

## Appendix E

# Chollas Creek Dissolved Metals TMDL Implementation Plans Updates

## California Department of Transportation (Caltrans) Watershed Activities Reporting Year 2, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Activities For Current Reporting Year</b>					
Tier I Facilities Pollution Prevention Plan	Annual inspection of Caltrans maintenance stations for storm water compliance.	Implementation	Level 4	Are there deficiencies in our maintenance facilities where potential pollutants discharged may reach the creek?	Caltrans has one bridge paint maintenance station (Coronado) and another typical maintenance station (Chollas) in the watershed and the results of the inspection conducted showed no deficiencies.
Tier II Chollas Watershed sweeping	Sweeping effort in the watershed, especially in priority sectors before the start of the rainy season and before rain events. Efforts to be coordinated with our maintenance staff.	Implementation	Level 4 Level 5	How many miles are swept per year and how much material is swept?	Maintenance crews sweep the freeways twice a month. Number of miles swept in watershed (freeway in both directions) (FY 09-10) =approximately 40.8 miles  Materials removed (FY 09-10)=approximately 13.5 cubic yards based on the district average materials in cubic yards swept per lane mile in San Diego County.
Tier II Homeless Encampment Removal	Eradicate illegal human encampment under bridges along the freeways within the Chollas watershed by paving under bridges and placing cobbles to reduce bacteria, metals and trash loading.	Implementation	Level 4	How many homeless encampments have been removed?	A project has been completed on I-5 at Pershing Drive. The project placed concreted rock slope protection under the bridge.
Tier II Collaborative Special Study (Jurisdictional Boundary Monitoring in the Upper Watershed)	Evaluate and compare water quality in the upper and lower watersheds in the north fork and south fork of Chollas Creek. During two of the three required storms per the Chollas TMDL, monitoring was conducted at the jurisdictional boundaries between the cities of San Diego, La Mesa, and Lemon Grove at sites LM-1 and LG-1. Flow-weighted composite samples that were analyzed for the following constituents:  Total hardness, dissolved copper, dissolved lead, and dissolved zinc. Organophosphate pesticides (i.e., Diazinon and Chlorpyrifos). Organochlorine pesticides (i.e., Chlordane). Polynuclear aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). Acute and chronic toxicity to <i>C. dubia</i> .	Planning	Level 1	What are the pollutant loads at the jurisdictional boundaries? How do the loads compare in the upper and lower watersheds in both forks?	<ul style="list-style-type: none"> <li>▪ Diazinon and Chlorpyrifos were not detected above either the acute or chronic waste load allocations (WLAs) at LM-1 or LG-1 during any monitored storm event.</li> <li>▪ Toxicity to <i>Ceriodaphnia dubia</i> was only tested at LM-1 and LG-1 during the February 2010 storm event. There were no instances of acute or chronic survival and reproductive toxicity to <i>C. dubia</i>.</li> <li>▪ Metals concentrations and exceedance ratios at LM-1 were generally greater than in LG-1.</li> <li>▪ Copper had a higher detection rate and exceedance rate (compared to the acute and chronic WLAs) than lead and zinc.</li> <li>▪ Dissolved lead was below the acute WLA at all sites during all events. Dissolved lead was above the chronic WLA at LM-1 and LG-1 during the February 2010 storm event</li> </ul>
Tier II Collaborative Special Study (Activity Assessment Grab Samples for Metals and sediment)	Activity assessment comprised of one grab samples per location, collected for source identification studies or for BMP assessments. Samples were collected from specific land use areas in each priority sector during one wet weather event.  Samples were analyzed for total and dissolved metals, TSS, and hardness.	Planning	Level 1	What is a typical runoff concentration form a specific land use?	Monitoring activities conducted for this Study identified ten potential hot spots for dissolved copper, dissolved lead, dissolved zinc, and/or total suspended solids (TSS). The three hot spots with the highest relative priority were Site 19 (Commercial), Site 11 (Transportation), and Site 10 (Residential), as follows: <ul style="list-style-type: none"> <li>▪ Site 19 had the highest dissolved copper, lead and zinc concentrations and the fifth highest TSS concentration.</li> <li>▪ Site 11 had the second highest dissolved copper and TSS concentrations, fourth highest dissolved lead concentration, and third highest dissolved zinc concentration.</li> <li>▪ Site 10 had the highest TSS concentration of all sites, but was not identified as a hot spot for metals.</li> </ul>

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Collaborative Special Study (Bacteria Monitoring)	Samples were collected and analyzed for total coliform, fecal coliform, and <i>enterococci</i> during storm events at SD8(1) and DPR2 (three storms) and LM-1 and LG-1 (two storms). Samples were collected as grab samples during the peak flow of the storm event.	Planning	Level 1	What's the bacteria concentration at the jurisdictional boundaries and the two required monitoring stations?	Sample results were compared to the WLA criteria in the <i>Revised TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)</i> , which was adopted into the Basin Plan through Regional Board Resolution No. R9-2010-0001 <ul style="list-style-type: none"> <li>All samples collected for Collaborative Special Study 4 exceeded the fecal coliform WLA.</li> <li>There are no discernable patterns for bacteria concentrations across the Chollas Creek Watershed. Total coliform, fecal coliform, and <i>enterococcus</i> concentrations varied from storm to storm and location to location. Fecal coliforms decreased with each successive storm event at SD8(1), however concentration increased with each successive storm event monitored at DPR2.</li> </ul>
<b>Ongoing Agency Wide Activities</b>					
Tier I Brake Pad Partnership (BPP)	Caltrans funded work consisting of a watershed modeling effort conducted as part of a larger study examining the potential impact of copper from brake pad wear and debris released to the environment. The objective of the environmental transport and fate modeling is to predict how copper released from brake pads enters the bay and affects both the short-term and long-term concentrations of copper in the bay.	Implementation	Level 4	Are there new products that can replace the current products used for making brake pads?	Caltrans continues to fund the watershed modeling component of the BPP's technical studies and is working with the BPP to augment the modeling efforts of copper in highway environments. Results of the study will benefit in reducing copper concentration in the creek.
Tier I Don't Trash California	Using a comprehensive, multicultural approach, the <i>Don't Trash California</i> campaign targets primary offenders of highway littering, as well as the general public, to create a social mindset in California that this State does not tolerate polluting our freeways and highways. The campaign will implement proven strategies in the Chollas Creek Watershed, including billboard, bus advertising, partnerships and community outreach to raise the level of awareness of the effects of littering and encourage the public to avoid littering.	Implementation	Level 2 Level 3	How much public education materials were distributed to sponsors in the watershed?	Caltrans provided the following collateral items to Groundwork San Diego for distribution at school education visits:  25 Activity Books In English 50 T Shirts 50 Ball Point Pens 25 Reusable Bags 20 Megaphones
Tier II Ornamental Roadside Vegetated Treatment Sites (ORVTS) Study	The Ornamental Roadside Vegetated Treatment Sites (ORVTS) Pilot Study is comprised of two types of study sites: the Expanded Roadside Vegetated Treatment Sites (ERVTS) and the Groundcover Roadside Vegetated Treatment Sites (GRVTS). The ERVTS sites were constructed to expand the treatment strips at existing site locations of the original Roadside Vegetated Treatment Sites (RVTS) Pilot Study with new groundcover. Existing RVTS data will be utilized as a baseline condition, providing supplemental data on alternate vegetation types.	Planning	Level 1 Level 4 Level 6	For the ERVTS, how effective is the groundcover vegetation species at providing treatment of highway runoff and how do they compare in treatment potential to existing grass and for vegetation within the Caltrans rights-of-way (ROW)?	Monitoring is ongoing. The report for the past monitoring season has not been finalized yet. Results will be reported as part of Caltrans Annual Report
Tier II Open/Gap Graded Asphalt Pavements Water Quality Project	The study of Porous Asphalt Concrete Overlays Project was initiated to better understand the potential water quality benefits of asphalt concrete porous pavement overlays (porous pavement). The objective of the multi-year Project is to evaluate the quality of stormwater runoff from porous pavements compared to conventional Dense Graded Hot Mix Asphalt (DG HMA). The Project includes sites at eleven locations located statewide. The porous overlays tested include Open Graded Friction Course (OGFC), Rubberized Hot Mix Asphalt Open Graded (RHMA-O), and Rubberized Hot Mix Asphalt Gap Graded (RHMA-G). Field monitoring has been performed since early in 2008 with three to 12 storm events successfully captured at each station, including flow-weighted composite samples, flow and precipitation.	Implementation	Level 1 Level 4 Level 6	Treatment effectiveness is based on assessing the following parameters. <ul style="list-style-type: none"> <li>Sediment (total suspended solids [TSS])</li> <li>Total phosphorus</li> <li>Copper (total and dissolved)</li> <li>Zinc (total and dissolved)</li> </ul>	No conclusions are drawn at this time. Monitoring is ongoing. The report for the past monitoring season has not been finalized yet. Results will be reported as part of Caltrans Annual Report

