

# **Appendix A**

## **Los Peñasquitos Watershed Activity Sheets**

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# **Los Peñasquitos Watershed Water Quality Activity Sheets**

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**TITLE: LOS PEÑASQUITOS COASTAL CLEANUP DAY SPONSORSHIP**  
**ID #: LP-WQA1**

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**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 Peñasquitos Canyon Reserve site in the Los Peñasquitos Watershed Management Area (WMA). Approximately 50 volunteers removed 500 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 comments<sup>1</sup>, 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 WMA, 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 (Miramar Reservoir HA)

**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 Los Peñasquitos WMA are included in the list for cleanups and that proper sponsorship arrangements are made.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

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<sup>1</sup> 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)

**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 Los Peñasquitos 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: Los Peñasquitos		
<b>SDCK COASTAL CLEANUP DAY SPONSORSHIP</b>		
<b>Assess the Efficiency and Effectiveness of Sponsoring SDCK's Cleanup Efforts to Remove Litter from Public Areas and Waterways</b>		
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the load reduction associated with sponsorship?</li> <li>• What is the efficiency of the sponsored cleanup? (\$/person or \$/pound collected)</li> </ul>	
<b>Targeted Measurable Outcome(s)</b>	Achieve load reduction due to reduction of trash (any amount) due to trash cleanup sponsorship	
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Tabulation (e.g., number of participants)</li> <li>• Quantification (e.g., pounds of trash collected)</li> </ul>	
<b>Data Recorded</b>	Pounds of trash removed (Outcome Level 4)	500 lbs
	Number of participants (Outcome Level 1)	50
	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)	\$2.00/lb

**Objectives**

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

**Analysis and Results**

Fifty participants removed approximately 500 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 WMAs 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 \$2.00 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: LOS PEÑASQUITOS TARGETED INSPECTIONS (COMBINED)**  
**ID #: LP-WQA2, LP-WQA3 & LP-WQA5**

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**ACTIVITY IMPLEMENTATION**

The City of San Diego (City) is developing a focused inspection program to target facilities that are potential sources of High Priority Water Quality Problems. In the Los Peñasquitos Watershed Management Area (WMA), the City is focusing on restaurant and animal-related facilities<sup>2</sup>. The long-term goals of the program are:

- Determine the most efficient frequency of inspections to ensure proper Best Management Practices 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 Los Peñasquitos 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.

Forty-nine full inspection equivalents occurred across the Los Peñasquitos WMA at restaurants and animal-related 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

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<sup>2</sup> The 2008 Los Peñasquitos WURMP also identified landscaping-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.

inspection effort among WMAs. There were 29 full inspections conducted for restaurant facilities with 12 follow-ups and 1 “other site visit” and 11 full inspections conducted for animal-related facilities with no follow ups and 16 “other site visits.”

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 comment<sup>3</sup> 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 (animal and restaurant 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 Los Peñasquitos 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

**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 FY2012.

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<sup>3</sup> 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**

The Los Peñasquitos WMA inspections target the following high priority water quality problems:

FACILITY TYPE	HIGH PRIORITY WATER QUALITY PROBLEMS ADDRESSED
	Bacteria
Restaurants	X
Animal-related	X

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos 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 targeted inspection activity would contribute to addressing discharges, correcting behaviors, and abating sources associated with bacteria at a variety of business types.

**EFFECTIVENESS ASSESSMENT**

Watershed: Los Peñasquitos	
TARGETED FACILITY INSPECTIONS	
Assess the Efficiency and Effectiveness of Restaurant Facility Inspections	
Management Questions	<ul style="list-style-type: none"> <li>• Do inspections increase rate of BMP implementation?</li> <li>• Does increased rate of BMP implementation effect source abatement?</li> <li>• What is the optimal frequency of inspection (point of diminishing returns)?</li> <li>• Are spot inspections more effective than scheduled inspections?</li> <li>• Does enforcement alter future behavior (implementing BMPs)?</li> <li>• Does education increase rate of BMP implementation?</li> <li>• How can an estimate of source abatement be made from inspection data?</li> </ul>
Targeted Measurable Outcome(s)	<ul style="list-style-type: none"> <li>• Source abatement due to inspections</li> <li>• Increased BMP implementation due to inspections</li> </ul>

<p><b>Assessment Method(s)</b></p>	<ul style="list-style-type: none"> <li>• Inspections (e.g., track number of BMPs implemented, increased number of BMPs, number of follow-up inspections)</li> <li>• Quantification (e.g., use frequency of BMP implementation to estimate source abatement)</li> <li>• Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction)</li> <li>• Tabulation (e.g., amount of money spent on inspections, amount of money spent on educational materials)</li> <li>• Reporting (e.g., estimates of source abatement for BMPs from 3<sup>rd</sup> party data)</li> </ul>	
<p><b>Data Recorded</b></p>	<p>Number of restaurant facility full inspections, spot and scheduled (Outcome Level 1)</p>	<p>29</p>
	<p>Number of restaurant facility follow-up inspections (Outcome Level 1)</p>	<p>12</p>
	<p>Number of animal-related facility full inspections, spot and scheduled (Outcome Level 1)</p>	<p>11</p>
	<p>Number of animal-related follow-up inspections (Outcome Level 1)</p>	<p>0</p>
	<p>Total number of full equivalent inspections, spot and scheduled (Outcome Level 1)</p>	<p>49*</p>
	<p>Number of Sites Needing Corrective Action (Outcome Level 1)</p>	<p>40</p>
	<p>Number of Sites That Implemented Some Corrective Action During Inspection (BMPs implemented) (Outcome Level 3)</p>	<p>2</p>
	<p>Number of Sites with Assumed Source Abatement (based on corrective actions taken) (Outcome Level 4)</p>	<p>2</p>
	<p>Number of missing BMPs (Outcome Level 1)</p>	<p>38</p>
	<p>Total IC/IDs Observed (Outcome Level 1)</p>	<p>0</p>
	<p>Total IC/IDs Eliminated During Inspection (Outcome Level 4)</p>	<p>NA</p>
	<p><b>Recommended Data</b></p>	<ul style="list-style-type: none"> <li>• Change (%) in BMP implementation pre and post-education (Outcome Level 3)</li> <li>• Number of educational information items passed out (Outcome Level 3)</li> <li>• Potential Pollutant Discharge Assessment (Outcome Level 4)</li> </ul>

\* 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 Report<sup>4</sup> (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. Two of

<sup>4</sup> D-MAX Engineering, *Watershed-Focused Storm Water Compliance Inspection Program* (September 2008).

the 40 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
LP	40	2	0	N/A

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 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 Los Peñasquitos 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
LP	2.2	2.6	1.9	2.8

**Conclusions**

The inspections that were conducted in the Los Peñasquitos 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 Los Peñasquitos 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 #: LP-WQA4**

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**ACTIVITY IMPLEMENTATION**

The City of San Diego (City) had planned to develop a focused inspection activity to target municipal facilities within the Los Peñasquitos 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 comments<sup>5</sup>, 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

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<sup>5</sup> 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**

- Sediment/siltation/turbidity/total suspended solids
- 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 sediment as High Priority Water Quality Problems in the Los Peñasquitos WMA, and recommends implementing load reduction/source abatement activities to address them. Implementation of this focused inspection activity if pursued would contribute to addressing discharges, correcting behaviors, and abating sources associated with bacteria and sediment at municipal facilities.

**EFFECTIVENESS MEASUREMENTS**

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

<p><b>Assessment Measures, Assessment Outcome Levels &amp; Data:</b></p>	<ul style="list-style-type: none"> <li>• Number of inspections (spot and scheduled) (Outcome Level 1)</li> <li>• Number of BMPs implemented (Outcome Level 1)</li> <li>• Change (%) in BMP implementation pre and post-education (Outcome Level 3)</li> <li>• Number of missing BMPs (Outcome Level 1)</li> <li>• Number of follow-up inspections (Outcome Level 1)</li> <li>• Number of enforcement follow-ups (Outcome Level 1)</li> <li>• Number of educational information items passed out (Outcome Level 1)</li> <li>• How much money spent on inspections (follow ups, initial inspections, enforcement actions)? (Outcome Level 1)</li> <li>• Literature review or other information to provide data to estimate load reductions (Outcome Level 3)</li> <li>• Dataset of discharges abated (Outcome Level 4)</li> </ul>
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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, which would trigger an effectiveness assessment at that time.

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**TITLE: ALPHA PROJECT FOR THE HOMELESS, INC. CLEANUP  
SPONSORSHIP**  
**ID #: LP-WQA6**

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**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.

