

**ATTACHMENT 1**  
FY2010-11  
ACTIVITY SHEETS FOR THE  
TIJUANA RIVER WMA

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**TITLE: PET WASTE BAG DISPENSER PROGRAM IN COUNTY PARKS**  
**ID #: TJ-001**

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**ACTIVITY DESCRIPTION**

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

The County's jurisdictional goal for this five-year permit cycle is to increase the total number of parks with pet waste bag dispensers by 100% (i.e., from 26 parks to 52 parks).

**ACTIVITY IMPLEMENTATION**

**FY 2007-08 ACTIVITY IMPLEMENTATION**

During the FY 2007-08 reporting period the County of San Diego maintained 12 dispenser stations at three parks within the Tijuana River Watershed.

**FY 2008-09 ACTIVITY IMPLEMENTATION**

During the FY09-10 reporting period the County of San Diego maintained 12 dispenser stations at three parks within the Tijuana River Watershed.

**FY 2009-10 ACTIVITY IMPLEMENTATION**

No additional stations were added in FY 2009-10. During this reporting period the County of San Diego continued to maintain 12 dispenser stations at three parks in the Tijuana River Watershed.

**FY 2010-11 ACTIVITY IMPLEMENTATION**

No additional stations were added in FY 2010-11. During this reporting period the County of San Diego continued to maintain 12 dispenser stations at three parks in the Tijuana River Watershed. The parks and the number of dispensers include:

1. Lake Morena Park (4 dispensers)
2. Pine Valley Park (2 dispensers)
3. Potrero Park (6 dispensers)

**TMDL APPLICABILITY**

N/A

**TIME SCHEDULE FOR IMPLEMENTATION**

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

**PARTICIPATING WATERSHED COPERMITTEES**

- County of San Diego

**OTHER PARTICIPATING ENTITIES**

- None

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

- Bacteria
- Nutrients

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Bacteria and nutrients have been identified as priority water quality problems in the Tijuana River Watershed. Parks have been identified as potential sources of these pollutants. Since this activity addresses a priority water quality problem and a priority source, it is consistent with the collective watershed strategy.

**EXPECTED BENEFITS**

This activity will result in reductions of bacteria and nutrients from County parks.

**EFFECTIVENESS MEASUREMENTS**

As described in the table below, activity effectiveness is measured by tracking the number of pet waste bags distributed at each County park on an annual basis (Level 1). Bacteria load reductions (Level 4) are estimated based on the number of bags distributed and the following assumptions obtained from a 2004 study completed by the County at the San Elijo Lagoon Ecological Reserve:

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

**TABLE 1**

<b>Facility Name</b>	<b># of Stations</b>	<b># of Bags Used</b>	<b>Waste Reduction Lbs.</b>
Lake Morena	4	10,760	2,152
Pine Valley	2	6,840	1,368
Potrero	6	18,500	3,700
<b>Total</b>	<b>12</b>	<b>36,100</b>	<b>7,200</b>

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**TITLE: LAND ACQUISITIONS FOR TIJUANA RIVER WMA**  
**ID #: TJ-002**

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**ACTIVITY DESCRIPTION**

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

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

**ACTIVITY IMPLEMENTATION FY2007-08**

During the FY2007-08 reporting period there was 5.52 acres of land acquired in the Tijuana River WMA.

**ACTIVITY IMPLEMENTATION FY2008-09**

During the FY2008-09 reporting period there was 113.39 acres of land acquired in the Tijuana River WMA.

**ACTIVITY IMPLEMENTATION FY2009-10**

During the FY2008-09 reporting period there was 187.00 acres of land acquired in the Tijuana River WMA.

**ACTIVITY IMPLEMENTATION FY2010-11**

During the FY2010-11 reporting period there were no lands acquired in the Tijuana River WMA.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

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

**PARTICIPATING WATERSHED COPERMITTEES**

- County of San Diego

**OTHER PARTICIPATING ENTITIES**

- U.S. Fish and Wildlife Service
- California Department of Fish and Game
- Private land owners

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- Conservation groups
- Community planning groups
- Developers

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

- All

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

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

**EFFECTIVENESS ASSESSMENT**

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

**TITLE: I Love a Clean San Diego Trash Sponsorship**  
**ID #: TJ-003**

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**ACTIVITY DESCRIPTION**

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 30, 2011. The City of San Diego (City) sponsored the Otay Mesa Street Sweep site in the Tijuana River Watershed Management Area (WMA). Approximately 22 volunteers removed 900 pounds of trash and debris and recycled 600 pounds of trash and debris in a one mile area.

**TMDL APPLICABILITY**

Not applicable

**TIME SCHEDULE FOR IMPLEMENTATION**

The Creek to Bay Cleanup has historically been held in April of each year. Prior to the event, the City will coordinate with ILACSD staff to ensure that a Tijuana River WMA site is included in the list for cleanup.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- I Love A Clean San Diego
- Volunteers from the general public

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

- Bacteria/Pathogens
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River WMA identify trash and bacteria as high priority water quality problems throughout the WMA, and recommend implementing load reduction/source abatement activities to address it.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) What is the load reduction associated with sponsorship?
- 2) What is the efficiency of the trash cleanup? (\$/pound collected)?

**Targeted Measurable Outcome(s)**

- 1) Achieve load reduction due to reduction of trash (any amount) due to trash cleanup sponsorship

**Assessment Method(s)**

- 1) Tabulation (e.g., number of participants)
- 2) Quantification (e.g., pounds of trash collected)

**Data Recorded**

- Pounds of trash removed (Outcome Level 4): 900 lbs
- Pounds of trash recycled (Outcome Level 4): 600 lbs
- Total pounds of trash removed and recycled (Outcome Level 4): 1,500 lbs
- Number of participants (Outcome Level 1): 22
- Amount of money spent on cleanups for all six watersheds (Outcome Level 1): \$30,000
- Estimated amount of money spent on cleanups for the Tijuana River watershed (Outcome Level 1): \$5,000
- Efficiency (Total Cost/Total Pounds Removed): \$3.33lb

**Expected Benefits**

Sponsorship of the Creek to Bay Cleanup will result in load reduction of trash and debris directly and of bacteria indirectly.

**Analysis Results**

At the event, 22 participants removed 900 pounds of trash and debris and recycled 600 pounds of trash and debris. The average estimated sponsorship cost was \$5,000 per watershed; thus, there was a 1,500 pound load reduction and an efficiency of \$3.33 per pound collected. The efficiency was calculated by dividing the sponsorship cost for the Tijuana River WMA by the total pounds of trash removed and recycled.

**Conclusions**

This trash cleanup activity fulfills a watershed water quality activity for FY 2011 because this activity resulted in a measurable pollutant load reduction (Outcome Level 4) of 1,500 pounds of trash removed and recycled during the reporting period. Implementation and assessment of load reduction and efficiency for the cleanup sponsorship will occur again in FY 2012.



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**TITLE: Coastal Cleanup Day Sponsorship**  
**ID #: TJ-004**

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**ACTIVITY DESCRIPTION**

Each fall, San Diego Coastkeeper (SDCK) and I Love A Clean San Diego (ILACSD) conduct the Coastal Cleanup Day event to target various inland and coastal sites in San Diego County in need of trash and debris removal. They recruited and organized 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 25, 2010. The City of San Diego (City) sponsored the Tijuana River Valley site in the Tijuana River Watershed Management Area (WMA). Approximately 32 volunteers removed 1,120 pounds of trash and debris and recycled 5,000 pounds of trash and debris.

**TMDL APPLICABILITY**

Not applicable

**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 SDCK and ILACSD staff to ensure that sites within the Tijuana River WMA are included in the list of cleanups.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- I Love A Clean San Diego
- San Diego Coastkeeper
- Volunteers from the general public

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

- Bacteria/Pathogens
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River WMA identify trash as a high priority water quality problem throughout the WMA, and recommend implementing load reduction/source abatement activities to address it.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) What is the load reduction associated with the sponsorship?
- 2) What is the efficiency of the trash cleanup? (\$/pound collected)

**Targeted Measurable Outcome**

- 1) Achieve load reduction due to reduction of trash (any amount) from the trash cleanup sponsorship.

**Assessment Method(s)**

- 1) Tabulation (e.g., number of participants)
- 2) Quantification (e.g., pounds of trash collected)

**Data Recorded**

- Pounds of trash removed (Outcome Level 4): 1,120 lbs.
- Pounds of trash recycled (Outcome Level 4): 5,000 lbs.
- Total pounds of trash removed (Outcome Level 4): 6,120 lbs.
- Number of participants (Outcome Level 1): 32
- Amount of money spent on cleanups for all six watersheds (Outcome Level 1): \$30,000
- Estimated amount of money spent on cleanups for the Tijuana River WMA (Outcome Level 1): \$5,000
- Activity Efficiency (Total Cost/Total Pounds of Trash Removed and Recycled): \$0.82/lbs.

**Expected Benefits**

Sponsorship of Coastal Cleanup Day will result in load reduction of trash and debris directly and of bacteria indirectly.

**Analysis Results**

At the event, 32 participants removed 1,120 pounds of trash and debris and recycled 5,000 pounds of trash and debris, which was tracked using data cards provided by the Ocean Conservancy. The average estimated sponsorship cost was \$5,000 per watershed; thus, there was a 6,120 pound load reduction and an efficiency of \$0.82 per pound collected. The efficiency was calculated by dividing the sponsorship cost for the Tijuana River WMA by the total pounds of trash removed and recycled.

**Conclusions**

This trash cleanup activity fulfills a watershed water quality activity for FY 2011 because this activity resulted in a measurable pollutant load reduction (Outcome Level 4) of 6,120 pounds of trash removed during the reporting period. Implementation and assessment of load reduction and efficiency for the cleanup sponsorship will occur again in FY 2012.

**TITLE: Tijuana River Property-Based Inspections**  
**ID #: TJ-007**

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**ACTIVITY DESCRIPTION**

In FY 2010, this activity was formerly called Tijuana River Targeted Facility Inspections.

This activity is part of a larger study in the San Dieguito River, Los Penasquitos, Mission Bay and La Jolla, San Diego River and Tijuana River watershed management areas (WMAs). The City of San Diego (City) performed an inspection program activity specifically focused on properties with multi-businesses. The activity involved inspecting properties and the businesses located on the properties regardless whether they are part of the City's commercial and industrial inventory. Traditionally, the City performs individual business inspections in the City's commercial and industrial inventory.

The City developed and implemented a focused inspection activity designed to evaluate the effectiveness of performing multi-business property-based inspections and answer the following management questions related to the commercial and industrial inspections program:

- 1) Does focusing inspections and follow-up on property owners/managers increase BMP compliance?
- 2) Are Property-Based inspections feasible?

The areas selected for inspection were shopping centers, industrial parks, and office parks within the five watershed areas.

The inspections occurred over two phases. Property inspections and business investigations were conducted during both phases. During the first phase, inspectors performed a full inspection of each property. Properties were inspected for BMP compliance, general site observations, pollutant discharge potential, and illicit connections/illegal discharges (IC/IDs) similar to an individual business inspection. Site observations and BMP deficiencies were noted on the inspection form. When an issue was noted during the property inspection and could be associated to a particular business, the inspector initiated an investigation of the business, or businesses. These individual business inspections were limited to investigating the significant deficiencies observed. If an issue could not be associated to one or more businesses on the property, the issue was considered to be the responsibility of the property owner or management company, and no business inspections were performed.

The property inspection reports were sent to the property management company, or to the property owner on file. Where applicable, business inspections reports were sent to corporate offices. If a business was not part of a corporation, the report was sent directly to the business at its physical location, or mailing address.

In phase two of the activity, selected properties from phase one that were determined to be high priority follow-ups were inspected. Each property was inspected using the same procedures utilized in the initial inspections. As a part of phase two, business investigations were also performed to those businesses likely responsible for potential storm water issue(s) in the area.