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>New Activities</b>					
Tier II Corrugated Metal Pipe Replacement	Replace or slip line corrugated metal pipes (CMPs) with other material such as concrete to reduce dissolved metals discharges to the creek.	Implementation	Level 4	How many feet of corrugated metal pipes have been retrofitted?	<ul style="list-style-type: none"> <li>Invert paved 3650 feet of failed CMP pipe and slip line 260 feet along I-805 near Adams Avenue (post mile 15.3) (Contract # 403904).</li> <li>Replaced 100 feet of CMP along I-805 at University Avenue (Contract # 381504).</li> </ul>
Tier II Structural BMPs Implementation for Major Construction Projects	Construct Bus Rapid Stations and High Occupancy Vehicle (HOV) lanes with structural BMPs in San Diego County from 0.4 mile north of Route 805/15 separation to 0.1 mile south of Route 15/8 Separation (contract 2T1300)	Planning	Level 1 Level 4 Level 6	How much of the existing and proposed pavement areas will be treated by the proposed structural BMPs?	<ul style="list-style-type: none"> <li>Project is in the planning stages and potential locations of structural BMPs are being evaluated at this time.</li> </ul>
Tier II Structural BMPs Implementation for Major Construction Projects	Construct express and HOV lanes south in San Diego County in and near the City of Chula Vista, .32 Miles south of Palomar Street overcrossing to the Landis Street overcrossing. The project is proposing to incorporate 26 biofiltration swales within the Chollas watershed only (contract 081610).	Planning	Level 1 Level 4 Level 6	How much of the existing and proposed pavement areas will be treated by the proposed structural BMPs?	<ul style="list-style-type: none"> <li>Project is in the planning stages and will be constructed in multiple phases. Caltrans will report more details on each phase of construction in the upcoming reporting periods.</li> </ul>
Tier II Structural BMPs Implementation for Major Construction Projects	Construct HOV/general purpose/auxiliary lanes in San Diego County from Route 94/5 Separation to 0.2 miles west of 47th Street overcrossing (contract 287100).	Planning	Level 1 Level 4 Level 6	How much of the existing and proposed pavement areas will be treated by the proposed structural BMPs?	<ul style="list-style-type: none"> <li>Project is in the planning stages and will be constructed in multiple phases. Caltrans will report more details on each phase of construction in the upcoming reporting periods.</li> </ul>

**City of San Diego Watershed Activities Reporting  
Year 2, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan**

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<b>Activities For Current Reporting Year</b>					
Tier I Chollas Creek Watershed Storm Drain System Characterization Study	Source ID study for pollutants relating to the pending sediment toxicity and benthic community degradation TMDL at the mouth of Chollas Creek and adjacent areas. Study will assess existing upstream data and determine data gaps. Primary constituents of concern are Chlordane, PCBs, PAHs and pesticides. Monitoring to characterize the storm drain system during wet and dry weather. Wet weather will consist of pollutograph sampling with water column chemistry, sediment chemistry and grain size, and toxicity analyses for two storm events of 0.1 inch of rain. Dry weather will consist of water chemistry, sediment chemistry, and toxicity sample collection.	Planning	Level 1	The findings from this study will allow the City to characterize the pollutants causing sediment toxicity and benthic community degradation, and help identification sources of those pollutants.	Trend analyses indicate significantly increasing trends for total and dissolved copper and total and dissolved zinc in the north fork of Chollas Creek (SD8(1)). When compared to historical data (1994–2010), increasing trends are relatively shallow and have flattened over time. However, exceedance ratios have steadily decreased at SD8(1) since 2007. Significantly increasing trends were also noted for total copper and total zinc at DPR2. Significantly decreasing trends were observed for Diazinon in both the north fork and south fork
Tier I Identifying and Modifying Barriers to LID Techniques	This project involves a City-wide review of Municipal Code, development regulations, and design standards to determine barriers/conflicts to using LID and other BMP types within new development and redevelopment, where applicable.	Planning	Level 1	Report documenting the barriers to implementing LID and what benefits are associated with modifying these barriers.	The work plan was developed during the reporting period. The City-wide review will be conducted between July 2010 and June 2011. A second phase of the project will involve working with stakeholders (City Departments, Planning Groups, Developers, General Public, etc) to develop solutions to the identified barriers.
Tier I Brake Pad Partnership	The project involves providing support for bill SB346 which requires for brake pads to contain no more than 5% copper by weight by 2011.	Implementation	Level 4: Load Reduction	Sponsorship of Sustainable Conservation	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 bill's passage. 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.
Tier I Public Service Announcement	In past years, the objective of this campaign was to educate the public about the causes of bacteria and trash loading, and encourage positive behavioral change.	Complete	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	# residents reached through PSAs  Results from public opinion/awareness surveys	While the City continues to air Public Service Announcements, it is no longer conducting assessment on the spots and will not be reporting on their effectiveness. This activity will continue but will no longer be reported.  The City also worked with the San Diego Regional Stormwater Copermittees to run a pesticide PSA called "Ants in Your Pants."
Tier I CBSM Program for Chollas Creek – Trash	Community Based Social Marketing targeting Chollas Creek Watershed and activities/behaviors in residential and mixed residential and commercial areas that result in water quality issues due to trash. This project includes a trash clean up, a type structural trash intervention (e.g. new trash cans), and targeted education and outreach. The CBSM project is based on the methodology developed for Keep America Beautiful.	Implementation	Level 2: Change in awareness Level 3: Behavioral change in targeted areas Level 4: Load Reduction	Visual Trash Survey  Telephone Behavior/Awareness Survey  Load reduction - pounds of Trash Removed during clean up effort	In FY 2009 the baseline observations; development of CBSM intervention; and community clean up portions of the project were completed. In FY2010, the program continued to experience delays in procuring trash receptacles and determining maintenance responsibilities of receptacles. In FY 2011, it is anticipated that the program will be modified and work can begin again. Effectiveness will be measured on a variety of levels. First, the number of stakeholders, residents, and business being reached by the pilot will be tabulated. Second, awareness, attitude and behavioral data will be collected via surveys and observations. Third, once the outreach strategy has been implemented, another survey will be conducted to assess changes in knowledge and/or behavior. Recipients responding to and participating in the survey will also be assessed, such as volunteers, or those who agreed to commit to the project.