Alpha Project conducted a cleanup at five locations (Torrey Pines State Beach, Peñasquitos Lagoon, Canyon Lake Drive, 11200 Cedar Road and Cedar Place, and 10050 Mountain Road) in the Los Peñasquitos Watershed on 5 May, 16 May, and 2 July 2007. Approximately four workers per location participated to remove approximately 1.63 tons of trash and debris in FY 2008.

According to Regional Board staff comments<sup>6</sup>, 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 WMA, 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 (Miramar Reservoir HA)

**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

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<sup>6</sup> 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 Los Peñasquitos 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 Alpha Project result in load reduction of trash and debris directly and of bacteria indirectly.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>									
<b>ALPHA PROJECT FOR THE HOMELESS, INC. CLEANUP</b>									
<b>Assess the Efficiency and Effectiveness of Sponsoring Alpha Project's Cleanup Efforts</b>									
<b>to Remove Litter from Public Areas and Waterways</b>									
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the load reduction associated with sponsorship?</li> <li>• What is the efficiency of the sponsored cleanup? (\$/person or \$/pound)</li> </ul>								
<b>Targeted Measurable Outcome(s)</b>	Achieve load reduction of bacteria (any amount) due to trash cleanup sponsorship								
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Tabulation (e.g., number of participants)</li> <li>• Quantification (e.g., pounds of trash collected)</li> </ul>								
<b>Data Recorded</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Pounds of trash removed (Outcome Level 4)</td> <td style="width: 30%; text-align: center;">3,260 lbs</td> </tr> <tr> <td>Number of participants (Outcome Level 1)</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Amount of money spent on cleanups (Outcome Level 1)</td> <td style="text-align: center;">\$1662.60</td> </tr> <tr> <td>Activity Efficiency (Total Cost/Total Pounds Removed)</td> <td style="text-align: center;">\$0.51/lb</td> </tr> </table>	Pounds of trash removed (Outcome Level 4)	3,260 lbs	Number of participants (Outcome Level 1)	20	Amount of money spent on cleanups (Outcome Level 1)	\$1662.60	Activity Efficiency (Total Cost/Total Pounds Removed)	\$0.51/lb
Pounds of trash removed (Outcome Level 4)	3,260 lbs								
Number of participants (Outcome Level 1)	20								
Amount of money spent on cleanups (Outcome Level 1)	\$1662.60								
Activity Efficiency (Total Cost/Total Pounds Removed)	\$0.51/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**

Alpha Project conducted a cleanup at five locations in the Los Peñasquitos WMA with an estimated four workers per location. The total cost of this cleanup was \$1662.60 and approximately 3,260 pounds of trash and debris were removed. Thus, there was a 3,260 pound load reduction associated with this cleanup, with an efficiency of \$0.51 per pound collected. The efficiency was calculated by dividing the total cost of the cleanup (\$1662.60) by the pounds of trash removed (3,260).

**Conclusions**

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

<b>TITLE:</b>	<b>MARINDUSTRY DRIVE HYDRODYNAMIC SEPARATOR</b>
<b>ID #:</b>	<b>INSTALLATION LP-WQA7</b>

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**ACTIVITY IMPLEMENTATION**

A hydrodynamic separator will be installed in Marindustry Drive, which is located on the north side of Miramar road in the Los Peñasquitos Watershed Management Area (WMA), as a retrofit within the existing storm drain system. The hydrodynamic separator will be used to reduce the amount of trash, sediment, oils and grease that makes its way into the storm drain system. The separator will be located directly in line with a 24-inch storm drain before it discharges into the nearby canyon. The 24-inch line is the main collector in a small storm drain network that collects storm flows from the industrial and business park, associated parking lots and Marindustry Drive. Due to the industrial activity and high vehicular traffic, storm events typically result in the accumulation of a variety of trash, sediments, leaves, dirt oil, petroleum, and other chemical pollutants in the storm drain system. Observations will be field verified in January 2008 during a site visit and factored in the selection making process.

This project was originally identified as “Hydrodynamic Separator Installation” in the 2008 Los Peñasquitos WURMP.

According to Regional Board staff comments<sup>7</sup>, 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.”

The Regional Board further noted that the City needs to provide additional information about the selected location and effectiveness. Information about the location is discussed in this section. The effectiveness will be discussed once post-installation monitoring is completed.

**TMDL APPLICABILITY**

- San Diego Region Beaches and Creeks Bacteria TMDL (Miramar Reservoir HA)

**TIME SCHEDULE FOR IMPLEMENTATION**

The project will be transferred to Engineering and Capital Projects in September 2008 for purposes of managing the project through final design, construction and project closeout. Project design is anticipated to continue through FY 2009. Funding for construction will be identified in FY 2009. The design phase of previously initiated projects is taking longer than anticipated; thus the schedule for this project has been updated and construction is expected to be completed in FY 2013 instead of being initiated in FY 2010. Water quality monitoring will be conducted before and after construction to assess the effectiveness in reducing runoff volume and pollutant loading.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

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<sup>7</sup> 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)

**OTHER PARTICIPATING ENTITIES**

- San Diego Coastkeeper – project supporter

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Sediment
- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos WMA identify bacteria and sediment 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 both high priority water quality problems by capturing dry weather flows and slowly releasing them to allow for the settlement of pollutants for later removal.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>	
<b>MARINDUSTRY DRIVE HYDRODYNAMIC SEPARATOR INSTALLATION</b>	
<b>Assess the Efficiency and Effectiveness of Flow Control Detention Basin</b>	
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the load reduction efficiency of the hydrodynamic separator?</li> <li>• How effective is the hydrodynamic separator at reducing priority pollutant loads?</li> </ul>
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Reduction in priority pollutant loads</li> </ul>
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Inspections (e.g., ensure the hydrodynamic separator is working as designed)</li> <li>• Quantification (e.g., calculate estimated load reduction)</li> <li>• Monitoring (e.g., collect special study information to estimate load reduction)</li> <li>• Tabulation (e.g., amount of money spent on implementation and maintenance)</li> <li>• Reporting (e.g., estimates of load reduction from 3<sup>rd</sup> party data)</li> </ul>
<b>Recommended Data</b>	<ul style="list-style-type: none"> <li>• Number of inspections</li> <li>• Change (%) in load reduction pre and post-implementation (Outcome Level 4)</li> <li>• How much money spent on inspections and maintenance (Outcome Level 1)</li> </ul>

**Objectives**

The goal of this assessment is to determine the effectiveness and efficiency of the hydrodynamic separator installation in reducing the amount of trash, sediment, oils and grease that makes its way into the storm drain system.

**Analysis and Results**

An effectiveness assessment of this activity is not possible at this time because the hydrodynamic separator has not been installed and therefore no priority pollutant load data have been collected.

**Conclusions**

It is anticipated that the hydrodynamic separator will be installed in FY 2013. Water quality monitoring will be conducted before and after installation to assess the effectiveness of the hydrodynamic separator in reducing bacteria and sediment loading. Effectiveness and efficiency will be determined by comparing future load reductions to the cost of installation, maintenance and monitoring efforts.

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**TITLE: I LOVE A CLEAN SAN DIEGO TRASH CLEANUP SPONSORSHIP**  
**ID #: LP-WQA8**

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**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 April 26<sup>th</sup>, 2008. The City of San Diego sponsored the Peñasquitos Canyon site in the Los Peñasquitos Watershed Management Area (WMA). Approximately 178 volunteers removed 1,664 pounds of trash and debris and recycled 236 pounds of trash and debris over a 12 mile area.

In addition, the City of Poway sponsored three sites in the Los Peñasquitos WMA including the inland creek bed cleanup on May 10, 2008. . Approximately 40 volunteers removed 404 pounds of trash and debris and collected 136 pounds of recyclable material.

According to Regional Board staff comments<sup>8</sup>, the Copermittees would receive credit only for the first trash cleanup event in the fiscal year. The Copermittees, while reporting on multiple trash cleanup events that occurred within the WMA, acknowledges that it will only receive credit for the first one completed in the fiscal year. However, the Copermittees also acknowledge that trash cleanups provide more benefits than simply removal of trash – these are events that also involve education, outreach and public participation. Therefore, the Copermittees may choose to continue to implement and report on more than one trash cleanup each year.

The Copermittees 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 Copermittees will coordinate with ILACSD staff to ensure that sites within the Los Peñasquitos WMA are included in the list for cleanups and that proper sponsorship arrangements are made.