During both phases, if violations were identified, they were recorded for appropriate follow-up. Follow-up inspections occurred based on the severity of the identified violations. If discharges were identified,

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they were immediately reported to the City's Storm Water hotline number. Lastly, education material was distributed, as applicable, during phase one and two of the inspection activity.

**TMDL APPLICABILITY**

Not applicable

**TIME SCHEDULE FOR IMPLEMENTATION**

Implementation and assessment took place during FY 2011. This project is complete, and will no longer be included in future reporting updates.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Bacteria/Pathogens
- Oil & Grease
- Sediment
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Tijuana River WMA identifies bacteria as high priority water quality problems in the Tijuana River WMA and recommends implementing load reduction/source abatement activities to address it. Implementation of the property inspections contributes to addressing discharges, correcting behaviors, and abating sources associated with bacteria.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) Does focusing inspections and follow-up on property owners/managers increase BMP compliance?
- 2) Are Property-Based inspections feasible?

**Targeted Measurable Outcome(s)**

- 1) Identification of sources of constituents of concern in the Tijuana River Watershed

**Assessment Method(s)**

- 1) Inspections
- 2) Quantification
- 3) Monitoring
- 4) Tabulation
- 5) Reporting

**Data Recorded**

*Phase One Property Inspections*

- 1) Number of property inspections = 36
- 2) Number of properties recommended for follow-up inspection = 13
- 3) Total IC/IDs Observed = 1

- 4) Total IC/IDs Eliminated During Inspection = 0

*Phase One Business Investigations*

- 1) Number of business investigations = 7
- 2) Number of sites recommended for follow-up inspection = 7
- 3) Number of Sites That Implemented Some Corrective Action During Inspection (BMP implemented) (Outcome 3) = 0
- 4) Number of Sites with Assumed Source Abatement (based on corrective actions taken) (Outcome 4) = N/A
- 5) Total IC/IDs Observed = 0
- 6) Total IC/IDs Eliminated During Inspection = N/A

*Phase Two Property Inspections*

- 1) Number of property inspections = 13
- 2) Number of properties recommended for follow-up inspection = 7
- 3) Total IC/IDs Observed = 0
- 4) Total IC/IDs Eliminated During Inspection = N/A

*Phase Two Business Investigations*

- 1) Number of business investigations = 4
- 2) Number of sites recommended for follow-up inspection = 4
- 3) Number of Sites That Implemented Some Corrective Action During Inspection (BMP implemented) (Outcome 3) = 0
- 4) Number of Sites with Assumed Source Abatement (based on corrective actions taken) (Outcome 4) = N/A
- 5) Total IC/IDs Observed = 0
- 6) Total IC/IDs Eliminated During Inspection = N/A

*Overall*

- 1) Number of Sites That Implemented Some Corrective Action Between the Two Phases (Outcome Level 3) = 7
- 2) Number of Sites with Assumed Source Abatement (based on corrective actions taken) (Outcome 4) = 7

**Expected Benefits**

The goal of this assessment is to determine the effectiveness of property-based inspections as a method to conduct inspections, which includes identifying and eliminating potential sources of storm water pollution.

**Analysis Results**

During phase one, 36 properties received property inspections. A total of 36% of these properties needed follow-up to verify that corrective actions/BMPs were implemented. From the phase one property inspections, seven businesses were investigated. For phase two, 13 properties from phase one received a follow-up property inspection. Seven of the 13 properties were recommended for follow-up to verify that corrective actions/BMPs were implemented. From the 13 properties, there were four business investigations in phase two. Overall between the two phases of inspections, there were seven sites that implemented some corrective action. Lastly, the number of IC/IDs decreased from one to zero between the two phases of the 13 property inspections.

Property inspections are an efficient and effective method to assess shared areas and evaluate visible, outdoor areas for BMP implementation at shopping centers, industrial parks, and office parks. Overall, BMP implementation improved at the properties inspected between the two phases of the inspection and a reduction of IC/IDs. There are some BMPs normally addressed during business inspections that did not apply to property inspections, as they require input from a business representative, or are requirements specific to business operations, such as employee training. In addition, the follow-up inspection priorities improved between the inspection phases. Lastly, common areas that have the highest threat to water quality, such as trash, landscaping, and storm drain areas, can be effectively evaluated during a property inspection.

### **Conclusions**

Overall, property-based commercial and industrial inspections provide efficiency in both cost and coverage, with the ability to inspect a large area with multiple businesses in a short amount of time. Also common areas of high pollutant generating activities are addressed during these inspections, including IC/IDs, trash areas, landscaping and storm drain issues. Only one IC/ID was observed during the first property inspections phase, and called into the City's hotline for response and follow-up for abatement. No IC/ID was found during the second property inspections phase in the Tijuana River WMA. In addition, seven sites implement some corrective action between the two phases of inspections. Although a load reduction was not calculated, abatement of potential sources may be assumed with corrective actions being implemented; therefore, demonstrating both Level Three (change in behavior/BMP implementation) and Level Four (source abatement/load reduction) outcomes being achieved as a result of conducting the property inspection activity. This activity fulfills the requirement of one of the two required watershed water quality activities.

**TITLE: City-Wide Clean-Up Events**  
**ID #: TJ-010**

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**ACTIVITY IMPLEMENTATION**

Imperial Beach participates in a number of city-wide sponsored clean-up events including ILACSD Creek-to-Bay clean up, local community group sponsored events, and the annual Home Front Clean-Up event. The largest event in terms of participation is the annual Home Front Clean-Up, which the City has been implementing since the 2001-01 municipal permit. These annual City-wide activities serve both as an encouragement and a means for residents to eliminate waste that could otherwise contribute the release of contaminants into the storm water conveyance system.

**TMDL APPLICABILITY**

This activity is not specifically targeted for TMDLs in the Tijuana WMA.

**TIME SCHEDULE FOR IMPLEMENTATION**

City-wide clean up events will continue to be held throughout the duration of Municipal Permit R9-2007-0001. The City intends to sponsor ILACSD for the annual Creek-to-Bay clean up and continue the highly successful City-wide Home Front Clean Up event for the complete cycle of the current permit. The activity will be assessed and refined as necessary.

**PARTICIPATING WATERSHED COPERMITTEES**

- City of Imperial Beach

**OTHER PARTICIPATING ENTITIES**

- EDCO Waste and Recycling Services

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

- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Bacteria is identified as a priority water quality problem in the Tijuana WMA. The accumulation of waste by residents such as trash, green waste, and large bulky items are potential sources of bacteria. Since this activity addresses a priority water quality problem and a priority source, it is consistent with the collective watershed strategy.

**EXPECTED BENEFITS**

Expected benefits of implementing City-wide clean-up activities include compliance with permit requirements, changes in attitudes, knowledge, and awareness of the community, and lead to reductions in urban runoff and discharge quality by removing wastes that may have otherwise ended up in the storm drain system. City-wide clean-up events serve both as education and water quality activities. Reducing the amount of trash in the storm drain system also has the co-benefit of reducing bacteria which is identified as a water quality problem in the Tijuana WMA.

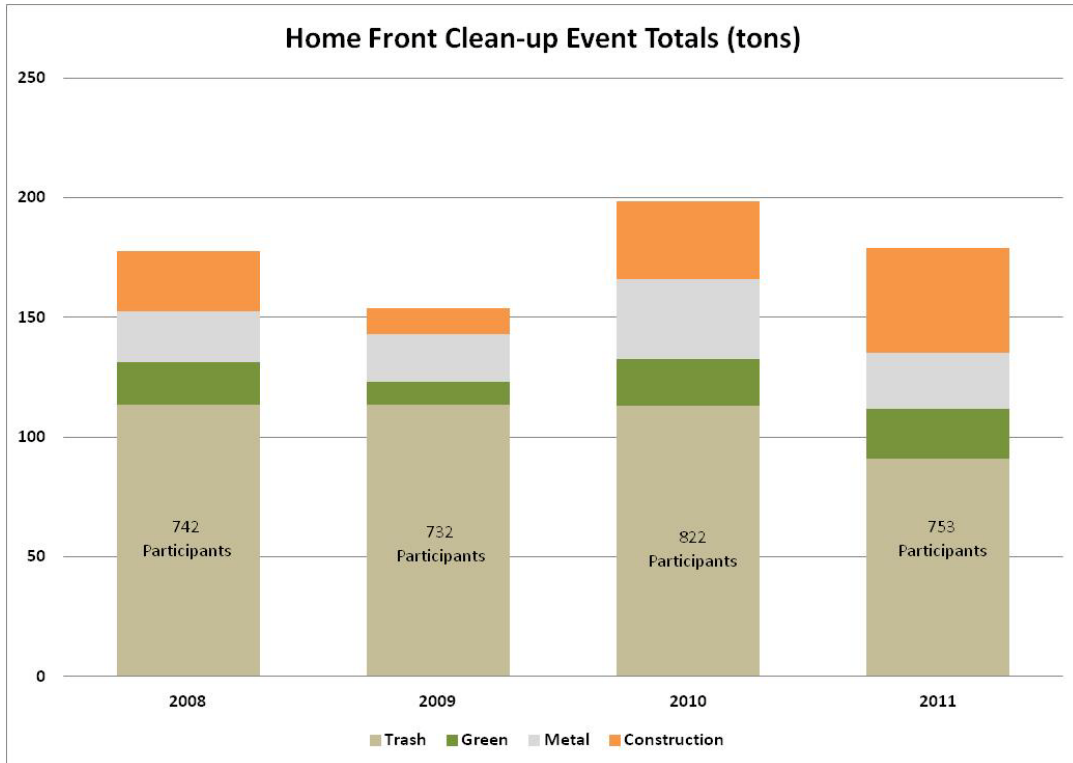
**EFFECTIVENESS MEASUREMENTS**

The effectiveness of this project meets the requirements of Outcome Level 1, Level 2, and Level 4 compliance with activity based permit requirements. Community wide clean-up events raise awareness of the connectivity of trash, urban runoff, storm drain systems, and receiving waters. During the year Imperial Beach sponsored I Love a Clean San Diego for its Annual Creek to-Bay clean up event. The

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annual Creek-to-Bay cleanup engages the community through public participation and increases awareness on the connectivity of the receiving waters to the urban environment. Assessments are also made across the region on the level of participation and characteristics of the waste collected.

The City and EDCO also held the annual Home Front clean up event, which allows residents to dispose large trash items, recyclables, and other items that can not be disposed in the trash. The City held its annual Home Front clean up event on May 7th, 2011. The Home Front clean up event had 753 participants and resulted in the proper disposal of 178.83 tons of waste including 23.31 tons of metals, 43.72 tons of concrete, and 20.72 tons of green waste that were recycled.





**TITLE: Large Special Event Inspection and Clean-Up**  
**ID #: TJ-011**

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**ACTIVITY IMPLEMENTATION**

The City hosts the annual U.S Open Sandcastle Competition that draws close to one million visitors to Imperial Beach in the month of July. The City also hosts additional special events during the year that draw a large number of visitors to the City. Along with the visitors are a number of mobile businesses, food vendors, and increased volume of trash that can potentially contribute to the problem of urban runoff. Starting in 2008 the City enhanced its special event application process to further target urban runoff and recycling during the planning and implementation stages for the special event. Program enhancements include providing storm water education for street vendors, providing education for the general public whenever possible, and inspections of street vendors for storm water violations. The City also enhanced its recycling and trash collection service for the Annual U.S. Open Sandcastle Competition.

**TMDL APPLICABILITY**

This activity is not specifically targeted for TMDLs in the Tijuana WMA.

**TIME SCHEDULE FOR IMPLEMENTATION**

Implementation of the activity has begun under the previous storm water permit 2001-01 and since been reviewed and enhanced for the new R9-2007-0001 permit. The activity was in active implementation over the last three reporting years and has become standard work procedure for managing storm water and recycling at special events. The City annually reviews effectiveness after the U.S. Open Sandcastle competition and makes changes as necessary.