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Tier I Billboards/ Transit Shelters	This project evaluates whether public outreach can be linked to positive behavioral change. These advertisements were displayed in both English and Spanish on billboards and bus shelters, and target behaviors associated with bacteria and gross pollutants (trash) profiled as a vector.	Complete	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	% residents reached through signage  Results from public opinion/awareness surveys (randomly selected cohort)	Based on results from the 2009 Storm Water Survey, only 17% of residents polled recalled encountering Think Blue messages via billboards and mobile advertising. It was determined that transit shelters and billboard advertisements were not as effective in generating sufficient knowledge and awareness of the <i>Think Blue</i> program and storm water issues. The activity is being discontinued in FY 2010.
Tier I Mobile Advertising – Trash and Bacteria	This project evaluates whether public outreach can be linked to positive behavioral change. These advertisements were displayed in both English and Spanish on City-owned static billboard trucks.	Complete	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	% residents reached through signage  Results from public opinion/awareness surveys (randomly selected cohort)	The advertisements were displayed throughout the San Diego Bay WMA in both English and Spanish in FY 2009. The estimated audience was 522,300 for Chollas Creek. In FY 2009, out of 800 randomly selected residents from all watersheds who participated in the <i>Think Blue</i> survey, approximately 17% of residents became aware of the Think Blue message through billboards and mobile advertising.  Based on results from the 2009 Storm Water Survey it was determined that mobile advertising was not as effective in generating sufficient knowledge and awareness of the <i>Think Blue</i> program and storm water issues to justify the cost of continuing the activity. Additionally, the Department received a number of public comments objecting to the use of mobile advertising to convey an anti-pollution message. The city has discontinued this activity.
Tier I Low Impact Development and the Planned BMPs at Southcrest and Memorial Park  (to be issued project #)	This education and outreach program will include community meetings, poster presentations, handouts, education materials and giveaways promoting water quality, LID techniques, and descriptions of the planned CIP projects in the Chollas Creek Watershed, including Southcrest Park (City-14-1 and City-14-2), Memorial Park (City-15-1).	Planning	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	Results from public opinion/awareness surveys	Work has begun on the Memorial Park project. Public awareness of the project has been raised via community meetings and news stories and articles regarding the project. It is anticipated educational signage and community outreach will continue in FY 2011. Implementation of Southcrest Park project has been delayed.
Tier I Targeted Metals-Related Facilities – Auto Facility Inspections Pilot Study  (City-8-1)	Project is an aggressive inspection program targeted at auto-related facilities for metals-related pollutants loading.	Implementation	Level 1: Completion of Inspections Level 3: Behavior Change Level 4: Source Abatement	# of facilities inspected # of sites with corrective actions # of IC/ID's observed	178 facilities inspected (Level 1) 4 sites implemented corrective actions during inspection (Level 3 and 4) 4 IC/ID's observed during inspections  This activity will be completed in FY 2010.
Tier I Targeted Business Inspections Pilot Study  (City-8-2)	Project is a targeted aggressive inspection program targeting various outdoor activities of businesses.	Cancelled			This activity is no longer planned for the Chollas Creek Watershed. Instead, the activity is moving forward in other watershed's within the City of San Diego's jurisdiction. The findings from the activity may be implemented in the Chollas Creek Watershed, and would be reported under the TMDL at that time.

