but the few other decreases in pollutant-related behavior were percentages too small to fall within the acceptable range for statistical outcomes at a 95% confidence level. For those behaviors, the percentages of change were so small that they cannot be assumed to be a result of the activity based on this year's survey and method of assessment.

Objectives

The goal of this assessment is to determine the effectiveness of mobile advertising to educate the public about the causes of storm water pollution and to encourage positive behavioral change.

Analysis and Results

The mobile advertisements were developed in FY 2008 and displayed throughout the San Dieguito WMA in both English and Spanish. The estimated audience was 879,200 total impressions per 4-week period. Out of 800 randomly selected residents from all WMAs who participated in the *Think Blue* survey, approximately 33% of residents became aware of the *Think Blue* message via mobile advertising in FY 2008.

Conclusions

The City plans to continue to implement mobile advertisements in FY 2009. Effectiveness will continue to be measured via surveys comprised of a random sample of the residents living in the San Dieguito WMA to determine whether this activity results in a change in knowledge and awareness associated with storm water issue, or results in a change in pollution-related behavior. Efficiency will be calculated by comparing measurable changes in knowledge, awareness and/or change in behavior with the cost of this activity.

The *2008 San Diego Storm Water Survey* statistics were reported with a 95% confidence level for citywide results. Of the percentage of residents in all watersheds who participated in the random survey, 45% reported exposure to mobile advertising in 2008. These results show a 5% reported decrease in the percentage of residents hosing down their driveways, and a 2% reported decrease in residents using pesticide or weed killers. While some of the percentage changes are not statistically significant, they still represent a positive behavioral change as fewer people are reportedly engaging in negative storm water practices.

Furthermore, the increase in impressions made in FY 2008 also indicates that this activity is effective in reaching residents and disseminating information to raise knowledge, awareness and/or create a change in behavior regarding storm water issues. This activity will continue in

future fiscal years with the hopes that a long-term assessment will provide more complete results.

TITLE: SAN DIEGUITO WMA INSPECTION OUTREACH
ID #: SD-WQEA5

ACTIVITY IMPLEMENTATION

The City of San Diego (City) plans to implement an outreach program in support of all of its planned inspection activities within the San Dieguito Watershed Management Area (WMA). The purpose of this activity is to provide information on the inspections and their planned frequency to the affected facilities and community. The City delineated a specific area within the San Dieguito WMA to conduct the targeted inspections based on several factors, such as monitoring data, facility clustering, and proximity to other watershed activities being conducted. Discharges cleaned up, behaviors corrected, and sources abated will also be reported.

This activity was originally identified as “Restaurant Inspection Outreach” in the 2008 San Dieguito WURMP; however, the City broadened its focus from solely restaurant facilities to include additional outreach efforts for all its inspections in the WMA.

Furthermore, the City acknowledges Regional Board staff’s comments¹⁷ that recorded data and assessment is needed regarding inspection outreach efforts and that the inspections must be above and beyond JURMP requirements. Regional Board staff also commented on the activity being given credit for one year and that the activity is expected to become “business and usual.” Inspections under this activity occurred to facilities that were not inspected under the JURMP program.

Based on the above comment, the City is not requesting credit as a watershed education activity due to the strict assessment requirements in the Municipal Permit for education activities. Individual reporting of this activity will cease with this annual report. Future inspection outreach efforts will be reported concurrently with the City’s targeted inspection activities.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

This activity will be performed concurrently with all facility inspections.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

¹⁷ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

The San Dieguito WMA inspections target the following high priority water quality problems:

- Bacteria – Restaurants
- Nutrients – Landscaping Related

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria and nutrients as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them.

EFFECTIVENESS ASSESSMENT

Due to the nature of this activity, effectiveness assessment is not being conducted for this activity. The City is not requesting credit as a watershed education activity due to the strict assessment requirements in the Municipal Permit for education activities.