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<sup>8</sup> 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
- City of Poway

**OTHER PARTICIPATING ENTITIES**

- ILACSD
- Volunteers from general public

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City and San Diego’s *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos 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**

<b>Watershed: Los Peñasquitos</b>		
<b>ILACSD CREEK TO BAY CLEANUP SPONSORSHIP</b>		
<b>Assess the Efficiency and Effectiveness of Sponsoring ILACSD’s Cleanup Efforts to Remove Litter from Public Areas and Waterways</b>		
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the load reduction associated with sponsorship?</li> <li>• What is the efficiency of the sponsored cleanup? (\$/person or \$/lb collected)</li> </ul>	
<b>Targeted Measurable Outcome(s)</b>	Load reduction due to reduction of trash (any amount) due to trash cleanup sponsorship	
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Tabulation (e.g., number of participants)</li> <li>• Quantification (e.g., pounds of trash collected)</li> </ul>	
<b>Data Recorded – City of San Diego</b>	Pounds of trash removed (Outcome Level 4)	1,664 lbs
	Pounds of trash recycled (Outcome Level 4)	236 lbs
	Total pounds of trash removed and recycled (Outcome Level 4)	1,900 lbs
	Number of participants (Outcome Level 1)	178
	Total money spent on cleanups for all six watersheds (Outcome Level 1)	\$5,000
	Estimated amount of money spent on cleanups for Los Peñasquitos River watershed (Outcome Level 1)	\$833.33*
	Activity Efficiency (Total Cost/Total Pounds Removed)	\$0.44/lb

<b>Data Recorded – City of Poway</b>	Was the program in compliance? (Outcome Level 1)	Yes
	Pounds of trash removed (Outcome Level 4)	404 lbs
	Pounds of trash recycled (Outcome Level 4)	136 lbs
	Total pounds of trash removed and recycled (Outcome Level 4)	540 lbs
	Number of participants (Outcome Level 1)	40
	Money spent on cleanup (Outcome Level 1)	\$500
	Activity Efficiency (Total Cost/Total Pounds Removed)	\$0.93/lb

\*Calculated by dividing total sponsorship cost by six watersheds.

**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 26 April 2008, 178 participants removed approximately 1,664 pounds of trash and debris and recycled approximately 236 pounds of trash and debris from numerous sites in the Los Peñasquitos WMA. The average estimated sponsorship cost of \$833.33 per watershed was calculated by dividing the total cost of cleanups (\$5,000) by six watersheds. Thus, there was a 1,900 pound load reduction associated with sponsorship per yearly event, with an efficiency of \$0.44 per pound collected. The efficiency was calculated by dividing the estimated sponsorship cost for the Los Peñasquitos WMA by the pounds of trash removed.

On May 10, 2008, 40 participants removed approximately 404 pounds of trash and debris and recycled approximately 136 pounds of trash and debris from numerous sites in the Los Peñasquitos WMA. The cost of sponsorship was \$500. Thus, there was an efficiency of \$0.93 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.

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<b>TITLE:</b>	<b>MIRA MESA LIBRARY BIORETENTION AND INFILTRATION RETROFIT</b>
<b>ID #:</b>	<b>LP-WQA9</b>

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**ACTIVITY IMPLEMENTATION**

New catch basins will be constructed within the parking area at the Mira Mesa Library in the Peñasquitos Watershed Management Area (WMA) to capture parking lot and building runoff. These catch basins will drain via a new storm drain system to an existing unpaved area on the site. Under existing conditions, this unpaved area is higher in elevation than the parking lot and is covered with grass. This area will be excavated approximately five feet below the parking lot elevation, lined with an impermeable liner, and backfilled around the perimeter of the excavation with a gravel reservoir to which the new storm drain system will drain. Soils and plants capable of surviving with only the seasonal rainfall typical of Southern California will be placed in the center of the excavation. The gravel reservoir will be separated from the planter area by a concrete wall. Storm runoff will pass from the gravel reservoir to the planter area via small diameter pipes through the concrete wall.

In addition, approximately four building downspouts will be retrofitted with rain barrels which will drain to raised concrete planters. The planters will allow low flows to infiltrate and pass through a subdrain system out the bottom of the planter, while high flows will pass over the surface of the planter and exit on the far end from the rain barrel. The rain barrels will be elevated and secured to capture runoff from the rainspouts. This runoff can be used to water the raised planters by gravity flow.

The project goal is to capture site runoff from the five-year, six hour storm event and convey it to the gravel reservoir / planter area where the water will exit the site via evapotranspiration. An additional project goal is to capture roof runoff with rain barrels and use it to water raised planters, with the planters providing treatment *via* infiltration for low flows or surface contact during high flows.

This project was originally identified as “Infiltration BMP Retrofit” in the 2008 Los Peñasquitos WURMP. In FY 2008 the Mira Mesa Library was selected as the site and the conceptual design was released for this project.

According to Regional Board staff comments<sup>9</sup>, 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.”

The Regional Board further noted that the City needs to provide additional information about the selected location and effectiveness. Information about the location is discussed in this section. The effectiveness will be discussed once post-installation monitoring is completed.

**TMDL APPLICABILITY**

- San Diego Region Beaches and Creeks Bacteria TMDL (Miramar Reservoir HA)

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<sup>9</sup> 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**

The project will be transferred to Engineering and Capital Projects in September 2008 for purposes of managing the project through final design, construction and project closeout. Funding for construction will be identified in FY 2009. The design phase of previously initiated projects is taking longer than anticipated; thus the schedule for this project has been updated and construction is expected to be completed in FY 2013 instead of being initiated in FY 2011. Water quality monitoring will be conducted before and after construction to assess the effectiveness in reducing runoff volume and pollutant loading.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

**OTHER PARTICIPATING ENTITIES**

- N/A

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Sediment
- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos WMA identify bacteria and sediment 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 reducing and treating runoff volume of pollutants via infiltration/retention.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>	
<b>MIRA MESA LIBRARY BIORETENTION AND INFILTRATION RETROFIT</b> <b>Assess the Efficiency and Effectiveness of Retrofitting Existing Infrastructure with Green Lot-type BMPs</b>	
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the load reduction of the bioretention area?</li> <li>• How effective are bioretention areas at reducing priority pollutant loads?</li> </ul>
<b>Targeted Measurable Outcome(s)</b>	Reduction in priority pollutant loads

<p align="center"><b>Assessment Method(s)</b></p>	<ul style="list-style-type: none"> <li>• Inspections (e.g., ensure the bioretention areas are working as designed)</li> <li>• Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction)</li> <li>• Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction)</li> <li>• Tabulation (e.g., amount of money spent on implementation and maintenance, amount of money spent on educational materials)</li> <li>• Reporting (e.g., estimates of load reduction from 3<sup>rd</sup> party data)</li> </ul>
<p align="center"><b>Data Recorded</b></p>	<ul style="list-style-type: none"> <li>• Number of inspections</li> <li>• Change (%) in load reduction pre and post-implementation (Outcome Level 4)</li> <li>• Number of educational information items passed out (Outcome Level 1)</li> <li>• How much money spent on inspections and maintenance (Outcome Level 1)</li> <li>• Dataset of load contributions for specific activities (Outcome Level 4)</li> </ul>

**Objectives**

The goal of this assessment is to determine the effectiveness of the bioretention areas in reducing pollutant loads from runoff from the Mira Mesa Library.

**Analysis and Results**

An effectiveness assessment of this activity is not possible at this time because the bioretention areas have not been installed and therefore no priority pollutant load data have been collected.

**Conclusions**

It is anticipated that the bioretention areas will be installed in FY 2013. Water quality monitoring will be conducted before and after installation to assess the effectiveness of the bioretention areas in reducing bacteria and sediment loading. Effectiveness and efficiency will be determined by comparing future load reductions to the cost of installation, maintenance and monitoring efforts.

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**TITLE: LOS PEÑASQUITOS WATERSHED MUNICIPAL RAIN BARREL  
INSTALLATION AND DOWNSPOUT DISCONNECT PROJECT**  
**ID #: LP-WQA10**

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**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 Los Peñasquitos 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 Los Peñasquitos WMA and other WMAs for this project. Based on this prioritization plan, the selected site for rain barrel installation, Mira Mesa Library, was in one of the highest priority sectors of the Los Peñasquitos 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 Mira Mesa Library 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 Mira Mesa Library a publicly accessible City facility where future capital improvement infiltration projects will be installed. There is a need to address the roof drain on the eastern side of the building which discharges through dirt to the storm drain.