**PARTICIPATING WATERSHED COPERMITTEES**

City of Imperial Beach

**OTHER PARTICIPATING ENTITIES**

- EDCO Waste and Recycling Services
- Set Free Baptist Fellowship

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

- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Bacteria are identified as a priority water quality problem in the Tijuana WMA. The increased number of visitors, larger volumes of waste, and water quality threat from mobile food vendors during large special events are potential sources of bacteria and urban runoff pollution. Since this activity addresses a priority water quality problem and a priority source, it is consistent with the collective watershed strategy.

**EXPECTED BENEFITS**

Expected benefits of enhancing large special event clean up and inspections include compliance with permit requirements, changes in attitudes, knowledge, and awareness of mobile businesses and local community, and reductions in urban runoff and discharge quality by enhancing recycling and pollution prevention efforts and implementing storm water BMPs. Enhancing recycling efforts, increasing education on urban runoff, and verifying the implementation of BMPs through inspections may lead to lower levels of bacteria and trash reaching the storm drain system.

**EFFECTIVENESS MEASUREMENTS**

The effectiveness of this project meets the requirements of Outcome Level One, Level Two, Level Three, and Level Four compliance with activity based permit requirements. Community wide clean-up events raise awareness of the connectivity of trash, urban runoff, storm drain systems, and receiving waters.

During FY 2011, the City required the proper disposal of recycled waste at all special events and the implementation of storm water BMPs when appropriate. The City held 12 large special events requiring conditions for storm water BMPs and recycling from the Public Works Department. The largest of these events was the annual U.S. Open Sandcastle Competition, which during the weekend of July 12th-13th drew an estimated crowd of over 800,000 visitors to the beach. In preparation for the U.S. Open Sandcastle event the City provided additional storm water BMP information to all street vendors before the event and then followed up with storm water inspections during the event to ensure the implementation of the BMPs. Most street vendors were aware of the storm water requirements and were implementing proper storm water BMPs. Vendors not implementing proper BMPs were cited and provided further information to correct behavior. Over the weekend three Notices of Violations (NOVs) were issued.

The City also enhanced its recycling efforts at the Sand Castle Competition by sponsoring a local Baptist Church group who worked with the City to enhance its recycling program implementation during the event.

**Sandcastle Event Waste Disposal Totals**

	<b>Mixed Recycling</b>	<b>Cardboard</b>	<b>Trash</b>
<b>2010</b>	1665 lbs.	920 lbs.	6.93 tons
<b>2009</b>	1320 lbs.	930 lbs.	8.11 tons
<b>2008</b>	1280 lbs.	960 lbs.	7.83 tons
<b>2007</b>	610 lbs.	990 lbs.	14.24 tons

**TITLE: SMUGGLER'S GULCH SEDIMENT AND DEBRIS REMOVAL**  
**ID #: TJ-012**

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**ACTIVITY DESCRIPTION**

The County performs routine flood control maintenance activities on improved and unimproved channels pursuant to its Regional General Permit (RGP) 53. This activity is traditionally performed every two to four years depending on annual rainfall. The extent of the project includes the channel from the Mexican border, north approximately 5,400 feet to the confluence of the Tijuana River. Historically as much as 80,000 cubic yards of sediment can be removed from the channel. Trash is separated on site and recycled accordingly.

The sediment removal project is necessary to return the drainage facility to historic conditions and to convey flow properly, which will eliminate the potential for sediment and debris to build up causing future flooding events.

**ACTIVITY IMPLEMENTATION 2007-08**

There were no sediment and debris removal during the FY2007-08.

**ACTIVITY IMPLEMENTATION 2008-09**

There were no sediment and debris removal during the FY2008-09.

**ACTIVITY IMPLEMENTATION 2009-10**

During FY09-10 County Parks removed 18,000 cubic yards of sediment, 40 cubic yards of trash, and 200 tires from Smuggler's Gulch. The dredging occurred from Monument Road south to the boundary of Federal property. All sediment was recycled as construction aggregate, while the trash and tires were disposed of as appropriate.

**ACTIVITY IMPLEMENTATION 2010-11**

During FY10-11 County Parks removed 12,000 cubic yards of sediment, 40 cubic yards of trash, and 250 tires from Smuggler's Gulch. The dredging occurred from Monument Road south to the boundary of Federal property. All sediment was recycled as construction aggregate, while the trash and tires were disposed of as appropriate.

**TMDL APPLICABILITY**

N/A.

**TIME SCHEDULE FOR IMPLEMENTATION**

Typically removal takes place every other year but is dependent on precipitation patterns, intensity of precipitation, and funding.

FY10-11: Removal occurred during the period of December 2010 and February 2011

FY11-12: September 15 through October 15 2011

FY12-13: Currently no funding is available beyond the current FY.

**PARTICIPATING WATERSHED COPERMITTEES**

County of San Diego

**OTHER PARTICIPATING ENTITIES**

California Department of Fish and Game

California State Parks

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

Sediment

Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Sediment and trash have been identified as high priority water quality problems in the Tijuana River WMA. This activity results in a direct load reduction of these pollutants, and is therefore consistent with the collective watershed strategy.

**EFFECTIVENESS ASSESSMENT**

This activity is considered a load reduction that can be measured. As reported above, 12,000 cubic yards of sediment, 40 cubic yards of trash, and 250 tires were removed from Smuggler's Gulch during FY 2010-11

**TITLE: TIJUANA RIVER WATERSHED BACTERIAL SOURCE IDENTIFICATION  
STUDY**  
**ID #: TJ-013**

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### **ACTIVITY IMPLEMENTATION**

The City of Imperial Beach initiated a Bacteria Source Identification study in November 2007 to identify and quantify sources of bacterial contamination in the U.S. portion of the Tijuana River Watershed. The project was put on hold between December 15, 2008 and February 1, 2010 due to budgetary constraints in the State of California. Funding for the project was reinstated and the study is scheduled to be complete March 2012. The goals of the study include the following:

- Identify anthropogenic sources of bacteria;
- Identify non-anthropogenic sources of bacteria;
- Assess annual bacteria loads into the Tijuana River;
- Identify point sources (PSs) and non-point sources (NPSs) of bacterial pollutants; and
- Better understand mitigation strategies aimed at the reduction of bacteria loads.

The project uses standard culturing of fecal indicator bacteria and molecular tests (including the presence of Bacteroides as an indicator of recent human fecal pollution) to assess the presence of fecal indicator bacteria within the watershed during both dry weather and wet weather to identify point source and non point sources of elevated bacteria concentrations, which may lead to beach postings at adjacent recreational beaches. Specific assessments focus on areas such as residential, commercial, agricultural and ranches, and groundwater transport as well as sewage flows from Mexico.

### **TMDL APPLICABILITY**

While it may be supportive of TMDL goals, this activity is not specifically part of a TMDL compliance program. The Tijuana River and Estuary is listed for bacteria and may eventually have a TMDL.

### **TIME SCHEDULE FOR IMPLEMENTATION**

- Information gathering from various stakeholders – Ongoing
- Meet with stakeholders to discuss project goals and objectives – Ongoing
- Review existing literature and data, and conduct field reconnaissance to determine sources of bacterial inputs – Completed
- Conduct sanitary surveys and collect samples from flowing sources – Ongoing
- Targeted wet weather monitoring – Ongoing
- Flow monitoring – Ongoing
- Special Studies – Ongoing
- BMP Concept Designs – Ongoing
- Study to be completed – March 2012

### **PARTICIPATING WATERSHED COPERMITTEES**

- County of San Diego
- City of San Diego
- City of Imperial Beach

**OTHER PARTICIPATING ENTITIES**

- State Water Resources Control Board
- Clean Beaches Initiative Task Force
- Regional Water Quality Control Board, San Diego
- U.S. Fish and Wildlife Service
- International Boundary and Water Commission (IBWC)
- California Department of Fish and Game
- Private land owners
- Conservation groups
- NGOs
- National Oceanic and Atmospheric Administration (NOAA)
- Tijuana River National Estuarine Research Reserve (TJNERR)

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

- Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Bacteria are identified as a priority water quality problem in the Tijuana River Watershed. Trash, parks, and pet waste are potential sources of bacteria. Since this activity addresses a priority water quality problem and a priority source, it is consistent with the collective watershed strategy.

**EXPECTED BENEFITS**

Limited data are available regarding bacterial loads from sources and activities on the U.S. side of the Tijuana River Watershed (TRW). In addition, detailed information regarding the impact of certain land uses, and the input of pollutants from point and nonpoint sources have not been assessed for the U.S. portion of the TRW. This study aims to quantify bacterial loads from potential sources and propose solutions to reduce the impact of bacterial loads in the TRW and Pacific Ocean. The implementation of successful best management practices will result in a reduction in beach postings and closures.

**EFFECTIVENESS MEASUREMENTS**

The effectiveness of this project meets the requirements of Outcome Level 1 compliance with activity based permit requirements. Information gained from this study will help in developing other programs or specific BMPs that will further address changes in knowledge and behavior, load reductions, and improvements to water quality.

**TITLE:           INVASIVE SPECIES REMOVAL PROJECT IN THE TIJUANA RIVER PARK**  
**ID #:             TJ-017**

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**ACTIVITY DESCRIPTION**

The SANDAG Transnet Environmental Mitigation Program (EMP) funded a grant to the Southwest Wetlands Interpretive Association (SWIA) to continue the Tijuana River Valley Invasive Plant Control Program (Phase IV) begun in 2002 in the extreme southwest part of San Diego County within a few miles from the mouth of the river. The program includes work in the County of San Diego's Tijuana River Valley Regional Park (TRVRP), California State Parks' Border Field State Park, and the U.S. Fish and Wildlife Services' Tijuana Estuary. Three invasive plant species are targeted within the Tijuana River Valley: giant reed (*Arundo donax*), castor bean (*Ricinus communis*) and salt cedar (*Tamarix ramosissima*). These species degrade the habitats they invade by displacing native vegetation, lowering insect food supply for birds, reducing groundwater, and increasing flood and fire hazards. The invasive removal program includes replanting with native species, a project that, coupled with natives returning naturally, will serve to filter pollutants and decrease sedimentation in the long term. The County cooperated with the SWIA in seeking grants, by writing letters of support and serving on a technical advisory group (TAG) for the program. In the implementation of the program, the County continues to serve on the TAG and provides SWIA with right-of-entry permits to County property. SWIA is committed to seeking grants for the on-going funding of this project and the County plans to continue its long-term cooperation with the association.

**ACTIVITY IMPLEMENTATION FY2007-08**

The following tasks were implemented as part of invasive plant removal program in the Tijuana River Valley Regional Park:

- 1) Treated arundo and castor bean on 100 acres;
- 2) Performed follow-up treatment of arundo and castor bean on old 511 acres;
- 3) Treat tamarisk on 61 acres around Dairy Mart ponds;
- 4) Maintained and planted native cuttings.
- 5) Attended TAG meeting and provided right of entry letters to SWIA.

**ACTIVITY IMPLEMENTATION FY2008-09**

The following tasks were implemented as part of invasive plant removal program in the Tijuana River Valley Regional Park:

- 1) 07/20/08 TAG Meeting.
- 2) Development and adoption of a "Declaration of Intent".

**ACTIVITY IMPLEMENTATION FY2009-10**

During FY09-10 the following tasks were implemented as part of invasive plant removal program in the Tijuana River Valley Regional Park:

- 1) Treated giant reed, castor bean and tamarisk within 86 acres in the Dairy Mart Ponds area;
- 2) Restored 1.5 acres in the Hollister Bridge area;
- 3) County representatives attended the annual TAG meeting; and
- 4) County provided right of entry letters to SWIA.