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Tier I Collaborative Special Study #1: Jurisdictional Boundary Monitoring in the Upper Watershed (to be issued project #)	Storm water monitoring was conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring was conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples were analyzed for organophosphate pesticides (Diazinon and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc, and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> . This study will continue into FY11.	Implementation	Level 1	Completed Study	This activity will continue into FY 11. Results found in FY10 include: <ul style="list-style-type: none"> <li>Diazinon and Chlorpyrifos were not detected above either the acute or chronic waste load allocations (WLAs) at LM-1 or LG-1 during either monitored storm event.</li> <li>Toxicity to <i>Ceriodaphnia dubia</i> was only tested at LM-1 and LG-1 during the February 2010 storm event. There were no instances of acute or chronic survival and reproductive toxicity to <i>C. dubia</i>.</li> <li>Metals concentrations and exceedance ratios at LM-1 were generally greater than at LG-1.</li> <li>Copper had a higher detection rate and exceedance rate (compared to the acute and chronic WLAs) than lead and zinc.</li> <li>Dissolved lead was below the acute WLA at all sites during all events. Dissolved lead was above the chronic WLA at LM-1 and LG-1 during the February 2010 storm event.</li> </ul>
Tier I Collaborative Special Study #2: Activity Assessment Grab Samples for Metals	Activity assessment grab samples were collected for source identification studies or for BMP assessments. Samples were collected from specific land use areas in each priority sector during one wet weather event. Specific locations were pre-determined prior to the storm monitoring season based on land use, activities, or BMPs and decided by the participating Dischargers. Samples were analyzed for total and dissolved metals, TSS, and hardness.	Complete	Level 1	Completed Study	Monitoring activities conducted for Collaborative Special Study 2 identified ten potential hot spots for dissolved copper, dissolved lead, dissolved zinc, and/or total suspended solids (TSS). The three hot spots with the highest relative priority were identified, as follows: <ul style="list-style-type: none"> <li>Site 19 had the highest dissolved copper, lead and zinc concentrations and the fifth highest TSS concentration.</li> <li>Site 11 had the second highest dissolved copper and TSS concentrations, fourth highest dissolved lead concentration, and third highest dissolved zinc concentration.</li> <li>Site 10 had the highest TSS concentration of all sites, but was not identified as a hot spot for metals.</li> </ul>
Tier I Collaborative Special Study #3: Synthetic Pyrethroid Assessment Monitoring	Additional samples were collected at SD8(1) and DPR2 (during three events) and LM-1 and LG-1 (during two events) and analyzed for synthetic pyrethroids, TSS, and toxicity to <i>Hyalella azteca</i> . The purpose of this study was to collect data that will be submitted to the Department of Pesticide Regulation (DPR) as part of their synthetic pyrethroid re-registration process. The goal of participation with DPR is to have synthetic pyrethroids banned or placed on restricted use.	Complete	Level 1	Completed Study	Completed in FY10. Results include: <ul style="list-style-type: none"> <li>The data indicated that synthetic pyrethroid pesticides were used throughout the watershed. Eight of 13 synthetic pyrethroids were detected in both the north fork and south fork.</li> <li>All samples at all four monitored sites had Bifenthrin concentrations greater than the acute LC<sub>50</sub> literature values.</li> <li>Toxicity to <i>Hyalella azteca</i> was commonly observed.</li> </ul>
Tier I Collaborative Special Study #4: Bacteria Monitoring	Samples were collected and analyzed for total coliform, fecal coliform, and <i>enterococci</i> during storm events at SD8(1) and DPR2 (three storms) and LM-1 and LG-1 (two storms). Samples were collected as grab samples during the peak flow of the storm event.	Complete	Level 1	Completed Study	Sample results were compared to the WLA criteria in the <i>Revised TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)</i> , which was adopted into the Basin Plan through Regional Board Resolution No. R9-2010-0001. Results for Collaborative Special Study 4 were as follows: <ul style="list-style-type: none"> <li>All samples collected for Collaborative Special Study 4 exceeded the fecal coliform WLA.</li> <li>There are no discernable patterns for bacteria concentrations across the Chollas Creek Watershed. Total coliform, fecal coliform, and <i>enterococcus</i> concentrations varied from storm to storm and location to location. Fecal coliforms decreased with each successive storm event at SD8(1), however concentration increased with each successive storm event monitored at DPR2.</li> </ul>

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Tier I Dry Weather Bacterial Source Identification Study In the Mouth of Chollas Creek (City-27-1)	Bacteria Source Study targeted storm drains and other potential sources of bacteria during three dry weather field surveys. Bacteria samples were taken from investigation sites and fixed sites located on the three reaches of Chollas Creek. This will help identify the relative bacterial concentrations and flow influencing the Chollas Creek tidal prism (the point of compliance for the SHELL Beneficial Use) can be determined and the most likely sources of bacteria identified.	Complete	Level 1	Completed Study	This study was completed during the last year. Results and findings include: 1. During dry weather, there is no hydrologic connection between the mouth of Chollas Creek (the area influenced by tidal action) and the upstream drainage. Thus, bacteria found in the receiving waters of the creek mouth originate from sources that discharge directly to the mouth (i.e., storm drains). 2. 17 storm drains were identified that terminate in the creek mouth. Of these, evidence of flow was apparent in only four. 3. The highest bacterial concentrations were associated with the two storm drains near the National Avenue Bridge. 4. Two sources of flow that contributed to the high bacterial concentrations: a. Over-irrigation of landscaping at a strip mall b. A freshwater slough adjacent to a freeway off ramp that periodically discharges to a storm drain in the creek. 5. Scour ponds associated with the storm drains provide depressions within the streambed where high levels of indicator bacteria can be maintained. Tidal action carries bacteria from scour ponds to other areas within the tidal prism, serving as a point of inoculation for the mouth of Chollas Creek.
Tier I Tecolote Creek Bacteria Source Study, Phase I (City-5001)	Bacteria Source Study included dry and wet weather investigation of the bacteria loading potential of priority sources in the Tecolote Watershed. This project is directly related to the Chollas Creek Watershed that shares common priority sources for bacteria.	Complete	Level 1	Completed Study.	This study was completed in FY2008. Findings and results included that some sediments may act as a bacterial reservoir. This led to Phase II of the study.
Tier I Tecolote Creek Bacteria Source Study, Phase II (City-5002)	Bacteria Source Study included the collection of additional rainfall and bacterial concentration data and further bacterial source investigation. This project is directly related to the Chollas Creek Watershed because it shares common priority sources for bacteria. This work builds upon the bacteroides and source-related findings of the Phase I bacterial source ID study which was completed in August 2008 and complements results being collated under the 2009 San Diego River Phase I Microbial Source ID Study.	Complete	Level 1	Completed Study	<b>Results and Findings</b> ▪ An additional seven storm events need to be monitored in order to have a data set suitable for Section 303 (d) de-listing. ▪ Speciation of <i>enterococci</i> discharged during wet weather suggest that calculated bacterial loads in Tecolote Creek overestimate the potential threat to REC-1 and REC-2 beneficial uses because of the significant presence of fecal indicator bacteria from environmental sources such as soils and plants.
Tier I Chollas Creek Design Storm Study and Sediment and Bacteria Relationship Source Study (City-26-1)	Project includes collecting and analyzing pollutograph samples from Chollas Creek Watershed and two other watersheds to determine a recommended approach to the BMP design storm to be used in TMDL implementation..	Complete	Level 1	Completed Study	The design storm study was completed in FY09. The sediment and bacteria relationship component of the study is on hold due to budget constraints.
Tier 1 TMDL Aerial Deposition Source Evaluation Monitoring Study, Phase III (City-24-1)	This Project evaluated potential sources of metals based on water quality data, previous aerial deposition data, inspection data (from FY07-08 targeted industrial inspections and other programs), and an area reconnaissance (to prioritize potential sources and identify sampling locations for first flush wet weather events). The study considered the impact of roofs and structural galvanizing. The study assessed runoff from up to 20 industrial/commercial sampling locations and up to six residential-only sampling locations for comparison to the	Complete	Level 1	Completed study.	<b>Results and Findings</b> ▪ Average annual aerial emissions of copper from four stationary facilities near the mouth of Chollas Creek are roughly five times higher than the average annual load discharged via storm water runoff. In contrast, lead and zinc emissions were only 1% and 24% of average annual discharge load. ▪ Aerial deposition of copper, lead, and zinc accounts for 100%, 29%, and 74%, respectively, of the average annual load discharged via storm water runoff. This suggests that mobile emissions sources (e.g., automobiles and resuspended dust) and localized parcel-based sources also play a role in metals deposition of