The Regional Board requested in a letter<sup>10</sup> 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**

- San Diego Region Beaches and Creeks Bacteria TMDL (Miramar Reservoir HA)

#### **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 this site 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**

- Bacteria

#### **CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos 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.

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<sup>10</sup> 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**

<b>Watershed: Los Peñasquitos</b>		
<b>MUNICIPAL RAIN BARREL INSTALLATION PROGRAM</b>		
<b>Assess the Efficiency and Effectiveness of Rain Barrel Water Collection Containers at Reducing Runoff</b>		
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the effectiveness/efficiency of rain barrel/downspout disconnect systems in reducing storm water runoff volume?</li> <li>• What is the loading reduction of different systems?</li> </ul>	
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Load reduction due to rain barrel installation</li> <li>• Runoff reduction due to rain barrel installation</li> </ul>	
<b>Data Recorded</b>	Estimated cost of site preparation, installation and start-up for site	\$7,542
	Estimated cost of operation and maintenance evaluation for all sites	\$13,086
	Estimated cost of effectiveness monitoring for all sites	\$21,526
<b>Recommended Data</b>	<ul style="list-style-type: none"> <li>• Number/type of barrels installed (Outcome Level 1)</li> <li>• Volume of storm water captured/diverted (Outcome Level 4)</li> <li>• Concentrations of COCs in rainwater or runoff (measured in rain barrel systems) (Outcome Level 4)</li> <li>• Percent capture of the different systems (acres drained) (Outcome Level 4)</li> </ul>	

**Objectives**

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

**Analysis and Results**

Procurement of rain barrels and other materials began started in the second quarter of 2008. Estimated costs for rain barrel preparation, installation and start-up total approximately \$7,542. Estimated costs for operation and maintenance evaluation total \$13,086 or \$1,869 per site for each of the seven sites. Estimated costs for effectiveness monitoring total \$21,526 or \$3,075 per site for each of the seven sites. Further analysis will be completed after installation of the rain barrels through monitoring.

**Conclusions**

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

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**TITLE: AUBREY STREET CONTINUOUS DEFLECTIVE SEPARATION (CDS) DEVICE**  
**ID #: LP-WQA11**

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**ACTIVITY IMPLEMENTATION**

The City of Poway installed a continuous deflective separation (CDS) device system in the intersection of Aubrey Street and York Avenue as a retrofit within the existing storm drain system. This CDS system screens, separates, and traps debris, sediment, oil and grease, floatables, and neutral buoyant material from stormwater runoff, enhancing the treatment of runoff from existing land uses in the 41.9-acre Old Poway Park project area.

To maintain the effectiveness of the CDS device, the City of Poway’s drainage/storm water maintenance staff inspected, cleaned, and maintained the device quarterly and after any major storm events.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

Construction and maintenance of this CDS device occurred in FY 2008. Inspection, cleaning, and maintenance continue on an on-going basis.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Poway

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Sediment

**OTHER WATER QUALITY PROBLEM(S) ADDRESSED**

- Trash, debris, and floatables
- Oil and grease

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Los Peñasquitos WMA identifies sediment as a High Priority Water Quality Problem in the Miramar HA (906.2) and recommends implementing load reduction/source abatement activities to reduce sediment loads. Implementation of this activity will address this High Priority Water Quality Problem by reducing the amount of sediment entering the receiving waters. Therefore, this activity is consistent with the collective strategy for the Los Peñasquitos WMA.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>	
<b>AUBREY STREET CONTINUOUS DEFLECTIVE SEPARATION (CDS) DEVICE</b>	
<b>Assess the Efficiency and Effectiveness of the CDS Device</b>	
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the load reduction efficiency of the hydrodynamic separator?</li> <li>• How effective is the hydrodynamic separator at reducing priority pollutant loads?</li> <li>• Does the implementation of the hydrodynamic separator result in detectable receiving water quality improvements?</li> </ul>
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Reduction in priority pollutant loads</li> <li>• Receiving water quality improvement</li> </ul>
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Inspections (e.g., ensure the hydrodynamic separator is working as designed)</li> <li>• Quantification (e.g., calculate estimated load reduction)</li> <li>• Tabulation (e.g., amount of money spent on implementation and maintenance)</li> <li>• Monitoring (e.g., receiving water sampling data)</li> </ul>
<b>Recommended Data</b>	<ul style="list-style-type: none"> <li>• Number of inspections (Outcome Level 1)</li> <li>• Measurable load reduction after implementation (Outcome Level 4)</li> <li>• Amount of money spent on installation, inspections, and maintenance (Outcome Level 1)</li> <li>• Measurable water quality improvement in receiving water (Outcome Level 6)</li> </ul>

**Objectives**

The goal of this assessment is to determine the effectiveness and efficiency of the hydrodynamic separator installation in reducing the amount of trash, sediment, oils and grease that makes its way into the storm drain system.

**Analysis and Results**

Inspections of the unit occurred on October 1, 2007, and January 29, 2008. A total of 1 yard of floating trash, 1 yard of silt and heavy debris was removed from the unit, and 3 hydrocarbon-absorbent pillows required replacement. As all of the material removed would otherwise have eventually entered the receiving waters, this amount is the verified load reduction achieved by this unit.

The cost of installation of the CDS device was \$134,000.00. The cost of inspections and maintenance was \$429.95. The cost per unit of load reduction is therefore \$67,215 per yard of pollutants removed. This unit cost will decrease over time as the only additional expenses are staff time for inspections and cleaning.

Dry weather monitoring is conducted annually at a location on Community Road downstream of the CDS device. Although this monitoring location receives some commingled flows from additional locations, data will be reviewed to determine any trends in receiving water quality. Because long-term data are needed to show significant effects on water quality, these results are not yet available.

**TITLE: GATE DRIVE DETENTION BASIN MODIFICATION**  
**ID #: LP-WQA12**

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**ACTIVITY IMPLEMENTATION**

The City of Poway retrofitted the Gate Drive flood control detention basin to remove pollutants from storm water. The Gate Drive basin is located in the South Poway Business Park and was originally constructed as a flood control device. Conversion of the basin to a storm water treatment device provides treatment of storm water runoff from more than 38 businesses, including many existing businesses not subject to SUSMP requirements.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

Conversion of the basin was completed on June 18, 2008. Operation and maintenance of the basin are ongoing.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Poway

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Sediment

**OTHER WATER QUALITY PROBLEM(S) ADDRESSED**

- Nutrients
- Metals

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Los Peñasquitos WMA identifies sediment as a High Priority Water Quality Problem in the Miramar HA (906.2) and recommends implementing load reduction/source abatement activities to reduce sediment loads. Implementation of this activity will address this High Priority Water Quality Problem by reducing the amount of sediment entering the receiving waters. Therefore, this activity is consistent with the collective strategy for the Los Peñasquitos WMA.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>	
<b>GATE DRIVE DETENTION BASIN MODIFICATION</b>	
<b>Assess the Efficiency and Effectiveness of the Detention Basin Modification</b>	
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What is the sediment load reduction efficiency of the detention basin?</li> <li>• How effective is the detention basin at reducing priority pollutant loads?</li> <li>• Does the implementation of detention basin result in a detectible receiving water quality improvement?</li> </ul>

<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Reduction in priority pollutant loads</li> <li>• Receiving water quality improvement</li> </ul>
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Inspections (e.g., ensure the detention basin retrofits are working as designed)</li> <li>• Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction)</li> <li>• Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction)</li> <li>• Tabulation (e.g., amount of money spent on implementation and maintenance)</li> </ul>
<b>Recommended Data</b>	<ul style="list-style-type: none"> <li>• Number of inspections (Outcome Level 1)</li> <li>• Inflow and outflow monitoring data (Outcome Level 5)</li> <li>• Estimated load reduction (Outcome Level 4)</li> <li>• Amount of money spent on construction, inspections, and maintenance (Outcome Level 1)</li> </ul>

**Objectives**

The goal of this assessment is to determine the effectiveness and efficiency of the Gate Drive detention basin modification in reducing pollutant levels in storm water runoff from the South Poway Business Park.

**Analysis and Results**

Completion of this basin occurred during the dry season. As no rain events occurred between completion of the basin and the end of the reporting period, no operation or sampling data were available. Sampling results from other similar basins converted and operated by the City of Poway, however, demonstrate substantial reductions in turbidity, total suspended solids, ammonia nitrogen, nitrate nitrogen, orthophosphate phosphorus, total organic carbon, and metals. It is expected that similar results will be seen when sampling is conducted during the next reporting period. Maintenance effort will also be recorded.

The cost of basin conversion was \$131,000, of which \$63,900 was paid by a developer of a site that uses the basin for storm water treatment. As noted above, no maintenance costs occurred during this reporting period.

**Conclusions**

Inflow and outflow sampling will be conducted annually. These data will be used to determine the effectiveness of the basin at reducing pollutants, and to estimate load reductions.