TITLE: COMMUNITY-BASED SOCIAL MARKETING OUTREACH PILOT PROJECT
ID #: SD-WQEA6

ACTIVITY IMPLEMENTATION

The City of San Diego (City) found that research indicated that an emerging public education field called “Community Based Social Marketing” (CBSM) has been used successfully to increase knowledge and change behaviors in environmental sustainability programs throughout the United States. CBSM is a relatively new area of environmental social science that relies heavily on the scientific method, which includes comprehensive research, pilot programs, data gathering, and assessment measures. The City has retained several professional research consultants to develop and initiate the CBSM Pilot Project. Research, observations, and surveys will be conducted, with outreach interventions and assessment methods to follow. Potential results will include recommendations for education and outreach strategies, which may include education, structural interventions, public participation, incentives and specific messaging.

In the Regional Board Comment letter¹⁸, Regional Board staff indicated that the previous activity sheet lacked adequate information. If this project is started in the future, adequate information will be provided to the Regional Board.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacterial TMDL

TIME SCHEDULE FOR IMPLEMENTATION

This project is currently on-hold pending the results of CBSM projects in other watersheds. If other CBSM projects prove to be effective, this project may be started.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- San Diego Coastkeeper – project supporter

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria
- Gross Pollutants (Trash)

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City’s *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria and gross pollutants as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them. This activity will result in both increased knowledge and awareness regarding bacteria and trash as a vector, as well as future load reductions of trash and debris directly and of bacteria indirectly.

¹⁸ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

EFFECTIVENESS ASSESSMENT

Watershed: San Dieguito	
PROPOSED COMMUNITY-BASED SOCIAL MARKETING (CBSM) PILOT STUDY	
Assess the Effectiveness of the Pilot Study	
Management Questions	<ul style="list-style-type: none"> • What changes in awareness/attitude regarding trash and bacteria were achieved after event/educational materials distribution?
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> • Reach goal number of people within the watershed, based on survey results • Increased level of knowledge/attitude based on post-activity surveys
Assessment Method(s)	<ul style="list-style-type: none"> • Survey (e.g., administer survey to assess knowledge and attitude of participants) • Quantification (e.g., number of residents reached by pamphlet)
Recommended Data	<ul style="list-style-type: none"> • Number of educational materials distributed in business areas (Outcome Level 1) • Change in knowledge or attitude (Outcome Level 2)

This activity is currently on hold pending the results of CBSM projects in other watersheds; therefore, an effectiveness assessment is not possible at this time. If the City does go forward with this activity, and effectiveness assessment will be conducted and submitted to the Regional Board.

TITLE: OUR WATER, OUR RESPONSIBILITY PAMPHLET DISTRIBUTION
ID #: SD-WQEA7

ACTIVITY IMPLEMENTATION

The City of San Diego (City) printed an internally produced pamphlet to be made available at all City lakes as an insert inside a map of the area. The pamphlet includes information about the nine City-owned and operated reservoirs and explains how the public can protect drinking water supplies and natural habitat. Additionally, the pamphlet explains that the habitat surrounding three of the nine reservoirs is protected under the Multiple Species Conservation Program (MSCP) and that by protecting the land around the reservoirs, the community’s water supply is kept safe and an important refuge for wildlife is provided. Approximately 611 pamphlets were distributed at Lake Hodges in the San Dieguito Watershed Management Area (WMA) in FY 2008.

The Regional Board provided comments¹⁹ on the March 2008 WURMPs based on an audit conducted by PG Engineering. One comment stated, “It appears that pollution reduction is a secondary goal to achieving compliance with the WURMP requirements, as written in the permit pollutant reduction is, or should be, the true objective of the WURMP...”