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	industrial/commercial land use.				<p>lead and zinc in the watershed.</p> <ul style="list-style-type: none"> <li>▪ Samples collected from deteriorating metal rooftops were found to be significantly higher in concentrations of total and dissolved zinc compared with the street level runoff concentrations. Concentrations of copper and lead were relatively low from metal rooftop runoff, but increased in street level runoff suggesting aerial deposition or other parcel-based sources of copper and lead.</li> <li>▪ Total and dissolved copper concentrations were positively correlated (higher) with higher percent impervious surface area.</li> <li>▪ Copper, lead, and zinc concentrations were higher in commercial and industrial land uses compared with residential land uses.</li> <li>▪ Copper and zinc concentrations were significantly higher in Priority Sector 1 compared with other priority sectors. This supports the conclusion that emissions of copper and zinc from stationary facilities near the mouth of Chollas Creek likely contribute to aerial deposition and subsequent runoff of these metals.</li> <li>▪ Industrial and commercial activities with uncovered outdoor metal storage and outdoor operations were positively correlated to high levels of copper, lead, and zinc.</li> </ul>
Tier I Doggie Bag Dispenser Pilot Program	Evaluation of the most effective form(s) of pet waste stations, identification of optimum installation density and locations, potential pollutant load reductions that may be attributable to the pet waste station installations and development of appropriate effectiveness assessment measures.	Planning	Level 2: Public Awareness Level 3: Behavior Change	The assessment will focus on evaluating the installation of pet waste stations as a BMP in reducing pollutant loading in correlation with the number of bags employed. The project will include site evaluations and selections, Pre and post site observations.	This activity for this watershed will be implemented in FY11, however based on the outcome of this activity in other watersheds already completed in FY10 demonstrates there are positive, measurable pollutant load reductions due to the installation of pet waste bag dispensers.
Tier I Evapotranspiration Effects Study	This study evaluate to what level evapotranspiration provides a reduction in pollutant loads for street trees. This study may assess different vegetation types or different plant species.	Cancelled	Level 1: Completion of Study	Completed Study	This activity is no longer moving forward. However, the City may pursue researching this topic further in conjunction with one of its future structural BMP projects.
Tier II Roads, Commercial, Residential  Chollas Creek Aggressive Street Sweeping (City-3-1)	Project included the purchase and deployment on designated routes in Sectors 1 and 2 of a regenerative air and vacuum street sweepers. These sweepers were anticipated to collect additional fines and gross solids compared to more widely used mechanical sweepers. Training of the operators for this new equipment has also been conducted. These two new aggressive sweepers were used on existing routes and compared to mechanical sweepers regarding their effectiveness to remove debris and the metals contained in the debris. The frequency of the sweeping was also assessed regarding increased pollutant removal as well as acceptance by the public.	Implementation	Level 4: Load Reduction	<p>Load reduction from debris monitoring data including:</p> <ul style="list-style-type: none"> <li>- debris weight &amp; volume</li> <li>- # broom miles</li> <li>- physical and analytical characteristics of debris</li> <li>-wet weather chemistry</li> </ul> <p>Management Questions: Are vacuum-assisted sweepers more effective in achieving pollutant load reductions than conventional mechanical sweepers? What is the optimal frequency for sweeping residential and commercial routes? Does aggressive street sweeping result in direct, measurable water quality improvements?</p>	<p>A total of 149,040 lbs of debris was removed by all three sweeper types during the two-year study, over a total of 2,850 miles swept. This resulted in an average of 58 lbs of debris removed per mile swept.</p> <p>The results of the study concluded that the vacuum-assisted sweepers are generally more effective at removing both debris and heavy metals from road surfaces, especially on flat routes like those found in Chollas Creek. However, the vacuum sweepers performed equally as well as the City's conventional mechanical sweepers on hilly routes. Furthermore, it was determined that the vacuum sweepers are more effective at removing debris and metals with aggressive (i.e., twice per week) sweeping. Specifically, data collected during the pilot study indicated that the mechanical sweepers did not remove as much debris or metals when operated at an increased frequency. Finally, wet weather monitoring indicated that street sweeping is an effective BMP for improving water quality as the data showed direct improvements to runoff collected at inlets along swept roads versus those roads that were not swept.</p>

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
				<p>-Methods of measure will be tracked for each sweeper type.</p> <p>What is the most cost effective frequency that is publicly acceptable?</p> <p>- Methods of measure will be tracked at different sweeping frequencies for different sweepers.</p>	
Tier I Median Sweeping Pilot Study	The purpose of this pilot study was to evaluate the feasibility, potential water quality benefits and cost-effectiveness of modifying the City's Street Sweeping Program to including sweeping street medians.	Implementation	Level 4: Load Reduction	<ul style="list-style-type: none"> <li>Total pounds of debris removed (Outcome Level 4)</li> <li>Total broom miles swept (Outcome Level 4)</li> <li>Cost of sweeper repairs/maintenance (Outcome Level 1)</li> <li>Total pounds of debris removed by land use (Outcome Level 4)</li> <li>Frequency of removal correlated to pounds of debris removed (Outcome Level 1 and 4)</li> </ul>	<p>A baseline sweep of the four pilot median areas, which included Palm and Coronado Avenues in the San Diego Bay WMA, resulted in the removal of 32,460 lbs of debris over a total of 58 miles with an average of 560 lbs of debris removed per mile swept. After the initial baseline sweep, each route was swept four more times over an approximate three month period (with roughly three weeks between sweeps). A total of 32,560 lbs of debris was removed over this three month study period.</p> <p>Though the activity was not conducted in the Chollas Creek watershed, the study results indicate that median sweeping has the potential to remove significant amounts of street debris from high-traffic City roadways., including within this watershed The initial baseline median sweep collected 3-5 times more debris than the subsequent 3-week interval sweeps. This suggests that there is a significant buildup of debris adjacent to median areas. Furthermore, debris sampling confirmed the presence of heavy metals, nutrients and hydrocarbons in the debris collected. This leads the City to believe that median sweeping may provide a significant benefit for controlling the input of high priority water quality problems from impacting receiving waters.</p>
Tier I Groundwork San Diego Chollas Creek Family Stream Team Partnership	<p>The Port of San Diego awarded a grant to Ground work San Diego Chollas Creek for education, restoration, and refuse collection.</p> <p>The City of San Diego is collaborating on this activity by collecting data from the refuse collection events, surveys of the creek, and participant surveys.</p>	Implementation	Level 3: Behavior Change Level 4: Load Reduction	Visual Trash Assessment of dump sites within Chollas Creek Participant Surveys Trash and debris characterization and quantification	This activity was completed in FY09 and FY10. See the Port of San Diego's table for more information regarding the project statistics. See Activity Summary Sheet SDB-051 in Appendix D for more detail.
Tier II Discharger Facilities Rain Barrels/ Downspout Disconnect Project (City-12-1)	Project reduced storm water flows by capturing runoff from roof structures and gutters at Southcrest Recreation Center. Project included two rain barrel systems and three combined rain barrel and bioretention planter systems.	Implementation	Level 2: Public Awareness Level 4: Load Reduction	Runoff volume captured Load reduction Maintenance Hours Implementation Cost	<p>The study found that a gravity-flow system, consisting of a rain barrel and/or downspout disconnect that discharges to adjacent landscaping, can attenuate and infiltrate up to six times its capacity in storm water runoff, in addition to capturing and redirecting pollutants away from the MS4. Water quality monitoring data also confirmed that buildings with copper or galvanized metal roofs represent significant sources of copper and zinc, respectively, and that all system configurations had measurable pollutant load reductions (however, certain systems were found to more effective than others).</p> <p>Assessment data shows that rain barrels and downspout disconnects are a low-cost, effective BMP for both attenuating storm water flows and reducing pollutant loads. Furthermore, rain barrel and/or downspout disconnect systems with planter boxes are a viable option for sites lacking adjacent pervious areas.</p>
Tier II Residential Outdoor Water Conservation Rebate Program	This activity involves 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	Planning	Level 2: Public Awareness Level 4: Load Reduction	Water quantity monitoring will be conducted both at the pre and post irrigation modification stage. It is also anticipated the program will include a component to investigate the challenges to getting residents and businesses to participate in this incentive program to	This activity is scheduled to be implemented in FY11