**TITLE: MEDIAN IRRIGATION SYSTEM REPLACEMENT**  
**ID #: LP-WQA13**

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**ACTIVITY IMPLEMENTATION**

As part of the review of water quality issues within the Los Peñasquitos WMA, 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 comment<sup>11</sup> 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.

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 to be implemented in FY 2009.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Del Mar
- City of Solana Beach

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<sup>11</sup> 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)

**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 Los Peñasquitos WMA Collaborative Watershed Strategy identified bacteria as a High Priority Water Quality Problem in all areas of the WMA. 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 problem within the WMA; therefore, the activity is found to be consistent with the 2008 Los Peñasquitos 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 MEASUREMENTS**

Once implemented, the City of Del Mar 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: PARK AND OPEN SPACE IRRIGATION AND CONTROLLERS**  
**ID #: LP-WQA14**

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**ACTIVITY IMPLEMENTATION**

As part of the review of water quality issues within the Los Peñasquitos WMA, 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 comment<sup>12</sup> 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.

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 to be implemented in FY 2009.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Del Mar

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<sup>12</sup> 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)

**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 Los Peñasquitos WMA Collaborative Watershed Strategy identified bacteria as a High Priority Water Quality Problem in all areas of the WMA. 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 problem within the WMA; therefore, the activity is found to be consistent with the 2008 Los Peñasquitos 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 MEASUREMENTS**

Once implemented, the City of Del Mar 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: OVER IRRIGATION/DRY WEATHER RUNOFF REDUCTION**  
**ID #: LP-WQA15**

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**ACTIVITY IMPLEMENTATION**

The Los Peñasquitos WMA has seen exceedances for various pollutants during the Dry Weather Monitoring Program. A pilot homogenous source type area will be selected to evaluate the load reduction potential related to reducing irrigation runoff and dry weather runoff. The homogenous source type area will also have an isolated drainage area and will be an appropriate size for analyzing targeted outcomes to determine if implemented BMPs are effective. Planned activities in the pilot area include:

- Identify all of the sources within the focus area (any entity that uses water or conducts activities) and determine the initial threat to water quality profiles. The threat to water quality will include assumed pollutant generating activities, assumed runoff generating activities, and assumed pollutant types.
- Monitor urban runoff flows based upon the drainage system. This may involve installing flow meter(s) downstream of the focus area, visual observations during and after regular business hours, grab samples for watershed water quality problem constituents, and other methods yet to be determined to assist in this activity.
- Obtain water use information. This will consist of coordinating with the water department to collect historic water use information regarding all of the sources within the focus area.
- Perform inspections/investigations to gather information for the assessment and refinement of the threat to water quality profiles. If applicable, changes will be made to inspection/investigation forms to refine the process and collect appropriate information in a more effective manner.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

This activity is scheduled for plan development during FY 2009 and implementation in FY 2010.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Poway

**OTHER PARTICIPATING ENTITIES**

All Los Peñasquitos WURMP Copermittees will provide insight and advice on planning the pilot program, and feedback on how the program is going during the implementation process.

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria
- Sediment

**OTHER WATER QUALITY PROBLEM(S) ADDRESSED**

- Nutrients

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Los Peñasquitos WMA identifies bacteria as a High Priority Water Quality Problem throughout the WMA and sediment in the Miramar hydrologic area. Bacteria and sediment have been identified as potential discharges from over-irrigation. This activity addresses a High Priority Water Quality Problem and potential source of the problems within the watershed; therefore, the activity is found to be consistent with the 2008 Los Peñasquitos WURMP.

**EXPECTED BENEFITS**

This project is expected to result in a beneficial impact to watershed water quality through the reduction in urban runoff from over-irrigation in the focus area.

**EFFECTIVENESS MEASUREMENTS**

To be determined once the pilot activity planning is completed.

<b>TITLE:</b>	<b>RESIDENTIAL RAIN BARREL AND XERISCAPING INCENTIVE PROGRAM</b>
<b>ID #:</b>	<b>LP-WQA16</b>

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**ACTIVITY IMPLEMENTATION**

This activity involves launching a pilot incentive program to encourage the use of residential rain barrels and low impact gardens, or xeriscaping, to reduce over-irrigation and the overall need for landscaping irrigation. Specific residential 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 to participate in this incentive program to better focus subsequent education and outreach efforts and determine whether broad-scale implementation should be pursued.

The City of San Diego (City) acknowledges the Regional Board staff’s comment<sup>13</sup> that data will need to be provided such as success, hardships, and effectiveness in reducing pollutants of concern. The City’s *Strategic Plan for Watershed Activity Implementation* calls for the piloting and monitoring of an irrigation runoff reduction program to combat urban pollution. Knowledge and experience gained through this activity will help the City document the benefits, limitations, and challenges of irrigation runoff reduction programs as an urban runoff pollution control before implementation on a broader scale throughout its jurisdiction in meeting Municipal Permit and TMDL requirements. Once the education and experience information is gathered and the effectiveness of the activity assessed, it will be provided to the Regional Board in subsequent annual reporting.

**TMDL APPLICABILITY**

San Diego Region Beaches and Creeks Bacteria TMDL (Miramar Reservoir HA)

**TIME SCHEDULE FOR IMPLEMENTATION**

Project planning and coordination is anticipated to begin in July 2009. 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
- Sediment
- Dissolved Minerals

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<sup>13</sup> 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 Los Peñasquitos WMA identify sediment, bacteria, and dissolved minerals 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 High Priority Water Quality Problems by reducing dry weather flows resulting from over-irrigation.

**EFFECTIVENESS ASSESSMENT**

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

**Objectives**

The goal of this assessment is to determine the effectiveness and efficiency of using residential rain barrels 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 2009. 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: INCREASE TRASH RECEPTACLES AND DOGI-POT STATIONS**  
**ID #: LP-WQA17**

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**ACTIVITY IMPLEMENTATION**

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

In addition, the City of San Diego plans to increase the number of pet waste and trash receptacles within the Los Peñasquitos WMA by targeting areas frequented by pet owners such as municipal parks and/or street and sidewalk right of ways in the Los Peñasquitos 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.

The City of San Diego 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 by using a tiered approach. The Pet Waste Bag Dispenser Program prevents pollutant release.

In the Regional Board Comment letter<sup>14</sup>, Regional Board staff indicated that this activity may not be given credit in the future if there is already a similar activity elsewhere in the watershed in implementation phase. While the City of San Diego acknowledges that it may not receive credit for duplicative watershed activity efforts, the City of San Diego plans to implement this activity to assess its effectiveness under the prevue of its *Strategic Plan for Watershed Implementation*.

**TMDL APPLICABILITY**

San Diego Region Beaches and Creeks Bacteria TMDL

**TIME SCHEDULE FOR IMPLEMENTATION**

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

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Poway
- City of San Diego

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria

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<sup>14</sup> 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)

**OTHER WATER QUALITY PROBLEM(S) ADDRESSED**

- Nutrients

Both the Collective Watershed Strategy for the Los Peñasquitos WMA and the City of San Diego’s *Strategic Plan for Watershed Activity Implementation* identify bacteria as a High Priority Water Quality Problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address them. Implementation of this activity will address a High Priority Water Quality Problem by reducing exposed pet waste carrying bacteria.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>	
<b>PET WASTE BAG DISPENSER PROGRAM</b>	
<b>Assess the Effectiveness of Pet Waste Bag Disposal</b>	
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• Does the implementation of dog waste bag dispenser stations help reduce bacteria?</li> <li>• What is the estimated load reduction efficiency of implementing dog waste bag dispenser stations?</li> <li>• Can the number of pet waste bags dispensed be related to a reduction in bacteria in run-off from the park?</li> </ul>
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Number of pet waste bags distributed</li> <li>• Reduction in bacteria in run-off from the park</li> </ul>
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction)</li> <li>• Quantification (e.g., use number of pet waste disposal bags and their average weight to calculate estimated load reduction)</li> <li>• 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)</li> </ul>
<b>Recommended Data</b>	<ul style="list-style-type: none"> <li>• Change (%) in load reduction pre and post-implementation (Outcome Level 4)</li> <li>• How much money spent on implementation and maintenance</li> <li>• Dataset of load contributions for specific activities (Outcome Level 4)</li> <li>• Change in use of pet waste disposal bags (Outcome Level 3)</li> </ul>

**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: SWEEPING ROUTE POSTING AND ENFORCEMENT**  
**ID #: LP-WQA18**

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**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 Los Peñasquitos 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 (Miramar Reservoir HA)

**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
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos WMA identify bacteria and sediment 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 targeting increased sweeping and removal of sediment and trash from the City streets.