The City agrees that the true objective of its Storm Water Program, which includes the WURMPs, JURMP, and regional programs, is pollutant reduction. The City acknowledges, however, that the WURMPs were written to comply with the Municipal Permit, and therefore only those watershed activities that were anticipated to be implemented for “credit” under the Municipal Permit were included. It is worth noting that the City is implementing a *Strategic Plan for Watershed Activity Implementation* (refer to Activity Sheet SD-WQA23 for more detail) as well as numerous watershed activities, including monitoring studies and additional education activities, which do not meet the Board’s threshold for receiving “credit” under the Municipal Permit and are in addition to those that were disclosed in the March 2008 WURMPs.

This activity is one of those not previously included in the March 2008 WURMP because it does not meet the strict requirements for effectiveness assessment for watershed education activities; however, it is an important component of the City’s Storm Water Program and is therefore being included in this annual report. Furthermore, these pamphlets have been distributed over a number of years and the City plan to continue their distribution.

TMDL APPLICABILITY

- N/A

TIME SCHEDULE FOR IMPLEMENTATION

- City staff will continue to the pamphlets in FY 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

¹⁹ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Implementation of this focused education activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria.

EFFECTIVENESS ASSESSMENT

The City distributed 611 pamphlets in FY 2008. Due to the nature of this activity, effectiveness assessment is not being conducted for this activity. The City may continue to report on the distribution of the pamphlet to permit applications, but is not requesting credit as a watershed education activity due to the strict assessment requirements in the Municipal Permit for education activities.

TITLE: SAN DIEGUITO WATERSHED EROSION AND SEDIMENT CONTROL
POSTER
ID #: SD-WQEA8

ACTIVITY IMPLEMENTATION

The City of San Diego (City) printed an internally produced bilingual (English/Spanish) erosion and sediment control poster to be handed out to development applicants receiving a grading or public improvement permit from the City. The poster is large and durable enough to be posted outdoors or indoors to serve as a steady reminder to construction managers and workers of storm water issues and Best Management Practices (BMPs). Photos on the poster illustrate erosion and sediment control measures as well as good housekeeping practices. In the FY 2005 Annual Report, this activity was originally reported as producing a flyer for distribution during pre-construction meetings; however, after further evaluation, City staff determined that it was best to reproduce an existing erosion and sediment control poster to supplement existing construction-related fact sheets already passed out by City staff as part of its Jurisdictional Urban Runoff Management Program.

City staff coordinated internally to distribute the poster in FY 2008 to development applicants receiving a grading or public improvement permit from the City. Based on the number of permits granted, the total number of posters distributed in the San Dieguito Watershed Management Area (WMA) was 13.

The Regional Board provided comments²⁰ on the March 2008 WURMPs based on an audit conducted by PG Engineering. One comment stated, “It appears that pollution reduction is a secondary goal to achieving compliance with the WURMP requirements, as written in the permit...pollutant reduction is, or should be, the true objective of the WURMP...”

The City agrees that the true objective of its Storm Water Program, which includes the WURMPs, JURMP, and regional programs, is pollutant reduction. The City acknowledges, however, that the WURMPs were written to comply with the Municipal Permit, and therefore only those watershed activities that were anticipated to be implemented for “credit” under the Municipal Permit were included. It is worth noting that the City is implementing a *Strategic Plan for Watershed Activity Implementation* (refer to Activity Sheet SD-WQA23 for more detail) as well as numerous watershed activities, including monitoring studies and additional education activities, which do not meet the Board’s threshold for receiving “credit” under the Municipal Permit and are in addition to those that were disclosed in the March 2008 WURMPs.

This activity is one of those not previously included in the March 2008 WURMP because it does not meet the strict requirements for effectiveness assessment for watershed education activities; however, it is an important component of the City’s Storm Water Program and is therefore being included in this annual report. Furthermore, these posters have been distributed over a number of years and the City plan to continue their distribution.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

²⁰ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

TIME SCHEDULE FOR IMPLEMENTATION

- City staff will continue to distribute the poster to permit applicants in FY 2009.

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Implementation of this focused education activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria.