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
	funds are exhausted. Specific residential and commercial locations will be monitored to assess the efficiency of the program in reducing runoff volume and pollutant loads.			better focus subsequent education and outreach efforts and determine whether broad-scale implementation should be pursued.	
Tier II Eating and Drinking, Commercial, Roads Trash Segregation BMP Installation	This project is coordinated with the targeted aggressive street sweeping program. Inlet devices are installed to capture trash/debris prior to conveyance into local waterbodies. Due to long-term high maintenance issues, this BMP will first be piloted with aggressive street sweeping to assess the maintenance requirements compared to their trash removal effectiveness. The use of a multi-catchment /drainage area approach to trash removal (e.g., hydrodynamic separator at the MS4 outfall) may need to be used as part of a treatment train Tier III approach.	Planning	Level 4: Load Reduction	Load Reduction Maintenance Hours Implementation Cost	Vendors have been selected and the retrofits will be completed in FY11.
Tier II Auto, Commercial, Roads 43rd and Logan Street Upgrades and "Green Mall" Project	A combined green street and green mall project will be implemented to filtrate a design storm event. Project will include installing bioretention areas and LID filtration techniques and replacing impervious hardscapes with porous concrete sidewalks.	Planning	Level 4: Load Reduction	Load reduction Maintenance hours Implementation cost	The City of San Diego anticipates starting construction in FY 2011.
Tier II Parks, Pesticides, Roads Memorial Park Large "Green Lot" LID (City-15-1)	Project will divert flow from the parking area catch basin to a below grade storage and infiltration device installed within the grassy area of Memorial Park. Flows exceeding the storage and infiltration capacity will bypass the system through an overflow pipe at the downstream end of the infiltration area. Project will be designed to capture and infiltrate up to a five year storm.	Planning	Level 4: Load Reduction	Load reduction Maintenance hours Implementation cost	Design of the project is expected to be completed in FY 2010. Construction began in June 2010 and is expected to finish in November 2010.
<b>Ongoing Agency Wide Activities</b>					
Tier I Auto, Residential, Commercial, Eating and Drinking, Construction, Industrial Modification of City Fact Sheets (City-5004)	The City continues to update Storm water Fact Sheets, as needed. Current efforts focus on changes resulting from the 2007 NPDES permit. The development of the fact sheets has been completed. The program is now focusing on fact sheet distribution. The City is working with other regional Copermittees on these efforts (i.e. partnering with the City of Escondido on the Green Wrench Guide).  Future efforts may include information about low impact development or modifications to City codes and/or design standards.	Implementation	Level 2: Change in awareness	Public familiarity with the Fact Sheets  (phone survey, questionnaires, inspections, etc)	In FY 2010 the City continues to modify and augment Fact Sheets to inform the public of changes to the City's Storm Water Ordinance. The City expects the updated Fact Sheets to be completed and ready for distribution by Storm Water staff in FY 2011.
Tier I Industrial Enforcement Referrals	The City reports any "non-filers" under the General Industrial Permit to the Regional Board found during the annual industrial/commercial inspections program. In the future, the City may initiate dialogue (education and outreach) with the current Permitted industries about the types of water quality	Implementation	Level 1 Level 2: Industry Awareness	Number of "non-filers" reported	189* businesses in need of submitting NOI (application for industrial permit) 284* businesses in need of submitting NONA (application for exemption)  *Citywide total. The City is currently revising the tracking of the data to report more focused data in the future.

**Appendix E**  
**City of San Diego Watershed Activities Reporting**  
**Year 2, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan**