**EFFECTIVENESS ASSESSMENT**

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

**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.

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**TITLE: CITY OF SAN DIEGO STRATEGIC PLAN IMPLEMENTATION**  
**ID #: LP-WQA19**

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**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**

<b>ACTIVITY IMPLEMENTATION</b>	<b>Activity Type Classification</b>	<b>Type</b>	<b>Class</b>	<b>Primary Target Pollutant</b>
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
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
Municipal Park Artificial Turf Pilot Project (1)	Artificial Turf	Water Quality	Non-structural	Targeted Multiple Pollutants

**FY 2008 Los Peñasquitos WURMP Annual Report – January 2009**

<b>ACTIVITY IMPLEMENTATION</b>	<b>Activity Type Classification</b>	<b>Type</b>	<b>Class</b>	<b>Primary Target Pollutant</b>
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
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

ACTIVITY IMPLEMENTATION	Activity Type Classification	Type	Class	Primary Target Pollutant
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
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

<b>ACTIVITY IMPLEMENTATION</b>	<b>Activity Type Classification</b>	<b>Type</b>	<b>Class</b>	<b>Primary Target Pollutant</b>
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.

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**TITLE: LOS PEÑASQUITOS LAGOON TMDL – WATERSHED PHASE I  
SEDIMENT SOURCE IDENTIFICATION STUDY**

**ID #: LP-WQA20**

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**ACTIVITY IMPLEMENTATION**

The City of Poway, the City of Del Mar, the City of San Diego (City), the County of San Diego, and the California Department of Transportation have been identified by the San Diego Regional Water Quality Control Board (RWQCB) as dischargers (Dischargers) under the total maximum daily load (TMDL) for sediments into Los Peñasquitos Lagoon. The San Diego RWQCB is developing the sediment/siltation TMDL based on the State Water Resources Control Board (SWRCB) Section 303(d) listing of the lagoon for impairments due to sediment/siltation. The purpose of the TMDL is to meet the water quality objectives sediment/siltation for the lagoon and to restore its beneficial uses.

As part of the TMDL development, the San Diego RWQCB required the identified Dischargers to conduct monitoring of the lagoon under Investigation Order No. R9-2006-076 (Investigation Order). The Monitoring Program focused on water quality and sediment characteristics in the lagoon and from the three tributaries into the lagoon. The data obtained from the Investigation Order are to be used to further develop the TMDL model that will assign load allocations to each Discharger. The San Diego RWQCB is currently assessing the TMDL development schedule and is in discussion with Dischargers regarding steps forward.

Based on the results of the Investigation Order, storm flows from the Carroll Canyon watershed subarea appear to represent the majority of sediment loading to the lagoon. This conclusion is based on measured total suspended solids (TSS) concentrations and storm flows monitored during the 2007–2008 Wet Weather Season. The mean concentration of TSS for all the three storms monitored were higher at the Carroll Canyon monitoring point compared to the Los Peñasquitos Creek and Carmel Creek sites. The results identify Carroll Canyon as the largest portion of the overall sediment load. The results and findings of the Investigation Order are presented in the TMDL Monitoring for Sedimentation/Siltation in Los Peñasquitos Lagoon Report completed by Weston Solutions, Inc.

Based on these findings, the City has determined that additional investigations are needed to identify the potential sources of sediment loading from Carroll Canyon. In addition, the location of the sampling points for the Peñasquitos Creek and Carmel Creek drainage areas require further assessment to better evaluate the sediment load data. The location of the monitoring sites above and below the existing sediment management basins and restoration projects will likely provide a more complete picture of sediment loading from these tributaries to the lagoon. The sampling location for Carroll Canyon is above the existing sediment control basins that are located upstream of the lagoon.

The additional investigations planned by the City include a two-phase sediment source study in the Carroll Canyon watershed subarea. Phase I consists of a visual survey for evidence of sediment loading within the subarea, including inspections of larger storm sewer outfalls into the canyons. Phase II of the source investigation is a water quality sampling program and modeling effort to identify significant sources of sediment and loading potential to the creek and lagoon. The modeling component of the Phase II will assess the effectiveness of various solutions to address the identified sources.

The Phase I investigation will build upon the results of the Investigation Order and will focus on sources of sediment and siltation. However, both phases of the source investigation will also report sources of other priority water quality problems, if identified during the Phase I survey, in accordance with the Integrated Watershed Approach presented in the City's *Strategic Plan for Watershed Activity Implementation*.

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 new activity conforms to this strategic approach by completing a baseline evaluation of the sediment issue in the WMA prior to selecting watershed activities for implementation. The Phase I investigation follows a tiered approach that considers both water quality and pollutant source data to identify potential management actions in the watershed.

**TMDL APPLICABILITY**

- Los Peñasquitos Lagoon Sediment/Siltation TMDL

**TIME SCHEDULE FOR IMPLEMENTATION**

The work plan for Phase I will be developed in FY 2009. Future steps that will be considered in FY 2009 – 2010 include:

1. Find out what other constituents of concern are entering the watershed and lagoon through the MS4.
2. Model Carroll Canyon and its subdrainages.
3. Complete design and implementation of BMPs that have multiple benefits (e.g., reduce bacteria, sediment, and flow rates).
4. Depending on the outcome of the Phase I investigation, a detention basin may be constructed on City-owned land at the southwestern end of Roselle Street. The detention basin would utilize an area that impounds runoff within a natural canyon under existing conditions and increase use of the impoundment by decreasing the size of the outlet and improving the condition and/or height of the embankment which currently impounds the flow. The new outlet would detain low flows with a perforated concrete weir structure while allowing larger flows to spill over the weir and enter the existing storm drain system as it does under existing conditions. The project would also include a new access road to maintain the basin inlet works and an emergency spillway to pass flows in excess of the existing storm drain system capacity. This project may be advanced to design in FY 2009 pending the results of the Phase I investigation.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

**OTHER PARTICIPATING ENTITIES**

- N/A

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Los Peñasquitos WMA identifies sediment as a High Priority Water Quality Problem in the WMA. Furthermore, the City's *Strategic Plan for Watershed Activity Implementation* identified data gaps in the information known on sediment sources in the WMA. This study will fill this data gap by identifying sources of sediment in the WMA which will help the City address High Priority Water Quality Problems by targeting sediment sources and determining the effectiveness of various solutions to address the identified sources.

**EFFECTIVENESS ASSESSMENT**

Effectiveness is not being assessed as this study is not an implementation or education activity. This study is filling the pollutant source data gaps identified above. Future activities implemented in response to the results of this study, such as the Roselle Street detention basin, will be reported as separate activities should they be implemented.

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# Los Peñasquitos Watershed Education Activity Sheets

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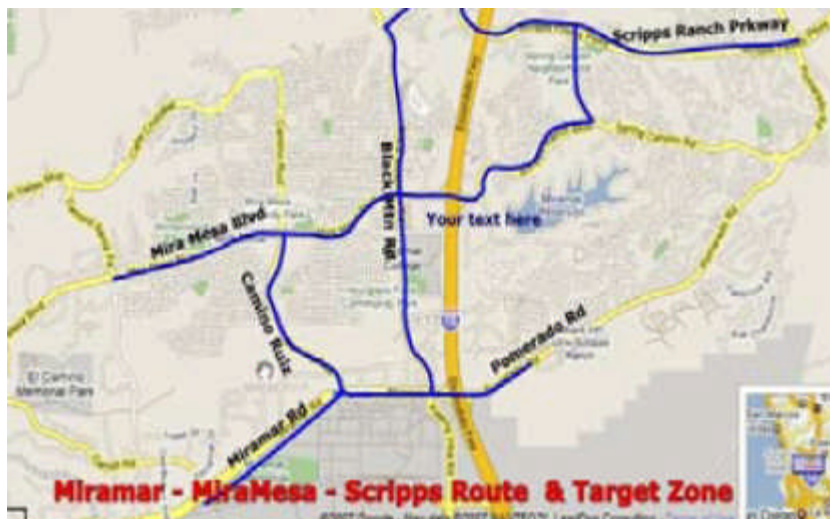
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**TITLE: MOBILE ADVERTISING**  
**ID #: LP-WQEA1**

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**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 Los Peñasquitos Watershed Management Area (WMA). The City created advertisements that target behaviors associated with bacteria and/or sediment. 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 757,420 impressions per four-week period. The following image shows the Los Peñasquitos WMA route that was driven using a Banner Billboard Truck.