**ACTIVITY IMPLEMENTATION FY2010-11**

During FY10-11 the following tasks were implemented as part of invasive plant removal program in the TRVRP:

- 1) County representatives attended the annual TAG meeting (09/15/10);
- 2) SWIA treated giant reed, castor bean and tamarisk within 40 acres in the Hollister Bridge area 3) SWIA was able to cover a larger area than had been expected (27 acres); and
- 4) County provided right of entry letters to SWIA.

In addition County Parks Staff in response to a citizen's complaint removed approximately six dumpsters (40 yard roll-off) of Arundo Donax along the western edge of International Road.

**TMDL APPLICABILITY**

N/A.

**TIME SCHEDULE FOR IMPLEMENTATION**

FY10-11: Funding from the US Fish and Wildlife Service's Coastal Programs was acquired by SWIA to fund invasive plant treatments. These funds are expected to be used in the TRVRP near Hollister Bridge. The following tasks are planned to be implemented:

- 1) Treat giant reed, castor bean and tamarisk within 27 acres in the Hollister Bridge area;
- 2) County representatives attended the annual TAG meeting; and
- 3) County provided right of entry letters to SWIA.

Project completion expected during FY10-11

Further treatments are dependent upon new funding.

FY11-12: Currently, SWIA does not have any projects planned for the TRVRP for FY11-12. However, SWIA has applied for a large Federal grant (US Fish and Wildlife Services' National Coastal Wetland Conservation grant) that, if funded, will allow for extensive work on the TRVRP during FY12-15.

**PARTICIPATING WATERSHED COPERMITTEES**

County of San Diego

**OTHER PARTICIPATING ENTITIES**

Southwest Wetlands Interpretive Association,  
U.S. Fish & Wildlife Service,  
California State Parks

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

Sediment  
Pesticides  
Bacteria

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Sediment, pesticides, and bacteria are high priority water quality problems in the Tijuana River WMA. Therefore, this activity is consistent with the collective watershed strategy.



**EFFECTIVENESS ASSESSMENT**

Activity effectiveness will be measured by ensuring completion of all project elements (Level 1). Each invasive plant area will be monitored to determine which control methods would be most effective in the TJRV. Although no water quality monitoring is proposed for this project, water quality improvements may be able to be assessed qualitatively based on results from similar projects.

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**TITLE: TIJUANA RIVER TRASH, TIRE and SEDIMENT CHARACTERIZATION  
STUDY**  
**ID #: TJ-018**

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**ACTIVITY DESCRIPTION**

Trash and sediment deposition in the Tijuana River and Estuary continue to threaten public health, safety, and the environment throughout the Tijuana River Valley. Public contact with trash, waste tires, and other solid wastes, including contaminated soil and sediments, is potentially injurious to human health. Moreover, excessive sedimentation has in recent years contributed to the loss and impairment of valuable estuarine habitat. Past efforts have removed some of the trash and sediment; however, they have been insufficient to address the entire area. The extent of trash and sediment deposition has not been adequately characterized to date and comprehensive alternatives to solve the problem remain elusive.

The objective of this project is to characterize trash and sediment in the Tijuana River and Estuary and to identify comprehensive remediation alternatives for removing existing trash and sediment deposition. The County and City of San Diego are partnering with the San Diego Regional Water Quality Control Board, the California Integrated Waste Management Board (CIWMB), and other stakeholders to complete this study.

As a first step, a consultant was retained to characterize trash and sediment in the Tijuana River and Estuary and to prepare a work plan to identify remediation alternatives for removing existing trash and sediment deposition. The following tasks and deliverables are scheduled to be completed no later than June 15, 2009 at a cost not to exceed \$100,000.

**Task 1: Inventory of Existing Information and Field Reconnaissance**

- Research and review plans and pertinent studies.
- Research topographic maps to determine boundaries of the River and Estuary
- Conduct field investigation and take digital photos of the existing trash and sediment depositions.
- Determine the extent of the existing trash, waste tires, and sediment deposition in the river, estuary, and tributaries.
- Geo-reference location of trash, waste tires, and sediment depositions
- Quantify the depth, width, and length of the trash, waste tires, and sediment deposition.

**Task 2: Digitize/Compile Existing Information**

- Prepare orthophoto base maps with the existing trash, waste tires, and sediment information.
- Import from the County of San Diego GIS database information such as land use classifications, soil groups, and transfer into project database.

**Task 3: Characterization**

- Determine the types and quantities of trash in the deposition. Develop a matrix showing the general types of trash and the disposal methods.
- Determine the amount of sediment in the deposition.
- Determine the amount of recyclable materials that can be recovered from the deposition.
- Determine the amount of waste tires in the deposition.
- Determine the viability of recycling sand.
- Plot percentage of trash versus sedimentation on the base map.

Task 4: Analyze Alternatives

- Develop alternatives for removing existing trash, waste tires, and sediment deposition. Consider alternatives that do not require cross-border solutions.
- Consider the following in developing the alternatives:
  - Cost to haul to landfill
  - Temporary or Permanent Transfer Station
  - Segregating recyclables
  - Segregating sand
  - Waste tire recycling and disposal
- Include cost to restore river, tributary, and estuary to natural condition.
- Develop cost estimate for various alternatives.
- Determine the viability of each alternative. Consider unit costs as a factor.

Task 5: Report Submittals

- Submit quarterly progress reports and meet with CIWMB/County/City Staff for review and comments.
- Submit Draft and Final Reports with all text, graphs, and GIS maps in both hard copy and electronic formats.

**ACTIVITY IMPLEMENTATION FY08-09**

The following activities were implemented in FY08-09:

- Compilation of existing historical aerial photographs for the valley for specific years;
- Review of historical aerial photographs to identify the active channels on the floodplain;
- Completion of a trash survey in the areas east of the plug near Hollister Street, east to the International Border along the main river channel, and along Smuggler's Gulch;
- Preparation of a database with georeferenced information collected during the trash survey;
- Permitting associated with test pits and borings to be completed in the same areas as indicated above;

**ACTIVITY IMPLEMENTATION FY09-10**

Implementation of the activity continued during the current reporting period. The following activities were completed in FY09-10:

- Completion of the trash survey from the Plug westward to the shoreline, including Goat and Yogurt Canyon areas
- Excavation of test pits and sampling to identify the presence of chemicals of potential concern (COPCs) in sediment and the presence of trash in the subsurface
- Drilling soil borings and conducting grain-size analyses to identify if the sediment may be suitable for beach replenishment
- Preparation of a GIS database with the results of the trash and sediment sampling program using an ArcReader interface
- Draft report summarizing the results of the trash, waste tire and sediment study.

**TMDL APPLICABILITY**

There are no TMDLs currently adopted for the Tijuana River or Estuary; however, US EPA has indicated to watershed stakeholders that it is in the initial phases of data gathering for the development of trash and

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sediment TMDLs. The San Diego Regional Water Control Board (RWQCB) indicates that it will be issuing a draft TMDL for trash for the Tijuana River in early 2011.

**TIME SCHEDULE FOR IMPLEMENTATION**

Activities to be completed in FY10-11 include the Completed Study Report.

**PARTICIPATING WATERSHED COPERMITTEES**

- County of San Diego (project/consultant management)
- City of San Diego

**OTHER PARTICIPATING ENTITIES**

- San Diego Regional Water Quality Control Board
- California Department of Resources Recovery and Recycling (CalRecycle, formerly the California Integrated Waste Management Board; Funding Source)

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

- Trash
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The trash and sediment characterization study is consistent with the collective watershed strategy in that it will provide information regarding the location and extent of trash and sediment within the Tijuana River Valley. This will lead to the identification of effective water quality activities to reduce the amount of trash and sediment within the valley.

**EXPECTED BENEFITS**

This activity is an important step toward the ultimate goal of improving public and environmental health in the Tijuana River Valley. The direct benefits of this activity will be a better understanding of the types, quantities, and locations of trash and sediment in the River Valley. It will also identify and evaluate various alternatives for removing existing waste, preventing future waste transport, and restoring the watershed to a more natural condition.

**EFFECTIVENESS ASSESSMENT**

Characterization of the location and extent of trash and sediment will provide the basis for load reduction activities. Future activities will be evaluated through the amount of trash and sediment removed from the system.

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**TITLE: CITY OF SAN DIEGO STRATEGIC PLAN IMPLEMENTATION**

**ID #: TJ-019**

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**ACTIVITY DESCRIPTION**

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 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).

During this reporting period, the City of San Diego assisted with writing the proposed Senate Bill, provided financial resources for technical experts to assist with its development, participated in negotiations with the automobile and brake pad manufacturers, and provided lobbyist assistance to Senator Kehoe to obtain political support for the passage of the bill. Due to the automobile manufacturers renewed interest in this bill, negotiations were re-initiated to obtain support from all stakeholders, as required by the governor. The bill was rewritten multiple times and discussed by all parties before it was presented to Assembly subcommittees for review and approval. After the reporting period, SB346 was passed by both houses, signed into legislation by the governor on September 25, 2010, and incorporated into the California Health and Safety Code, Article 13.5, commencing with Section 25250.50.

The Outdoor Water Conservation Rebate Program conducted by the Public Utilities Department involved launching a city wide rebate program to assist residents and businesses conserve water by reducing the volume of irrigation and landscape runoff by incentivizing three irrigation modifications: the installation of irrigation smart controllers, micro-irrigation and turf conversion to low water use plants. Rebates are offered through a State of California grant and are available on a first come first served basis until funds are exhausted. The rebate program was implemented in FY 2011.

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 support of storm water and urban runoff pollution management efforts of the public.

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Development of the Strategic Plan included the formulation of a list of activities to implement during Phase I. 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.

**Conceptual Projects**

Activity Description	Activity Type Classification	Type	Class	Primary Target Pollutant	Status
Outdoor Water Conservation Rebate Program	Smart Irrigation Control Incentive Program	Water Quality	Non-structural	Pesticides, bacteria, nutrients, heavy metals	Planning, implementation and assessment completion anticipated in FY 2013. WMA: TBD.
County Operations Center Green Roof Project Collaboration	Roof Rain Harvesting	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Erosion & Sediment Control Detention Basin	Erosion/Sediment Control BMP	Water Quality	Structural	Sediment, TSS, Metals, Pesticides & Trash	Pre-planning
Green Roof Project	Roof Rain Harvesting	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Basin Plan Triennial Review	N/A	Monitoring	Non-structural	N/A	As needed
Targeted Mobile Hazardous Household Waste Collection Centers	Hazardous Waste Collection	Water Quality	Non-structural	Metals, Trash, Oil & Grease	Pre-planning
Residential Rain Barrel, Downspout Disconnect, and Xeriscaping Incentive Program (1)	Downspout Disconnect; Rain Barrel Incentives	Water Quality	Non-structural	Targeted Multiple Pollutants	Pre-planning
Residential Rain Barrel, Downspout Disconnect, and Xeriscaping Incentive Program (2)	Downspout Disconnect; Rain Barrel Incentives	Water Quality	Non-structural	Targeted Multiple Pollutants	Pre-planning
Rain Garden, Xeriscaping, and Landscape Filtration (1)	Rain Garden, Xeriscaping, and Landscape Filtration	Water Quality	Structural or Non-Structural	Targeted Multiple Pollutants	Pre-planning