EFFECTIVENESS ASSESSMENT

The City distributed 13 erosion and sediment control posters in FY 2008. Due to the nature of this activity, effectiveness assessment is not being conducted for this activity. The City may continue to report on the distribution of the poster to permit applications, but is not requesting credit as a watershed education activity due to the strict assessment requirements in the Municipal Permit for education activities.

TITLE: SAN DIEGUITO WATERSHED RESTAURANT BEST MANAGEMENT PRACTICES BOOKLET
ID#: SD-WQEA9

ACTIVITY IMPLEMENTATION

The City of San Diego (City) obtained permission from the County of San Diego to modify its *What's Cookin'?* booklet, a guide for food and drinking establishments to implement Best Management Practices (BMPs), for distribution to City-permitted facilities within the San Dieguito Watershed Management Area (WMA) during inspections. In the FY 2005 Annual Report, this activity was originally reported as producing a flyer; however, after further evaluation, City staff determined that a booklet to supplement existing fact sheets passed out during inspections would be more effective in educating food and drinking establishment owners and workers about storm water issues and BMPs. After review, the booklet could be kept by owners/managers for reference, and the fact sheets could be posted to serve as steady reminders to owners/managers and workers about storm water issues and BMPs.

City staff coordinated with Food Establishment Wastewater Discharge (FEWD) Program staff for distribution of the booklet in FY 2008 to City-permitted facilities. The City distributed 109 booklets in the San Dieguito WMA.

The Regional Board provided comments²¹ on the March 2008 WURMPs based on an audit conducted by PG Engineering. One comment stated, "It appears that pollution reduction is a secondary goal to achieving compliance with the WURMP requirements, as written in the permit...pollutant reduction is, or should be, the true objective of the WURMP..."

The City agrees that the true objective of its Storm Water Program, which includes the WURMPs, JURMP, and regional programs, is pollutant reduction. The City acknowledges, however, that the WURMPs were written to comply with the Municipal Permit, and therefore only those watershed activities that were anticipated to be implemented for "credit" under the Municipal Permit were included. It is worth noting that the City is implementing a *Strategic Plan for Watershed Activity Implementation* (refer to Activity Sheet SD-WQA23 for more detail) as well as numerous watershed activities, including monitoring studies and additional education activities, which do not meet the Board's threshold for receiving "credit" under the Municipal Permit and are in addition to those that were disclosed in the March 2008 WURMPs.

This activity is one of those not previously included in the March 2008 WURMP because it does not meet the strict requirements for effectiveness assessment for watershed education activities; however, it is an important component of the City's Storm Water Program and is therefore being included in this annual report. Furthermore, these booklets have been distributed over a number of years and the City plan to continue their distribution.

TMDL APPLICABILITY

- San Diego Region Beaches and Creeks Bacteria TMDL

TIME SCHEDULE FOR IMPLEMENTATION

The City will continue to coordinate with FEWD Program staff for distribution of the booklet in FY 2009 to City-permitted facilities.

²¹ Robertus, John H. "COMMENTS ON THE MARCH 2008 WATERSHED URBAN RUNOFF MANAGEMENT PLAN (WURMP) AND USEPA/REGIONAL BOARD APRIL 2008 WURMP ASSESSMENTS." September 23, 2008. (Place Number 710562: L Walsh)

PARTICIPATING WATERSHED COPERMITTEES

- City of San Diego

OTHER PARTICIPATING ENTITIES

- N/A

HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED

- Bacteria

CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the San Dieguito WMA identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it. Implementation of this focused education activity will contribute to addressing discharges, correct behaviors, and abate sources associated with bacteria.

EFFECTIVENESS ASSESSMENT

The City distributed 109 booklets in FY 2008. Due to the nature of this activity, effectiveness assessment is not being conducted for this activity. The City may continue to report on the distribution of the booklet, but is not requesting credit as a watershed education activity due to the strict assessment requirements in the Municipal Permit for education activities.