According to Regional Board staff comments<sup>15</sup>, 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 of the residents living in the Los Peñasquitos 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

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<sup>15</sup> 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**

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 Los Peñasquitos 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
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City’s *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy identify bacteria and sediment as High Priority Water Quality Problems throughout the Los Peñasquitos WMA, and recommend implementing load reduction/source abatement activities to address them. Utilizing the mobile billboard truck will result in increased knowledge and awareness regarding bacteria and sediment and will promote behavior change.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>		
<b>MOBILE ADVERTISING</b>		
<b>Assess the Efficiency and Effectiveness of Advertisement on Static Billboard Trucks</b>		
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What changes in awareness /attitude regarding bacteria and sediment was achieved after implementation?</li> <li>• How efficient is this education activity based on total cost versus number of people (targeted audience) reached?</li> </ul>	
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Reach pre-set percentage of residents within target watershed</li> <li>• Increased level of knowledge/attitude based on post-activity surveys</li> </ul>	
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Survey (e.g., administer survey to assess knowledge and attitude of participants)</li> <li>• Quantification (e.g., number of residents reached by advertisements)</li> </ul>	
<b>Data Recorded</b>	Number of impressions in the Los Peñasquitos WMA (Outcome Level 1)	37,871 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**
<b>Recommended Data</b>	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 estimated total for impressions per 4 week period in the FY 2008 was 757,420.

\*\*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 the FY 2008 and displayed throughout Los Peñasquitos WMA in both English and Spanish. The estimated audience was 757,420 total impressions per 4-week period. Out of 800 randomly selected residents from all watersheds 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 Los Peñasquitos 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. The 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: PUBLIC SERVICE ANNOUNCEMENT: KARMA, KARMA SECOND CHANCE, KARMA TOURIST**  
**ID #: LP-WQEA2**

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**ACTIVITY IMPLEMENTATION**

The City of San Diego (City) retained 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 comments<sup>16</sup>, 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 Los Peñasquitos 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**

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

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

**OTHER PARTICIPATING ENTITIES**

- None

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria

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<sup>16</sup> 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 Los Peñasquitos 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 result in future load reduction of trash and debris directly and of bacteria indirectly.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>		
<b>PUBLIC SERVICE ANNOUNCEMENT: KARMA, KARMA SECOND CHANCE, KARMA TOURIST</b>		
<b>Assess the Efficiency and Effectiveness of Public Service Announcements</b>		
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What changes in awareness/attitude regarding bacteria and gross pollutants was achieved after implementation?</li> <li>• How efficient is this education activity based on total cost versus number of people (targeted audience) reached?</li> </ul>	
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Reach goal of number of listeners (radio) and homes (television) reached, based on survey results</li> <li>• Increased level of knowledge/attitude based on post-activity surveys</li> </ul>	
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Survey (e.g., administer survey to assess knowledge and attitude of participants)</li> <li>• Quantification (e.g., number of residents reached by PSA)</li> </ul>	
<b>Data Recorded</b>	Number of impressions made in homes through television in Los Peñasquitos WMA (Outcome Level 1)	2,451,081
	Number of impressions made to the public through radio announcements in Los Peñasquitos WMA (Outcome Level 1)	785,906
	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 Los Peñasquitos 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 Los Peñasquitos 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 Los Peñasquitos WMA (16% 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 Los Peñasquitos 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 Los Peñasquitos 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 survey do 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: LOS PEÑASQUITOS WMA INSPECTION OUTREACH**  
**ID #: LP-WQEA3**

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**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 Los Peñasquitos 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 Los Peñasquitos 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 Los Peñasquitos 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 comments<sup>17</sup> 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

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<sup>17</sup> 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 Los Peñasquitos WMA inspections target the following high priority water quality problems:

FACILITY TYPE	HIGH PRIORITY WATER QUALITY PROBLEMS ADDRESSED
	Bacteria
Restaurants	X
Animal-related	X

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

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

**EFFECTIVENESS ASSESSMENT**

The City distributed 379 booklets in the Los Peñasquitos WMA during 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.

<b>TITLE:</b>	<b>LID AND WATERSHED PLANNING EDUCATION FOR COMMUNITY PLANNING AND SPONSOR GROUPS</b>
<b>ID #:</b>	<b>LP-WQEA4</b>

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**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 FY2007-2008, 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 Los Peñasquitos 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 Los Peñasquitos WMA during the FY 2009 timeframe include:

- Lakeside (TBD)
- Ramona (TBD)

**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 Los Peñasquitos WMA were conducted during FY 2008, there are no Level 1 outcomes to assess. The County is targeting presentations to 2 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 Los Peñasquitos WMA were conducted during FY 2008, there are no Level 2 outcomes to assess.

**TITLE: INFILTRATION BMP RETROFIT OUTREACH**  
**ID #: LP-WQEA5**

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**ACTIVITY IMPLEMENTATION**

This Infiltration BMP Education and Outreach Activity will support the planned implementation of an infiltration project in the Los Peñasquitos WMA to reduce runoff volume. The activity will complement the Mira Mesa Library Bioretention and Infiltration Retrofit Project (see Activity Sheet LP-WQA09). Educational materials, such as infiltration specific brochures and facts sheets will be developed, which will explain the importance of the project as well as the water quality benefits that will be realized. Outreach strategies and methods will include direct public interaction, stakeholder meetings, information sessions, print media and website postings. Ongoing educational materials will be developed and implemented once the project is finalized. 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.

The City acknowledges the Regional Board staff’s comment<sup>18</sup> that the previous activity sheet for this project did not present the appropriate information or adequate project detail. In FY 2008, a specific project was chosen for this BMP retrofit outreach activity (see Activity Sheet LP-WQA09 for more detailed information on the Mira Mesa Library Bioretention and Infiltration Retrofit Project). A more specific time schedule for implementation of the Mira Mesa project is provided in that activity sheet.

**TMDL APPLICABILITY**

- San Diego Region Beaches and Creeks Bacteria TMDL

**TIME SCHEDULE FOR IMPLEMENTATION**

In FY 2008, the City retained several outreach consultants, including at least one firm that specializes in Community Outreach. The conceptual design for the Mira Mesa Library Bioretention and Infiltration Retrofit project occurred in FY 2008. Specific outreach planning will occur in FY 2009, with implementation, outreach, and evaluation occurring at least one year prior to the start of construction and through construction. The design phase of previously initiated projects is taking longer than anticipated; thus the schedule for this project has been updated and construction is expected to be completed in FY 2013 instead of being initiated and constructed in FY 2010.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

**OTHER PARTICIPATING ENTITIES**

- N/A

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Sediment
- Bacteria

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<sup>18</sup> 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 Los Peñasquitos WMA identify bacteria and sediment 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 indirectly address these High Priority Water Quality Problems by contributing to positive changes in awareness and behavior as a result of the targeted outreach.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>	
<b>INFILTRATION BMP RETROFIT OUTREACH</b>	
<b>Assess the Efficiency and Effectiveness of Conducting Infiltration BMP Retrofit Outreach</b>	
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What changes in awareness are reported as a result of the targeted outreach?</li> <li>• What changes in behavior are detected as a result of the targeted outreach?</li> <li>• What amount of reduction of trash and debris are observed in the targeted education area?</li> <li>• Can changes be attributed to the changes in awareness and behavior resulting from the education/outreach component of the activity?</li> <li>• How do the survey results change pre- and post- activity implementation?</li> </ul>
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Achieve increased awareness of bacteria and TMDL issues (e.g., involve 50% of local households during LID development and construction)</li> <li>• Achieve higher incidence of knowledge and attitude in local population (by comparing survey results)</li> </ul>
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Survey (e.g., administer survey to assess knowledge and attitude of participants)</li> <li>• Quantification (e.g., count observable behavior of participants in program)</li> <li>• Monitoring (e.g., water quality monitoring at base of targeted watershed)</li> <li>• Tabulation (e.g., amount of money spent on education and outreach, number of residents and households reached)</li> <li>• Reporting (e.g., estimates of load reduction based on 3<sup>rd</sup> party data, number of individuals or households reached)</li> </ul>
<b>Assessment Measures, Assessment Outcome Levels &amp; Data</b>	<ul style="list-style-type: none"> <li>• Number of stakeholders, residents and businesses reached (Outcome Level 1)</li> <li>• Change in knowledge and attitude based on survey data (Outcome level 2)</li> <li>• Change in behavior based on survey data (Outcome Level 3)</li> <li>• Dataset of load contributions for specific activities (Outcome Level 4)</li> <li>• Volume of pollutants removed from study area (Outcome Level 4)</li> <li>• Reduction of bacteria and trash entering LID (Outcome Level 4)</li> </ul>

An effectiveness assessment for this activity is not possible at this time as this activity has yet to occur. Implementation of this activity is anticipated to begin at least one year prior to the start of construction of the Mira Mesa Bioretention and Infiltration Project, which is scheduled for completion in FY 2013. When implemented, an effectiveness assessment will be conducted for this activity and submitted to the Regional Board.