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Activity Description	Activity Type Classification	Type	Class	Primary Target Pollutant	Status
Rain Garden, Xeriscaping, and Landscape Filtration (2)	Rain Garden, Xeriscaping, and Landscape Filtration	Water Quality	Structural or Non-Structural	Targeted Multiple Pollutants	Pre-planning
Sediment Basin Endowment Fund (1)	Sediment Basin Endowment	Water Quality	Non-structural	Sediment	Pre-planning
Sediment Basin Endowment Fund (2)	Sediment Basin Endowment	Water Quality	Non-structural	Sediment	Pre-planning
Commercial Pest Control	Product Sub	Education	Non-Structural	Pesticides	Planning
Residential Pesticide Management	Product Sub	Education	Non-Structural	Pesticides	In progress through JURMP education program.
LID Regulatory Barriers and Solutions	Municipal Code Modification	Water Quality	Non-structural	Targeted Multiple Pollutants	Pre-planning
Roof Rain Harvesting/Incentives	Roof Rain Harvesting	Water Quality	Structural or Non-structural	Targeted Multiple Pollutants	Pre-planning
Targeted Behavioral Training (staff)	Targeted Behavioral Training (staff)	Education	Non-structural	Specific to Activity	Pre-planning
Rose Creek Homeless Reduction Program Sponsorship	Homeless Encampment Removal	Water Quality	Non-structural	Bacteria & Trash	Pre-planning
Enforcement Referrals	Enforcement Referrals	Water Quality	Non-structural	Specific to Activity	Pre-planning
Infiltration Vault/Pit Installation (1)	Infiltration Vault/Pit	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Infiltration Vault/Pit Installation (2)	Infiltration Vault/Pit	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Small-Scale Storm Flow Storage and Multi-Pollutant Treatment System (1)	Small Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Small-Scale Storm Flow Storage and Multi-Pollutant Treatment System (2)	Small Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Small-Scale Storm Flow Storage and Multi-Pollutant Treatment System (3)	Small Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Large Scale Storm Flow Storage and Multi-Pollutant	Large Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning

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Activity Description	Activity Type Classification	Type	Class	Primary Target Pollutant	Status
Treatment System (1)					
Large Scale Storm Flow Storage and Multi-Pollutant Treatment System (2)	Large Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Large Scale Storm Flow Storage and Multi-Pollutant Treatment System (3)	Large Scale Treatment Train	Water Quality	Structural	Targeted Multiple Pollutants	Pre-planning
Hydromodification BMP (1)	Hydro mod BMP	Water Quality	Structural	Sediment & TSS	Pre-planning
Hydromodification BMP (2)	Hydro mod BMP	Water Quality	Structural	Sediment & TSS	Pre-planning
Hydromodification BMP (3)	Hydro mod BMP	Water Quality	Structural	Sediment & TSS	Pre-planning
Erosion/Sediment Control BMP (2)	Erosion/Sediment Control BMP	Water Quality	Structural	Sediment & TSS	Pre-planning
Home Auto Activities (Metals) Outreach	Outreach	Education	Non-structural	Metals, Oil & Grease & PAHs	In progress through JURMP education program.
Commercial Landscaping Targeted Enforcement	Targeted Enforcement	Water Quality	Non-structural	Nutrients & Pesticides	Pre-planning
Targeting Marinas and Boat Repair as a Pollutant Source	Targeted Source	Water Quality	Structural or Non-Structural	Metals & Bacteria	Pre-planning
Construction Contractors - Home and Commercial Improvements Inspection Generated Enforcement	Inspection Generated Enforcement	Water Quality	Non-structural	Metals, Sediment, Gross Solids & Oil & Grease	Pre-planning

**TMDL APPLICABILITY**

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.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Bacteria/Pathogens
- Gross Pollutants
- Metals
- Nutrients
- Oil & Grease
- Organics
- Pesticides
- Sediment
- Trash

**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 Copermitees developed a Model Watershed Strategy to help guide their planning, implementation, and assessment efforts in the various WMAs. The Model Watershed Strategy assists the Copermitees 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 Strategic Plan and the Copermitees 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 annual report.

**EFFECTIVENESS MEASUREMENTS**

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 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: TIJUANA RIVER GROSS SOLIDS AND SEDIMENT BMPS DESIGN**  
**ID #: TJ-022**

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**ACTIVITY DESCRIPTION**

This activity is the design and construction of trash and sediment storm water Best Management Practices (BMPs) to reduce the volume of sediment and gross solids (trash) which are transported through the Tijuana River's main channel and deposited in the Tijuana River Estuary during storm events.

This design and construction activity has been abandoned and no further work on BMP design or construction is planned or funded in future years.

**TMDL APPLICABILITY**

A TMDL for trash and sediment in the Tijuana River Valley have not been established. On January 20, 2011 Workshop and CEQA Scoping Meeting was held at the RWQCB to initiate the process of developing TMDLs for trash and sediment in the Tijuana River Valley.

**TIME SCHEDULE FOR IMPLEMENTATION**

This project was suspended indefinitely in November 2010 when request for Federal funding through a special appropriation was not secured through the Federal FY 12 WRDA act.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Sediment
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River Watershed Management Area (WMA) identify gross pollutants (trash) and sediment as high priority water quality problems in the Tijuana River 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 the volume of trash and sediment in the stream via siltation basins and trash interceptor devices.

**EFFECTIVENESS MEASUREMENTS**

Due to lack of funding and other resources his project has been abandoned. No effectiveness assessments activities are planned or funded in future fiscal years.

**Expected Benefits**

None

**Analysis Results**

No analysis performed.

**Conclusions**

The implementation of this project will require large amounts of funding and multi-agency coordination and the leadership of entities and agencies with jurisdiction over the sources and conveyance on the pollution. Specific design, siting, scale and detailed feasibility analysis will require detailed hydrologic and hydraulic studies to include surveys and thorough understanding of flow regimes in the affected channels and floods plains along with sediment and gross solids loads and various sized storm events required to assess the magnitude of the problem and develop potential practical solutions.

**Recommendations**

Because the majority of the sediment and gross solids have their source on the Mexican side of the US-Mexican border, it is recommended that funding and the involvement Federal and Mexican entities and agencies with jurisdiction over the border region and the waters of the United State and State of California secure the funding require to assess the magnitude of the problems and potential solutions. After these issues are defines and appropriate and feasibility solution developed the Federal and State entities should pursue resources, establish process, mechanism and fund implementation, construction and operations for facilities or programs to mitigate these impacts in consultation with local agencies.

**TITLE: TIJUANA RIVER WATERSHED BROCHURE**

**ID #: TJ-023**

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**ACTIVITY DESCRIPTION**

The City of San Diego (City) and Think Blue will implement a new brochure program for the six (6) watershed management areas (WMAs) assigned to the City. These brochures will be used to inform San Diego residents on the benefits of taking steps to reclaim an environmentally and economically healthy watershed. The education pieces will help address high priority water quality problems in each WMA. It will also be used to make citizens aware of specific pollutants and ways individual action can be used to protect each water source as a way to promote a watershed stewardship (all individual actions within each watershed adds up in a cumulative way to influence the health of the water resource).

The main goals of the brochures are to capture the attention of the audience, enhance the understanding of basic watershed principals of the public, address the high priority water quality problems in each WMA, educate best management practices (BMPs) for future use, and encourage citizens to take positive steps in preventing pollution from entering the storm drain system.

The following WMAs will have a watershed specific brochure created:

- 1) Tijuana River
- 2) San Diego River
- 3) San Diego Bay
- 4) Mission Bay
- 5) San Dieguito River
- 6) Los Peñasquitos

**TMDL APPLICABILITY**

Brochures will target pollutants associated with TMDLs as applicable.

**TIME SCHEDULE FOR IMPLEMENTATION**

Project planning began in FY 2009 and will continue through FY 2012. Implementation and distribution is expected to occur in early FY 2012.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Bacteria/Pathogens
- Conditions
- Dissolved Minerals
- Metals
- Nutrients
- Oil & Grease
- Organics
- Pesticides
- Sediment
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

This activity will address the high priority water quality problems identified in both the City Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for each of the Watershed Management Areas.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) Can we create watershed brochures that increase the public's understanding of basic watershed principals and storm water best management practices (BMPs) and create awareness of the high priority water quality problems in each WMA?
- 2) Can we create watershed brochures that encourage citizens to take positive steps in preventing pollution from entering the storm drain system?

**Targeted Measurable Outcome(s)**

- 1) Increased knowledge of basic watershed principles and storm water BMPs after reading the watershed brochure.
- 2) Increased awareness of the high priority water quality problems in each WMA after reading the watershed brochure.
- 3) Increased intent to act to prevent storm water pollution after reading the watershed brochure.

**Assessment Method(s)**

Assessment is still being developed for this activity. Potential assessment methods could include a focused evaluation with two target audiences in combination with various event booths (or workshops). Event attendees would be randomly selected to either receive or not receive the brochure, then asked to complete a response card. At a later point, those who provided contact information will be contacted and asked a series of follow-up questions about awareness, knowledge, and behavior to determine if the brochure had an impact.

**Data Recorded**

Not applicable

**Expected Benefits**

The goal of this assessment is to determine the effectiveness of the watershed brochure in increasing knowledge and awareness in each watershed to create positive behavioral changes. This activity will address the high priority water quality problems identified for each of the Watershed Management Areas.



**Analysis Results**

An effectiveness assessment of this activity is not possible at this time because the watershed brochure has not yet been distributed.

**Conclusions**

The City completed two watershed brochures (Tijuana and San Diego River) in FY 2010 and will continue to create brochures for the remaining watersheds in FY 2012. In FY 2011 it was determined that the watershed brochures for all 6 watersheds within the City of San Diego would need to be revised, including the already completed Tijuana and San Diego River watershed brochures. Watershed brochure revision will be completed in FY 2012. Effectiveness assessments are scheduled to begin in late FY 2012. This activity will be used as a watershed education activity as required by the Municipal Permit for education activities.

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**TITLE: SMUGGLER'S GULCH, PILOT CHANNEL & NORTHERN CHANNEL  
SEDIMENT AND DEBRIS REMOVAL**

**ID #: TJ-025**

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**ACTIVITY DESCRIPTION**

On September 23, 2009, the City of San Diego Council declared a State of Emergency in the Tijuana River Valley due to the potential for severe flooding pursuant to Resolution Number R-30526. Re-establishment of the channel profiles to reduce the risk of flooding in these flood control facilities was deemed necessary because of the additional sediment deposition from the Tactical Infrastructure Border project, and because of the flood which occurred in late November 2008. In FY 2011, the City excavated and removed sediment and trash, including tires, within two flood control facilities known as Smuggler's Gulch and the Tijuana River Pilot Channel pursuant to Emergency Coastal Development Permit No. 784887, County of San Diego's Regional General Permit 53, US Army Corp of Engineers Permit SPL 2009-00719-TCD, and Regional Water Quality Control Board 401 Water Quality Certification 09C-077.

In FY11, the City excavated and removed 13,000 cubic yards from these flood control facilities.

The sediment removal project is necessary 1) to return the drainage facility to a condition where adjacent property is not threatened by flooding, 2) storm water flows convey properly to the main channel, and 3) channel profiles and conditions are restored to reduce the potential for sediment and debris to accumulate and thereby increase the potential of flooding.

**TMDL APPLICABILITY**

None

**TIME SCHEDULE FOR IMPLEMENTATION**

During FY 2011, excavation and removal of sediment and trash continued.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Sediment
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River WMA identify sediment and trash as high priority water quality problems and recommend implementing load reduction/source abatement activities to address them. This activity results in a direct load reduction of these pollutants.

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**EFFECTIVENESS MEASUREMENTS**

This activity is assessed based on the amount and type of sediment and debris removed. In FY 2011, the City excavated and removed 13,000 cubic yards from these flood control facilities.

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**TITLE: WILDCOAST SPRING CLEAN-UP EVENT - MAY, JUNE 2011**  
**ID #: TJ-026**

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**ACTIVITY DESCRIPTION**

The County of San Diego’s Department of Public Works Recycling Section and Watershed Protection Program sponsored two clean-up events coordinated by WILDCOAST in the Tijuana River Valley. The events were held in conjunction with the County of San Diego Parks and Recreation Department Trails Day Activities and included picking up trash and debris along the Effie May Trail. Trash and debris were weighed to determine total amounts removed. Trash removal services were donated by Allied Waste Services.