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
(City-5005)	data and possibly coordinating efforts on special studies.				
Tier I Discharger Facilities  Outfall and Selected Canyon Condition Mapping and Assessment  (City-5006)	The City is assessing canyons within its jurisdiction, specifically assessing erosion and deferred maintenance issues related to storm drain and MS4 outfalls which discharge to the canyons. This ongoing project will include a field reconnaissance and GIS mapping effort for the Chollas Creek and Los Peñasquitos watersheds.	Implementation	Level 1	Updated GIS maps with assessment of selected outfalls.	This project began in FY2010. Approximately 30% of the outfalls within canyons were assessed. By the end of the FY2011, this project will be 80% complete..
Tier I Discharger Facilities  Updates to Storm Drain Infrastructure Mapping  (City-5007)	The City is updating the existing storm drain infrastructure GIS layers. This ongoing project will include a desktop review of as-built storm drain drawings for CIP and private development projects. (Also see City-5009 and City-5010).	Complete	Level 1	Updated MS4 maps	This project was completed in FY10.
Tier I Discharger Facilities  Master Drainage Mapping  (City-5008)	The City is completing a master GIS layer of drainage areas and watershed for the storm drain and MS4 system within the City's jurisdiction. This ongoing project will include a desktop review of existing drainage maps/studies, field reconnaissance and modeling efforts (as needed), and GIS mapping.	Planning	Level 1	Updated MS4 maps with drainage areas	Planning efforts began in FY2010. A data needs list is being compiled for the creation of the drainage area layer. A budget request for FY12 has been submitted to continue efforts.
Tier I Discharger Facilities  Corrugated Metal Pipe Assessment  (City-5009)	The City is evaluating storm drain and MS4 infrastructure for corrugated metal pipe. The project's objective is to identify, assess, and prioritize systems which may be replaced with reinforced concrete pipe storm drain. (Also see City-5007 and City-5010).	Implementation	Level 1	Compiled list of existing corrugated metal pipe infrastructure and CIP prioritization	In FY10, the project was 50% complete. The project is anticipated to be 100% complete in FY11.
Tier I Discharger Facilities  Priority Reinforced Concrete Pipe Assessment  (City-5010)	The City is evaluating storm drain and MS4 infrastructure for degraded reinforced concrete pipe. The project's objective is to identify and assess existing infrastructure for deferred maintenance, and then to prioritize systems to be repaired and/or replaced. (Also see City-5007 and City-5009).	Planning	Level 1	Compiled list of high risk reinforced concrete pipe infrastructure and CIP prioritization	The risk analysis and workplan has been completed in FY10. Budget for field assessment has been requested for FY12.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Residential, Commercial, Boat Repair, Eating and Drinking, Landscaping Pesticides  Booths at major events (City-5011)	During City sponsored events, educational materials are distributed to the public. The City has sponsored booths at the Del Mar Fair, December Nights, and San Diego Boat Show. The City has also sponsored a booth at the Adams Ave. Street Fair, and the Filipino-American Arts & Culture Festival events in the Chollas Creek Watershed.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	# of materials distributed at events located in Chollas Creek  Results from public opinion/awareness surveys (as applicable)	The City participated in 20 events located within the Chollas Creek watershed, distributing more than 8,000 promotional items including brochures, hotline magnets, tip calendar, etc. The 2010 Think Blue Survey indicated that 18% of respondents received Think Blue information at a community event.  Of the 20 events, the City distributed outreach materials targeting pesticide usage and integrated pest management practices at 5 events. The estimated combined audience at these events is 304,000 members of the public.
Tier I Construction  Construction Site Inspections - Sediment/ Metals (City-5012)	Inspectors within the Field Engineering and Inspection Services Divisions inspect construction sites and issue correction notices and/or stop work orders for code violations. The Field Engineering Division has created and implemented a special correction notice that is issued for storm water violations in need of immediate solution.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through enforcement	Total Inspections	97,822 inspections Citywide 674 corrective action notices and NOV's issued Citywide for construction 9 stop work orders issued 81 enforcement actions taken by Storm Water Code Compliance Officers for construction sites
Tier I Discharger Facilities  Municipal Facility Inspections (City-5013)	Municipal facilities are inspected for compliance with the requirements of the NPDES Permit. During these inspections, facilities are also inspected for activity specific BMPs and all designated pesticide, herbicide, and fertilizer BMPs required by the FY08 JURMP. Municipal Treatment Control BMPs are inspected for completeness, cleanliness, and other factors.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through enforcement	Total Inspections Timeliness of Inspections	804 sites inspected twice during the year 6 sites inspected once during the year  Timeliness: 1 inspection should occur prior to and one during the rainy season
Tier I Industrial, Commercial Facilities  Industrial/ Commercial Inspections Program (City-5014)	The City inspects prioritized industrial and commercial facilities per the Municipal Permit and, for facilities that do not comply with the City's Municipal Code, takes enforcement action.	Implementation	Level 1: Annual Compliance	Number of prioritized facilities inspected	6,926 inspections Citywide 73 Priority 1 Follow up Inspections
Tier II Roads  Storm Drain Cleaning (City-5015)	Each year the City of San Diego cleans storm drain infrastructure including catch basins, inlets, cleanouts, and pipes. These efforts help reduce the trash and bacterial loading.	Implementation	Level 1: Annual cleaning Level 4: Load Reduction	Tons of debris removed	Approximately 29 tons was removed during storm drain system cleaning in the watershed <sup>1</sup>
Tier II Roads, Commercial, Residential  Street Sweeping (City-5016)	Street sweeping is being implemented across the City of San Diego as well as in the Chollas Creek watershed.	Implementation	Level 4: Measurable Load Reduction	Load reduction determined using:  Debris Weight	2,609 tons of debris collecting from sweeping in the watershed <sup>1</sup>

<sup>1</sup> Per the combined data from the Semi-Annual Chollas and Paleta Creeks Trash 13267 Reporting for March and September 2010.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Residential Clean Up Events (City-5017)	During City sponsored clean up events (resulting from specific calls for service and community cleanup efforts), volunteers and City workers remove trash and debris from the watershed. Also, during the year, the City removes trash and debris related to calls of service that are not handled through community cleanup events.	Implementation	Level 2: Public Awareness Level 3: Modification of Behavior Level 4: Runoff and Load Reductions	# participants Trash Load reduction	20,273 service calls in the watershed <sup>1</sup> 108 Community Cleanups through ESD and 2 Community Cleanups sponsored through non-profit organizations with 320 participants <sup>1</sup> 2,120 tons of trash collected through this effort <sup>1</sup>
Tier I Illicit Discharge Detection and Elimination (City-5018)	The City actively seeks and eliminates discharges to the storm water conveyance system. Code Compliance Officers respond to enforce the Storm Water Ordinance and cite/educate businesses and residents who reportedly violate the ordinance with illegal discharges.	Implementation	Level 1: Compliance Level 2: Public Awareness Level 3: Modification of Behavior	Number of calls reported and responded	Of 68 dry weather monitoring sites in the watershed, 39 sites were dry and 29 were flowing or ponded. Of the 29 wet sites, 15 exceeded for one or more analytes. Of those, only three had discrete sources. In one case, an illegal discharge originating from power washing was referred to the Code Compliance section. In another, monitoring indicated that the exceedance was due to an animal inhabiting the storm drain system. In the third case, decaying eucalyptus leaves were identified as the source. The remaining sites were either dry or below action levels on follow-up visits, or continued to exceed with no source identified.
Tier I SUSMP and Development Regulations (City-5019)	The City incorporates SUSMP requirements on applicable development and redevelopment projects City-wide. Depending on the type and size of the projects, SUSMP requirements could include site design, source controls, and treatment controls such as LID.	Implementation	Level 1: Compliance	Projects permitted subject to SUSMP	113 projects were determined to be Priority Development Projects
Tier I Household Hazardous Waste Collection Program (City-5020)	The City's Environmental Services Department runs this program which seeks to eliminate illegal discharges associated with the improper use and disposal of household hazardous materials. Methods include one-day collection events, a permanent collection facility, and education programs.	Implementation	Level 1: Compliance Level 2: Public Awareness Level 3: Modification of Behavior	Tons of household hazardous waste collected	464 tons of household hazardous waste was collected Citywide.
<b>New Activities</b>					
Tier II Beta Green Alley	This project will pave an alley that is currently unimproved and direct the runoff to areas of porous pavement. The pavement and base materials will filter the storm water runoff before directing it to the storm drain.	Planning	Level 4: Load Reduction	Load reduction Maintenance hours Implementation cost	In FY10, the concept design of the project was completed. Design is expected to begin in FY11.
Tier I Sweeper Speed Efficiency Study	Study will focus 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 Imperial Avenue in the San Diego Bay WMA was selected for this study based on a number of criteria.	Implementation	Level 4: Load Reduction	<ul style="list-style-type: none"> <li>Total pounds of debris removed (Outcome Level 4)</li> <li>Total broom miles swept (Outcome Level 4)</li> <li>Cost of sweeper repairs/maintenance (Outcome Level 1)</li> <li>Total pounds of debris removed by land use (Outcome Level 4)</li> <li>Frequency of removal correlated to pounds of debris removed (Outcome Level 1 and 4)</li> </ul>	<p>The goal of the assessment will be to determine the optimal speed to operate City mechanical sweepers to maximize debris and metals removal.</p> <p>An effectiveness assessment of this activity is not possible at this time as project planning and coordination will continue into FY 2011. Implementation is anticipated to occur during the first half of FY 2010, with final assessment and conclusion being prepared in the latter half of FY 2011.</p>
Tier I ILACD School Presentations		Implementation	Level 2: Public Awareness	<ul style="list-style-type: none"> <li>Number of students educated</li> <li>Number of schools visited</li> </ul>	481 students at 5 schools in the watershed were provided the presentation on watershed issues and how they can help prevent storm water pollution