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**TITLE: Residential Water Conservation Outreach**  
**ID #: LP-WQEA6**

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**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 of Del Mar, 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 FY 2010.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Del Mar

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria

**OTHER WATER QUALITY PROBLEM(S) ADDRESSED**

- TDS
- Nutrients
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Los Peñasquitos WMA Collaborative Watershed Strategy identified bacteria as a High Priority Water Quality Problem in all areas of the WMA. Landscaping for parks and open space areas has been identified as potential discharges of bacteria and sediment from over-irrigation. In addition, other non-priority 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 Los Peñasquitos 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 MEASUREMENTS**

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

**TITLE:** Over Irrigation/Dry Weather Runoff Reduction Education  
**ID #:** LP-WQEA7

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**ACTIVITY IMPLEMENTATION**

This activity will be implemented in conjunction with LP-WQA15 - A pilot homogenous source type area will be selected to evaluate the load reduction potential related to reducing irrigation runoff and dry weather runoff. Education and outreach will be conducted as part of the pilot project and will include educating residents and/or businesses in the project area on ways to reduce irrigation runoff.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

This activity is scheduled for plan development during FY 2009 and implementation in FY 2010.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Poway

**OTHER PARTICIPATING ENTITIES**

All Los Peñasquitos WURMP Copermittees will provide insight and advice on planning the pilot program, and feedback on how the program is going during the implementation process.

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria

**OTHER WATER QUALITY PROBLEM(S) ADDRESSED**

- Nutrients
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Los Peñasquitos WMA identifies bacteria as a High Priority Water Quality Problem and recommends implementing load reduction/source abatement activities to address it. Bacteria have been identified as potential discharges from over-irrigation. This activity addresses a High Priority Water Quality Problem and potential source of the problem within the watershed, and therefore, the activity is consistent with the 2008 Los Peñasquitos WURMP.

**EXPECTED BENEFITS**

Beneficial impact to watershed water quality through the reduction in urban runoff, from over-irrigation as well as a positive impact to the community through watershed education in the focused areas.

**EFFECTIVENESS MEASUREMENTS**

To be determined once the pilot activity planning is completed.

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**TITLE: TRANSIT SHELTER ADVERTISEMENTS**  
**ID #: LP-WQEA8**

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**ACTIVITY IMPLEMENTATION**

The City of San Diego (City) has secured a contract with an outdoor advertising company, CBS Outdoor, to display *Think Blue* advertisements on transit shelters located in the Los Peñasquitos Watershed Management Area (WMA). The City created advertisements that target behaviors associated with bacteria and sediment. The goal of the advertisements 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 throughout the Los Peñasquitos WMA in both English and Spanish.

This project was inadvertently left out of the Los Peñasquitos WURMP, submitted to the Regional Board in March 2008, and is therefore a newly reported activity. During the search for location for a similar activity in other WMAs, suitable locations were found in this WMA. Transit shelter *Think Blue* advertisements were located at two locations in the Los Peñasquitos WMA in FY 2008:

- Miramar Rd. at Nobel Dr.
- Mira Mesa Blvd. at Black Mountain Rd.

The audience number for the advertisements varied by location.

According to Regional Board staff comments<sup>19</sup>, the City will need to answer effectiveness measurement questions and provide locations of the advertisements and transit centers in the annual report. Locations for the advertisements have been provided above. Effectiveness will continue to be measured via surveys comprised of a random sample of the residents living in the Los Peñasquitos 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**

The City plans to continue to implement transit shelter advertisements in FY 2009.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

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<sup>19</sup> 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)

**OTHER PARTICIPATING ENTITIES**

- N/A

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos WMA identify bacteria and sediment as High Priority Water Quality Problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address them. The outdoor advertisements will result in increased knowledge and awareness regarding bacteria and sediment, thereby resulting in future load reductions of trash and debris directly and of bacteria indirectly.

**EFFECTIVENESS ASSESSMENT**

<b>Watershed: Los Peñasquitos</b>		
<b>TRANSIT SHELTER AND BILLBOARD ADVERTISEMENTS</b>		
<b>Assess the Efficiency and Effectiveness of Using Transit Shelter and Billboard Advertisements to Raise Awareness</b>		
<b>Management Questions</b>	<ul style="list-style-type: none"> <li>• What changes in awareness /attitude regarding bacteria and sediment was achieved after implementation?</li> <li>• How efficient is this education activity based on total cost versus number of people (targeted audience) reached?</li> </ul>	
<b>Targeted Measurable Outcome(s)</b>	<ul style="list-style-type: none"> <li>• Reach pre-set percentage of residents within target watershed</li> <li>• Increased level of knowledge/attitude based on post-activity surveys</li> </ul>	
<b>Assessment Method(s)</b>	<ul style="list-style-type: none"> <li>• Survey (e.g., administer survey to assess knowledge and attitude of participants)</li> <li>• Quantification (e.g., number of public reached by ads)</li> </ul>	
<b>Data Recorded</b>	Number of transit shelter advertisements impressions in the Los Peñasquitos WMA (Outcome Level 1)	92,450 DEC*
	Number of public participants reached by billboard advertisements in all WMAs (Outcome Level 1)	7%
	Change in knowledge or attitude (Outcome Level 2)	45% increase
	Change in pollutant-related behavior (Outcome Level 3)	Yes**
<b>Recommended Data</b>	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 viewership, and vehicle load (1.3 occupants over age 18 per car). The estimated total for impressions per 4 week period in the FY 2008 was 2,588,600 for transit shelter ads.

\*\*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 transit shelter billboards to educate the public about the causes of storm water pollution and to encourage positive behavioral change.

### **Analysis and Results**

*Think Blue* transit shelter advertisements were located at two locations in FY 2008: Miramar Road at Nobel Drive; and Mira Mesa Boulevard at Black Mountain Road. The number of public reached varied by location. Out of 800 randomly selected residents from all WMAs who participated in the *Think Blue* survey, 7% reported becoming aware of the *Think Blue* message by seeing the billboards. The respondents were selected randomly in order to fairly and accurately represent the City as a whole. According to the survey, groups most likely to have seen the billboard were: residents under 50 years of age, (38%) compared to seniors (24%); Latino women (49%) compared to white men (31%) and white women (32%); and Latino renters (50%) compared to white homeowners (29%).

### **Conclusions**

Implementation of the *Think Blue* transit shelter advertisements and billboards will continue in the FY 2009. Effectiveness will continue to be measured via surveys comprised of a random sample of the residents living in the Los Peñasquitos 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 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.

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.

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**TITLE: OUR WATER, OUR RESPONSIBILITY PAMPHLET DISTRIBUTION**  
**ID #: LP-WQEA9**

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**ACTIVITY IMPLEMENTATION**

The City of San Diego (City) printed an internally produced pamphlet to be made available at all San Diego 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 the Miramar Reservoir in the Los Peñasquitos Watershed Management Area (WMA) in FY 2008.

The Regional Board provided comments<sup>20</sup> 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 LP-WQA19 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 WURMPs 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 distribute the pamphlets in FY 2009.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of San Diego

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<sup>20</sup> 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)

**OTHER PARTICIPATING ENTITIES**

- N/A

**HIGH PRIORITY WATER QUALITY PROBLEM(S) ADDRESSED**

- Bacteria
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

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

**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: LOS PEÑASQUITOS WATERSHED EROSION AND SEDIMENT CONTROL POSTER**  
**ID #: LP-WQEA10**

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**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 Los Peñasquitos Watershed Management Area (WMA) was 35.

The Regional Board provided comments<sup>21</sup> 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 LP-WQA19 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 WURMPs 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

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<sup>21</sup> 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**

- Sediment/siltation/turbidity/total suspended solids
- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Los Peñasquitos 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 35 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: LOS PEÑASQUITOS WATERSHED RESTAURANT BEST  
MANAGEMENT PRACTICES BOOKLET**  
**ID#: LP-WQEA11**

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**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 Los Peñasquitos Watershed 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 379 booklets in the Los Peñasquitos WMA.

The Regional Board provided comments<sup>22</sup> 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 LP-WQA19 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 (Miramar Reservoir HA)

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<sup>22</sup> 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**

The City will continue to coordinate with Food Establishment Wastewater Discharge (FEWD) Program staff for distribution of the booklet in FY 2009 to City-permitted facilities.

**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 Los Peñasquitos 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 379 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.