**FY 10-11 ACTIVITY DESCRIPTION**

The Recycling Section also hired work crews to remove tires from the Tijuana River Valley on June 24 and 28.

**FY 10-11 ACTIVITY IMPLEMENTATION**

The events occurred on May 14, 2011 at Dairy Mart Road and June 4, 2011 at Effie May Trail. Thirty-five people attended the May event and collected 1.59 tons of trash and removed 38 tires from the river valley. The June event included 103 people and collected 1.14 tons of Trash and removed 63 Tires (See Table 1 below).

In addition, the County’s Recycling section identified areas with large amounts of tires and hired work crews to manually carry the tires out of the main channel at Dairy Mart Road and the sediment basin at Goat Canyon. Two work days were completed in June 2011 resulting in the removal of 912 tires.

**Table 1: Trash and Tire Clean-up Data**

<b>Date</b>	<b>Number of People</b>	<b>Pounds of Trash</b>	<b>Number of Tires</b>
May 14, 2011 (Volunteer Cleanup Dairy Mart Road, tires removed by County contractor and staff on May 17, 2011)	35	1.59 tons	38
June 4, 2011 (Volunteer Cleanup Effie May, tires removed by County contractor and staff on June 8, 2011)	103	1.14 tons	63
June 24, 2011 (County contractor and staff collected tires from Dairy Mart Road –east of the bridge, tires removed by County contractor and staff on June 29, 2011)	13	6.48 tons	479
June 28, 2011 (County contractor and staff collected tires from Goat Canyon, Smugglers Gulch, and Dairy Mart Road tires removed by County contractor and staff on June 30, 2011)	15	4.96 tons	433

\*Pounds of trash does not include weight of tires.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

This project was completed during FY10-11. No further activity is currently planned.

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**PARTICIPATING WATERSHED COPERMITTEES**

County of San Diego

**OTHER PARTICIPATING ENTITIES**

The following groups provided sponsorships, donated services or participated in the clean-up.

WILDCOAST

Allied Waste Services

REI

New Ocean Blue

Union of Pan Asian Communities

SDGE

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

Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

This activity supports the following principles that have been established to guide the selection and implementation of watershed activities as part of the Tijuana River Watershed WURMP:

Taylor activities implemented as part of the Tijuana River Copermittees' Jurisdictional Urban Runoff Management Programs (JURMPs), Watershed Urban Runoff Programs (WURMPS) and the Regional Copermittees' Regional Urban Runoff Management Program (RUMP) to the extent possible to address the watershed's priority water quality problems.

**EFFECTIVENESS MEASUREMENTS**

Activity effectiveness was be measured by weighing the amounts of trash collected during the event (Level 4). All project elements were completed during FY10-11.

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**TITLE: TIJUANA RIVER ACTION MONTH**  
**ID #: TJ-027**

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**ACTIVITY DESCRIPTION**

The Tijuana River Copermittees including the Cities of San Diego and Imperial Beach and the County of San Diego collaborated on a series of clean-up and education events in the Tijuana River Valley during the months of September and October. The September 25th clean-up will be included as one of many events included as part of the International Coastal Clean-up Event hosted by I love a Clean San Diego. The October events are being coordinated by WiLDCOAST and will consist of four clean-up at different locations within the river valley and one clean-up in an adjacent canyon in Mexico that drains to the Valley. Each cleanup will be co-hosted by a different organization along with WiLDCOAST. Trash and debris will be weighed to determine total amounts removed. Trash removal services will be donated by Allied Waste Services and Tire Removal Activities will be funded by the County and City of San Diego through grants awarded through CalRecycle.

In addition, the County's Recycling section identified existing tire piles in the area from previous cleanups and arranged for removal.

**FY 09-10 ACTIVITY IMPLEMENTATION**

The County's Recycling Section applied for the CalRecycle grant funding for this project in December, 2009. CalRecycle informed the County that grant would be funded in April. On June 11, 2010 County staff from the Recycling section and Watershed program met with WildCoast staff to discuss the project. The grant was funded for the full amount of \$35,868 in June, 2010 with the grant term beginning July 1, 2010. All grant activities must be completed by June 30, 2011.

**FY10-11 ACTIVITY IMPLEMENTATION**

In August, 2010 the Recycling section finalized the agreement with WildCoast for four cleanups in the Tijuana River Valley. The Recycling section also issued a Request for Quotation for a state certified waste tire hauler to transport the tires collected at the cleanups to a state certified tire recycling facility. The low cost bidder was awarded the contract on September 1, 2010. The Watershed Protection Program supplemented the grant funding and contributed \$2,500 toward the clean up events. Several clean-up events were planned and implemented during the FY10-11 (See Table 1 Below).

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

December 2009 - Grant application

June 11, 2010 through October 2010 - Planning (additional planning was required once the region received early rains).

September 2010 through October 2010 - Clean-ups.

**PARTICIPATING WATERSHED COPERMITTEES**

County of San Diego

City of San Diego

City of Imperial Beach

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**Table 1: Trash and Tire Clean-up Data**

<b>Date</b>	<b>Number of People</b>	<b>Pounds of Trash</b>	<b>Number of Tires</b>
September 25, 2010 (Volunteer Cleanup at Dairy Mart)	32	500	25
October 2, 2010 (Volunteer Cleanup at Effie May)	91	1,000	74
October 5, 2010 (Removal of tires from an existing tire pile behind the IWBC facility– the tires originated from a cleanup at Dairy Mart Road, location 1)	7		450
October 5,2010 (Removal of tires from an existing tire pile off Sunset Ave west of 19 <sup>th</sup> St. on a County owned parcel – the tires originated from a cleanup at Effie May Trail, location 2)	7		389
October 7,2010 (Removal of tires from an existing tire pile at Goat Canyon)	7		814
October 9, 2010 (Volunteer Cleanup at Willow Basin)	50	4,175	13
October 9, 2010 (County contractor and staff collected tires from Smugglers Gulch and removed them)	8		47
October 16, 2010 (Volunteer Cleanup at In Mexico)	30	21 tons	20
October 18, 2010 (Volunteer Cleanup at Dairy Mart Road Job Corps effort, tires removed by County contractor and staff on Oct. 25, 2010)	46		758
October 23, 2010	Media Event only	Canceled - Weather	

\*Pounds of trash does not include weight of tires.

**OTHER PARTICIPATING ENTITIES**

The following groups provided sponsorships, donated services or participated in the clean-up:

I Love a Clean San Diego  
 TRNERR/State Parks  
 Allied Waste Services  
 REI  
 San Diego Surfrider  
 Tijuana Calidad de Vida  
 San Diego Coastkeeper  
 Job Corps  
 Outside the Lens  
 WILD Coast

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

Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

This activity supports the following principles that have been established to guide the selection and implementation of watershed activities as part of the Tijuana River Watershed WURMP:



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Taylor activities implemented as part of the Tijuana River Copermittees' Jurisdictional Urban Runoff Management Programs (JURMPs), Watershed Urban Runoff Programs (WURMPS) and the Regional Copermittees' Regional Urban Runoff Management Program (RUMP) to the extent possible to address the watershed's priority water quality problems.

**EFFECTIVENESS MEASUREMENTS**

Activity effectiveness will be measured by weighing the amounts of trash collected during the individual events (Level 4).

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**TITLE: XERISCAPING MUNICIPAL FACILITIES**  
**ID #: TJ-028**

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**ACTIVITY IMPLEMENTATION**

Imperial Beach partnered with California American Water Company to replace landscaping at municipal facilities with drought tolerant plants. The City identified landscapes at City Hall, Marina Vista Center, and Sewer Pump Station 8 as locations for xeriscaping projects. Existing vegetation at these locations consist of grass, shrubs, birds of paradise, and other non-native pants that require significant maintenance and watering. Replacing the existing landscapes with native and drought tolerant plants will result in the reduction of fertilizers and irrigation.

In 2009 the City received a grant from California American Water and moved forward with the first xeriscaping project at City Hall. The City hired a landscape architect for the initial design of the project. The implementation of the project was taken on as an Eagle Scout Project for Boy Scout Troop 53, North Park with preparation work and oversight provided by the Public Works Department. Xeriscaping at City Hall was completed in February 2010.

During this reporting period the City completed two more xeriscaping projects with the help from Boy Scout Troup 53, North Park. These additional locations include the Marina Vista Center and Sewer Pump Station 8.

**TMDL APPLICABILITY**

This activity is not specifically targeted for TMDLs in the Tijuana WMA.

**TIME SCHEDULE FOR IMPLEMENTATION**

Xeriscaping at City Hall was completed in February 2010, xeriscaping at the Marina Vista was completed in August 2010, xeriscaping at Sewer Pump Station 8 was completed in January 2011. The City will continue to xeriscape existing municipal facilities and/or remove impermeable surfaces as projects are identified. This activity is ongoing.

**PARTICIPATING WATERSHED COPERMITTEES**

City of Imperial Beach

**OTHER PARTICIPATING ENTITIES**

- Boy Scouts of America
- California American Water Company

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

- Bacteria
- Nutrients

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Bacteria and nutrients are identified as a priority water quality problem in the Tijuana WMA. Through less watering and less fertilizing, this project will help reduce the amount of nutrients and irrigation runoff in the MS4 and the watershed. Since this activity addresses priority water quality problems and a priority source, it is consistent with the collective watershed strategy.

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**EXPECTED BENEFITS**

Expected benefits of xeriscaping include compliance with permit requirements, a reduction in irrigation runoff and contribution of nutrients in the watershed. This activity serves as a water quality activity but also indirectly contributes to education because the projects set an example of preferred landscapes in the community. Less runoff from irrigation will reduce pollutants in the watershed and the presence of attractive native plant displays at City facilities will show the public that these displays are a viable and attractive alternative to traditional landscaping.

**EFFECTIVENESS MEASUREMENTS**

The effectiveness of the xeriscaping projects at City Hall, Marina Vista Center, and Sewer Pump Station 8 meet the requirements of Outcome Level 1, Level 2, and Level 4. Xeriscaping raises awareness of the connectivity of water saving landscape to urban runoff, storm drain systems, and receiving waters.

<b>Outcome Type</b>	<b>Potential Assessment Measures and Methods</b>
Level 1: Compliance with Activity-based Permit Requirements.	Implementation of 3 xeriscaping projects by Eagle Scouts under the supervision of Public Works Director Hank Levien.
Level 2: Changes in Knowledge / Awareness.	Knowledge of water quality issues and the effects of irrigation were increased as a result of this project. Citizens and staff alike were shown through example that native plants can provide an attractive alternative to similar landscaping and reduce urban runoff. Project was also collaboration among CalAmerican Water, City of Imperial Beach, and Boy Scout Troop 53.
Level 3: Behavioral Change / BMP Implementation.	The City was able to further reduce irrigation by replacing a total of 10,900 square feet of landscape with drought tolerant plants.
Level 4: Load Reductions.	Dip irrigation was installed and reduced irrigation for City Hall by 42 percent. This will reduce pollutant load to the MS4 by reductions in irrigation and nutrients.

**TITLE: FIESTA DEL RIO EVENT**  
**ID #: TJ-029**

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**ACTIVITY DESCRIPTION**

In FY 2009, the City of San Diego (City) and Think Blue became a sponsor of the annual Fiesta Del Rio event in the Tijuana River Watershed Management Area (WMA). The Fiesta del Rio event is designed to raise awareness about the environment of the San Diego/Northern Baja region surrounding the Tijuana River Estuary, and steps the public (especially families with children) can take to help protect this fragile ecosystem and the surrounding area.

The Think Blue sponsorship included staffing a booth to provide the opportunity to educate the public about preserving the local environment, promote stewardship the Tijuana River Estuary, and encourage proactive steps in preventing pollution from entering the storm drain system. Think Blue staff offered free BMP related giveaway items to the public in exchange for their participation in a survey designed to assess their knowledge and attitudes towards storm water pollution and steps they would be willing to take to help reduce pollution of local waterways in the future.

**TMDL APPLICABILITY**

Event attendance will target pollutants associated with TMDLs as applicable.

**TIME SCHEDULE FOR IMPLEMENTATION**

Planning was completed in 2009. Implementation and assessment were completed in 2011.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Bacteria/Pathogens
- Metals
- Oil & Grease
- Pesticides
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

This activity will address the high priority water quality problems identified in both the City's Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River Watershed Management Area.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) What change in awareness /attitude regarding bacteria was achieved after implementation?
- 2) How efficient is this education activity based on total cost versus number of people (targeted audience) reached?

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### **Targeted Measurable Outcome(s)**

- 1) Reach pre-set percentage of residents within target watershed
- 2) Increased level of knowledge/attitude based on post-activity surveys

### **Assessment Method(s)**

- 1) Survey (e.g., administer survey to assess knowledge, attitude and willingness to prevent pollution of participants)
- 2) Quantification (e.g., number of residents/ visitors reached and number of materials distributed)

### **Data Recorded**

- Estimated total visitors exposed to the Think Blue Booth at the Fiesta Del Rio in FY 2011 (Outcome Level 1): 5,000
- Number of Surveys administered in FY 2011 (Outcome Level 1): 36
- Percentage of individuals surveyed that knew storm water is not treated (Outcome Level 2): 72%
- Percentage of individuals able to name a concrete action to prevent storm water pollution (Outcome Level 3): 83%
- Percentage of individuals surveyed who reported a willingness to take steps to engage in behavior that would prevent pollution (Outcome Level 3): 96%

### **Expected Benefits**

The goal of this activity is increasing knowledge and awareness in the residents and visitors in the Tijuana River Watershed in order create positive behavioral change that will reduce the presence of bacteria and gross pollutants in nearby waterbodies. Effectiveness Assessment will be ongoing as Think Blue gathers more data from the event.

### **Analysis Results**

Effectiveness assessment results of this activity will be in FY 2012 in order to have a statistically significant sample size and provide an opportunity to note any behavioral changes over a longer period of time.

### **Conclusions**

Based on attendance size and demographics of the Fiesta Del Rio, the City plans to continue to sponsor and staff the Fiesta Del Rio. This activity will be used as a watershed education activity as required by the Municipal Permit for education activities.

**TITLE: BEYER BOULEVARD TRASH SEGREGATION BEST MANAGEMENT  
PRACTICE**  
**ID #: TJ-030**

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**ACTIVITY DESCRIPTION**

Stormwater Drain Inlet Pilot Study involves the installation of two curb inlet inserts in the Tijuana River Watershed Management Area (WMA) to prevent trash and debris from entering the MS4. The inserts will be installed directly in the existing curb inlets along Beyer Blvd. The Beyer Blvd site includes the installation of 2 storm drain curb inlet inserts as retrofits within the existing storm drain system. The curb inlet inserts will be used to reduce the amount of trash, leaves, sediment, and oils and grease that make its way into the storm drain system.

This project was originally identified as a Trash Segregation Device Installation in the 2008 Tijuana River WURMP. In June 2008, the site along Beyer Blvd was selected and the conceptual design was released for this project.

**TMDL APPLICABILITY**

Not applicable

**TIME SCHEDULE FOR IMPLEMENTATION**

This project is part of a Storm Drain Inlet Inserts Pilot Project that initiated planning in FY 2008. The City of San Diego issued a Request for Proposals (RFP) from interested vendors and advertised the project as a pilot at no cost to the City. Interested vendors submitted their proposals in July 2010 and the City conducted a selection process to evaluate the submitted proposal. Based on the selection panel recommendation, vendor product(s) that met the performance standards and requirements of the RFP have been awarded. The catch basin inlets have been retrofitted with the selected drainage inserts during the month of March in 2011 and the first phase of monitoring started during the month of September in 2011.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- None

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

- Bacteria/Pathogens
- Oil & Grease
- Sediment
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River WMA identify trash and bacteria as a high priority water quality problem throughout the watershed, and recommend implementing load reduction/source abatement activities to

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address it. Implementation of this activity will address bacteria via the facilitation of trash and debris removal.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) What is the load reduction efficiency of the catch basin inserts?
- 2) How effective are these catch basin inserts at reducing priority pollutant loads?

**Targeted Measurable Outcome(s)**

- 1) Reduction in priority pollutant loads

**Assessment Method(s)**

- 1) Inspections (e.g., ensure the catch basin inserts are working as designed)
- 2) Quantification (e.g., use drainage area and rainfall information to calculate estimated load reduction)
- 3) Monitoring (e.g., collect special study information to collect concentrations and flows to estimate load reduction)
- 4) Tabulation (e.g., amount of money spent on implementation and maintenance)
- 5) Reporting (e.g., estimates of load reduction from 3rd party data)

**Data Recorded**

- How much money spent on inspections and maintenance
- Trash Capacity
- Flooding Issues
- Functionality during storm event
- % Trash Bypass

**Expected Benefits**

Drain inserts are moderately effective at reducing discharge of trash to receiving waters when loadings are compatible with the maintenance frequency. Excessive flow bypasses is the main cause of reduced performance.

**Analysis Results**

An effectiveness assessment of this activity is currently underway. The City will conduct project monitoring to evaluate the effectiveness of the drainage insert selected in load reduction and effluent quality.

**Conclusions**

Effectiveness and efficiency will be determined by comparing future load reductions to the cost of installation, maintenance and monitoring efforts.



**TITLE: SWEEPER SPEED EFFICIENCY STUDY**  
**ID #: TJ-031**

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**ACTIVITY DESCRIPTION**

During FY 2011, the City of San Diego (City) implemented a sweeper speed efficiency pilot study. The Sweeper Speed Efficiency Study focused on assessing the speed efficiency of the City's mechanical street sweepers to determine whether the amount of debris collected is dependent on the variation in speed of the sweeper. The City's typical street sweeper operational speed is between 6-12 miles per hour. Reduced street sweeper speed is defined as 3-6 miles per hour based on manufacture recommendations. During project planning, a commercial route along Beyer Boulevard in the Tijuana River WMA was selected for this study based on a number of criteria.

The goals of the Sweeper Speed Efficiency Study were to:

- 1) Assess the benefit of maximizing the level of debris removed versus operating the street sweeping equipment at the reduced operating speed;
- 2) Assess the benefit of maximizing the volume of metals removed versus operating the street sweeping equipment at the reduced operating speed;
- 3) Assess the relative level of load reduction potential for street sweepers at various speeds; and
- 4) Determine the relative cost efficiency of limiting the speed of street sweepers to reduced operating speed.

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 conformed to this strategic approach by providing a phased approach. The Sweeper Speed Efficiency Study was piloted first to determine whether reducing sweeper speeds improves the effectiveness of street sweeping activities before being considered for broad scale implementation.

**TMDL APPLICABILITY**

Not applicable

**TIME SCHEDULE FOR IMPLEMENTATION**

Project planning took place in FY 2010. Implementation and assessment was completed in FY 2011.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- URS Corp.

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

- Bacteria/Pathogens
- Metals
- Sediment
- Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The Collective Watershed Strategy for the Tijuana River WMA identifies bacteria as a high priority water quality problem, and recommends implementing load reduction/source abatement activities to address it. Implementation of this activity addresses bacteria by removing trash and debris, which contains bacteria, from City roadways.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) What is the benefit of maximizing the level of debris removed versus operating the street sweeping equipment at the reduced operating speed?
- 2) What is the benefit of maximizing the volume of metals removed versus operating the street sweeping equipment at the reduced operating speed?
- 3) What is the relative level of load reduction potential for street sweepers at various speeds?
- 4) What is the relative cost efficiency of limiting the speed of street sweepers to reduced operating speed?

**Targeted Measurable Outcome(s)**

- 1) Achieve load reduction for metals based on monitoring information

**Assessment Method(s)**

- 1) Monitoring (e.g., collect data to estimate loads, concentrations of COCs in runoff)
- 2) Tabulation (e.g., amount of money to post additional signage and sweep medians)
- 3) Quantification (e.g., load estimate comparison pre and post-signage)

**Recommended Data**

- 1) Total pounds of debris removed (Outcome Level 4)
- 2) Total broom miles swept (Outcome Level 4)
- 3) Cost of sweeper repairs/maintenance (Outcome Level 1)
- 4) Total pounds of debris removed by land use (Outcome Level 4)
- 5) Frequency of removal correlated to pounds of debris removed (Outcome Level 1 and 4)
- 6) Post-sweeping COC concentrations in runoff (Outcome Level 4)

**Expected Benefits**

The goal of the assessment was to determine the optimal speed to operate City mechanical sweepers to maximize debris and metals removal. By reducing the operational speed of the City's street sweepers, it was anticipated that the sweepers would be able to remove more debris and metals, which may have resulted in increased load reductions for high priority water quality problems.

**Analysis Results and Conclusions**

Results from the Speed Efficiency study indicated that the operation of mechanical street sweepers at the two monitored operation speeds had little impact on the weight of debris collected in the field and the pollutant removal capability of the sweeping machines. The weight of material collected by the street sweepers was highly variable and did not correlate with operational speed. In addition, chemistry analysis of roadway debris samples collected prior to and after street sweeping activity revealed significant variability in both the pre-sweep and post-sweep sample results. This result is important in that the variability of the pollutant concentration at the scale of the roadway sample collection limited the ability to detect differences between the two operational speeds.

Street sweeping along Beyer Boulevard associated with this pilot study resulted in the additional removal of 3,560 lbs of debris above normal City street sweeping operations. Therefore, this activity resulted in a

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measurable pollutant load reduction (Outcome Level 4) during the reporting period and fulfills the requirement of a watershed water quality activity for credit in FY 2011.

**Recommendations**

The results of the pilot study were inconclusive; therefore, no changes to the City's standard operating sweeper speed are recommended at this time.

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**TITLE: RESIDENTIAL RAIN BARREL SUBSIDIES & DISTRIBUTIONS**  
**ID #: TJ-032**

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**ACTIVITY DESCRIPTION**

The County of San Diego will implement a rain barrel subsidy and distribution program targeting residents throughout the County. Rain barrel use will be encouraged through a subsidy eligible to residents of unincorporated areas, but residents of incorporated cities will also be able to purchase rain barrels at an affordable price. In addition to distribution of rain barrels, the program will promote outdoor water conservation and runoff reduction through public outreach before and during rain barrel distribution events.

Use of rain barrels can provide many benefits including reduced reliance on potable water through the storage and use of rain water for irrigation. For example, one inch of rain falling on a 1,000 square foot roof can harvest 600 gallons of rainwater. Retention and use of rain water onsite reduces the overall loading of pollutants leaving properties and entering the stormwater system. By implementing a rain barrel system, residents can:

- Reduce water pollution as a result of rainwater runoff, which carries pesticides, fertilizers, sediment, oil, and trash into local rivers and lakes.
- Reduce soil erosion and improve the ability of water to infiltrate the soil at a reduced intensity.
- Reduce dependency on imported water supplies and realize cost savings as a result of reduced water use.
- Help save energy by reducing demand on our drinking water supply.

In addition to the provision of rain barrels, County staff or contractors will be present at distribution events to provide educational materials and responses to any questions raised by participants. Residents from multiple watersheds are expected to participate in this activity and will be asked to sign a maintenance agreement as a condition of receiving a rain barrel at the subsidized rate.

Follow up surveys will be conducted with participating residents to ensure that rain barrels have been installed and to encourage proper maintenance.

**ACTIVITY IMPLEMENTATION FY09-10**

Activity during FY09-10 included conducting research to identify desired rain barrel features, including: size, ease of installation, cost, and features to discourage mosquito breeding. The County solicited bids through a formal procurement process in order to obtain the best quotes for provision of rain barrels and for one-year of customer service assistance following distribution. A vendor was selected, a contract awarded, and planning was initiated for two distribution events to be held during FY 10-11. In addition, the County used an existing website to provide more information to the public ([www.rethinkwateruse.org](http://www.rethinkwateruse.org)).

**ACTIVITY IMPLEMENTATION FY10-11**

The Rancho San Diego Sales event took place at Cuyamaca College on August 28, 2010, from 8 a.m. until noon. Seventy-eight (78) residents took advantage of the opportunity and purchased a total of 102 rain barrels. Unincorporated area residents purchased 69 rain barrels at the subsidized rate of \$30 plus tax, and 33 rain barrels were sold at the full price of \$60 plus tax.

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On September 26, 2010, there was a buzz in Fallbrook as eager residents stood in line before the 9 a.m. start time for the distribution event at Fallbrook Village Square. By the 1 p.m. closing time, 105 residents had purchased a total of 138 rain barrels. Of those, 103 barrels were sold to unincorporated area residents at the subsidized rate and 35 barrels were sold at full price.

A total of 185 residents participated in these events and a total of 240 rain barrels were sold. Participating residents came from a variety of watersheds throughout the County.

**Table 1 Residents by Watershed**

Watershed	Anza Borrego	Santa Margarita	San Luis Rey	Carlsbad	San Dieguito	Peñasquitos	San Diego River	San Diego Bay	Tijuana	Unk
Total Residents	2	24	61	6	8	4	27	50	2	1

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

Planning for this activity occurred during FY09-10. The events took place on August 28, 2011 (Cuyamaca College) and September 26, 2011 (Fallbrook Village). Additional events are being considered for implementation in FY 12-13.

**PARTICIPATING WATERSHED COPERMITTEES**

County of San Diego

**OTHER PARTICIPATING ENTITIES**

N/A

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

All

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Rainwater harvesting reduces the overall amount of runoff from individual properties resulting in a decrease in pollutant mobilization and erosion.

**EFFECTIVENESS MEASUREMENTS**

Level 1 Outcomes were achieved through the number of rain barrels sold to individuals living in the County and through the signing of rain barrel maintenance agreements.

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**TITLE: SOURCE CONTROL OF COPPER WATER POLLUTANTS, SENATE BILL  
346: MOTOR VEHICLE BRAKE FRICTION MATERIALS**

**ID #: TJ-033**

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**ACTIVITY DESCRIPTION**

Previous City of San Diego (City) investigations determined that copper from automotive brake pads was a major contributor of dissolved copper, a high priority water quality pollutant, to San Diego waterways within City jurisdiction. Because the regulation of automotive brake pads is beyond the authority of any local government, the City collaborated with other California local governments, through California Stormwater Quality Association, to achieve true source control by reducing copper at its source. It was determined that the best way to achieve this goal was through the development of legislation, mandating reductions and then replacement of copper in automotive brake pads.

The City of San Diego assisted with writing the proposed Senate Bill, provided financial resources for technical experts to assist with its development, participated in negotiations with the automobile and brake pad manufacturers, and provided lobbyist assistance to Senator Kehoe to obtain political support for the passage of the bill. Due to the automobile manufacturers renewed interest in this bill, negotiations were re-initiated to obtain support from all stakeholders, as required by the governor. The bill was rewritten multiple times and discussed by all parties before it was presented to Assembly subcommittees for review and approval. On September 25, 2010, SB346 was passed by both houses, signed into legislation by the governor and incorporated into the California Health and Safety Code, Article 13.5, commencing with Section 25250.50. Work has concluded on this legislation bill.

**TMDL APPLICABILITY**

Not applicable

**TIME SCHEDULE FOR IMPLEMENTATION**

SB346 calls for reductions of copper down to 5% by weight by 2021 and 0.05% by 2025. It is anticipated that copper loads from automotive brake pads will decline after the first reduction date in 2021.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- CASQA - assisted with writing the proposed Senate Bill, provided financial resources for technical experts to assist with its development, participated in negotiations with the automobile and brake pad manufacturers, and provided lobbyist assistance to Senator Kehoe to obtain political support for the passage of the bill.
- Coalition for Practical Regulation - assisted with writing the proposed Senate Bill, provided financial resources for technical experts to assist with its development, participated in negotiations with the automobile and brake pad manufacturers, and provided lobbyist assistance to Senator Kehoe to obtain political support for the passage of the bill.
- Alameda County - provided financial resources for experts to assist with the development of the bill, and provided lobbyist assistance to obtain political support for the passage of the bill.

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- Contra Costa County - provided financial resources for experts to assist with the development of the bill, and provided lobbyist assistance to obtain political support for the passage of the bill.
- Many San Diego Regional Copermittees provided letters in support of the legislation.

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

- Metals

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

The City Strategic Plan for Watershed Activity Implementation for the Tijuana River WMA identifies metals as a high priority water quality problem throughout the Chollas Creek WMA, and recommends implementing source control activities to address it. The objective of this activity is to reduce the amount of copper that reaches our storm drains and receiving waters to improve and restore water quality for our citizens.

**EFFECTIVENESS MEASUREMENTS**

**Targeted Measurable Outcome(s)**

- 1) Evidence of reductions of copper starting in 2022

**Objectives**

The goal of this legislation is to reduce the amount of copper released into the environment from automotive brake pads.

**Analysis and Results/Conclusions**

The authorization of this proposed legislation is expected to result in long-term reductions of copper from automotive brake pads to the environment.



**TITLE: TARGETED CATCH BASIN CLEANING PILOT STUDY**  
**ID #: TJ-034**

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**ACTIVITY DESCRIPTION**

The City of San Diego Storm Water Division began the planning of a catch basin cleaning pilot study in FY 2011. The purpose of the project is to understand the potential water quality improvements and load reduction associated with catch basin cleaning by evaluating the quantity and quality of materials removed from the storm drains from four pilot areas. The areas were selected to be representative of different land uses within the City limits. Additionally two cleaning methods will be evaluated - manual and using vector equipment. One of the pilot areas is within the Tijuana River WMA in a residential area in San Ysidro.

Composite samples collected from the material removed from the targeted catch basins will be analyzed for metals, nutrients, organics, and bacteria.

**TMDL APPLICABILITY**

Not applicable

**TIME SCHEDULE FOR IMPLEMENTATION**

Implementation and assessment is scheduled for FY 2012.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- Not applicable

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

- Bacteria/Pathogens
- Metals
- Nutrients
- Sediment

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's Strategic Plan for Watershed Activity Implementation and the Collective Watershed Strategy for the Tijuana River WMA identify bacteria, metals, organics, nutrients, and sediment as high priority water quality problems in the WMA, and recommend implementing load reduction/source abatement activities to address these constituents. This project will result in a quantifiable load reduction of sediment and will evaluate the amount of bacteria, metals, organics, and nutrients reduced as part of catch basin cleaning.

**EFFECTIVENESS MEASUREMENTS**

**Management Questions**

- 1) To what extent do changes in catch basin cleaning frequency affect the amount of pollutants collected?
- 2) What is the annual calculated load reduction based on pilot scale data collection with catch basin cleaning?

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- 3) Which cleaning method, manual versus mechanical is the most cost effective method for removing sediment from catch basins?

**Targeted Measurable Outcome(s)**

- 1) Reduction in bacteria exported from the catch basin.
- 2) Reduction in sediment exported from the catch basin.
- 3) Reduction in nutrients associated with the catch basin.

**Assessment Method(s)**

- 1) Evaluate the volume of material currently removed from each catch basin.
- 2) Evaluate the correction in cleaning results with land use category, impervious area, watershed size, and surface water impairments.

**Data Recorded**

- Volume Removed
- Location
- Sediment sample analysis

**TITLE: Rainwater Harvesting Rebate Pilot Program**  
**ID #: TJ-035**

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**ACTIVITY DESCRIPTION**

The City of San Diego Transportation & Storm Water Department, Storm Water Division collaborated with the Public Utilities Department in the planning of a Rainwater Harvesting Rebate Pilot Program (Rebate Pilot Program). During this reporting period staff from both departments met to discuss the application process, funding, administration, promotion, and other items related to the Rebate Pilot Program.

This Rebate Pilot Program will be open to the residents of the City of San Diego on a first come first serve basis and will provide a rebate of .50c per gallon, up to \$200 per address, for water capture devices up to 400 gallons that are purchased and installed. The Public Utilities Department will administer the Rebate Pilot Program in conjunction with its ongoing Prop 50 Outdoor Water Conservation Rebate Program.

**TMDL APPLICABILITY**

San Diego Region Beaches and Creeks Bacteria TMDL

**TIME SCHEDULE FOR IMPLEMENTATION**

Planning started in the last quarter of FY 11 with a tentative implementation start date in FY12.

**LEAD WATERSHED COPERMITTEE**

- City of San Diego

**OTHER PARTICIPATING COPERMITTEES**

- None

**OTHER PARTICIPATING ENTITIES**

- City of San Diego Public Utilities Department

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

- All

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Both the City's *Strategic Plan for Watershed Activity Implementation* and the Collective Watershed Strategy for the Tijuana River Watershed Management Area (WMA) identifies several water quality problems throughout the watershed. Rainwater harvesting reduces the overall amount of wet weather runoff and the demand for portable water for irrigation.

**EFFECTIVENESS MEASUREMENTS**

Data to be recorded

- 1) Most common water catchment device installed
- 2) Average size of water catchment device installed

**EXPECTED BENEFITS**

The use of water capture devices (e.g., rain barrels) reduces wet weather runoff to the MS4, and collected water also reduces the demand for portable water to irrigate landscaping.

**ANALYSIS RESULTS**

This activity was not in active implementation in FY 2011. Therefore, assessment is not possible at this time.

**CONCLUSIONS**

The project is currently being planned so there are no conclusions to report.

**TITLE: 2011 TRASH ASSESSMENT OF THE UPPER TIJUANA RIVER WATERSHED**  
**ID #: TJ-036**

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**ACTIVITY DESCRIPTION**

On January 20, 2010, the San Diego County Regional Water Quality Control Board hosted a public workshop and CEQA scoping meeting for the Tijuana River and Estuary Sedimentation and Trash Total Maximum Daily Load (TMDL) Project. In response to this notice, the County of San Diego will conduct a baseline trash assessment of the upper portions of the Tijuana River Watershed. The purpose of the study is to assess the levels of trash at different sampling locations draining portions of the watershed located in the United States. The assessment will be based on “*The Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams*” (SWAMP 2007).

This method generates site-specific scores from 0 to 120, with higher values indicating cleaner sites. The method also documents the number of pieces of trash per one hundred feet of stream, and the rate of return of trash under different hydrologic conditions. Trash assessment includes a visual survey of the water body (e.g., streambed and banks) and adjacent areas and is designed to represent the range of effects that trash has on the physical, biological, and chemical integrity of water bodies.

**ACTIVITY IMPLEMENTATION FY10-11**

From January 27 through April 29, 2011, a pilot trash assessment was carried out by the County of San Diego at ten locations within the Tijuana River Watershed. County staff visited each of the sites after two notable rain events between January and April in 2011. Complete methodology and information regarding the assessment can be found in the attached Final Report.

**TMDL APPLICABILITY**

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

**TIME SCHEDULE FOR IMPLEMENTATION**

Trash assessments occurred between January and April 2011. The Final Report was completed in December 2011. No further action is planned on this activity at this time.

**PARTICIPATING WATERSHED COPERMITTEES**

County of San Diego

**OTHER PARTICIPATING ENTITIES**

N/A

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

Trash

**CONSISTENCY WITH THE COLLECTIVE WATERSHED STRATEGY**

Trash assessments will provide valuable information on the source and extent of the trash problem in the watershed and provide the basis to develop programs to address trash.

**EFFECTIVENESS MEASUREMENTS**

Completion of trash assessments at the ten locations is considered a Level 1 Outcome.