## County of San Diego Watershed Activities Reporting Year 2, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Activities For Current Reporting Year</b>					
Tier II  Porous Pavement Project at Central Regional Public Health Facility Parking Lot	Removal and replacement of 14,000 square feet of existing impervious pavement with porous pavement and a stone reservoir to capture runoff from the parking lot at the Central Regional Public Health Facility.	Planning	Level 4	Water quality monitoring	During FY09-10 Proposition 50 funding was restored. With the return of funding the Dept. of General Services was able to complete the 70% design stage of the project. It is projected that this improvement will be installed prior to the beginning of the rainy season to capture a full rain season of monitoring.
Tier II  Capture and Infiltration Project at Comprehensive Health Care Center	Installation of concrete detention/infiltration vaults or equivalent units under two parking lots at the Comprehensive Health Care Center.	Planning	Level 4	Water quality monitoring	During FY09-10 Proposition 50 funding was restored. With the return of funding the Dept. of General Services was able to complete the 70% design stage of the project. It is projected that this improvement will be installed prior to the beginning of the rainy season to capture a full rain season of monitoring.
Tier II  Bioswales/ Rain Gardens at Dodson House	Installation of three bioswales and two rain gardens at the Dodson House.	Project has been deleted	Level 4	Water quality monitoring	This project was originally included in the San Diego IRWMP program, but since the property is no longer maintained by the County, it has been removed from IRWMP as a project.
<b>Ongoing Agency Wide Activities</b>					
Tier 1  Commercial Business Inspection & Enforcement	The County of San Diego performs routine inspection and enforcement of commercial businesses as part of its JURMP. There is one commercial business, a cemetery, within the County's portion of the Chollas Creek Watershed. It is inspected approximately annually, with follow ups and enforcement performed as necessary.	Implementation	Level 1 Programmatic Outcomes Level 3 Behavioral Modification	Level 1 # Inspections, # Violations Observed Level 3 # Corrective Actions Implemented	# Inspections – 2 # Violations Observed – 4 # Corrective Actions Implemented – 1*  (* remaining corrections occurred after the reporting period.)
Tier 1  Municipal Facility Inspection & Audits	The County of San Diego performs routine inspection and audits of municipal facilities as part of its JURMP. There are seven County-owned municipal facilities within the Chollas Creek Watershed. All facilities are inspected twice per year by the department responsible for facility operations. The Department of Public Works supplements routine inspections with periodic audits of facility operations.	Implementation	Level 1 Programmatic Outcomes Level 3 Behavioral Modification	Level 1: # Facilities Inspected, # Inspections, # Deficiencies Observed During Inspections, # Facilities Audited, # Audits, # Deficiencies Observed During Audits  Level 3: # Corrective Actions Implemented Following Inspections, # Corrective Actions Implemented Following Audits	# Facilities Inspected – 7 # Inspections – 14 # Deficiencies Observed During Inspections – 1 # Corrective Actions Implemented Following Inspections – 1  # Facilities Audited – 1 # Audits – 1 # Deficiencies Observed During Audits – 0 # Corrective Actions Implemented Following Audits – 0
<b>New Activities</b>					
None.					

## City of La Mesa Watershed Activities Reporting Year 2, Phase I of Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Activities For Current Reporting Year</b>					
Tier I Code Modification	Code update/regulations pertaining to Chollas Watershed. For example, new businesses along University Channel will be required to consider BMPs associated with the pollutants identified in the TMDL.	Implementation	Level 1: Completion of Code Modification	Code Adoption and Assessment Report.	The code update related to the Chollas Creek Watershed was completed in February 2010. The code update pertains to La Mesa Municipal Code Section 7.18.110.
Tier II Collaborative Special Study #1 Jurisdictional Boundary Monitoring in the Upper Watershed	Storm water monitoring was conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring was conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples will be analyzed for organophosphate pesticides (Diazanone and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> .  In collaboration with City of San Diego, City of Lemon Grove, and Caltrans.	Implementation	Level 1: Completion of Study and Final Report	Completed study and final report prepared by the City of San Diego's Consultant.	Monitoring occurred during the 09/10 rainy season. Final report to be completed in FY 10/11. Monitoring at the jurisdictional boundary will continue in the 10/11 rainy season.
Tier I Residential Educational Kiosk Pilot Study	Educational material about the water quality problems in the Chollas Creek Watershed (Watershed Fact Sheet) will be posted in a specially designed kiosk at Vista La Mesa Park. La Mesa may implement additional educational kiosks at other locations in the future within the watershed.	Implementation	Level 2: Change in awareness	In 10//11 the City will obtain data from residents regarding change of watershed awareness from kiosk fact sheet displays.	Kiosk at Vista La Mesa Park has been constructed and is displaying watershed related information. The City of La Mesa has not begun collecting data regarding change is awareness from information displayed in kiosks. Planned for FY 10/11.
Tier II Residential Schools Education and Outreach Program	Education and outreach program at local schools within the Chollas Creek Watershed in partnership with the I Love A Clean San Diego. This program will be implemented at La Mesa Dale Elementary, La Mesa Middle School, and Mt. Helix High School.	Implementation	Level 2: Change in awareness  Level 3: Modification of behavior through education and outreach	# of outreach events held (children educated)  Survey Results	5 outreach presentations were conducted with 210 children educated. Overall weighted pre test score= 54% Overall weighted post test score = 75%  10/29/09 La Mesa Middle School (6 <sup>th</sup> Grade): 1 presentation, 90 persons, Pre Test 63%, Post Test 81%  2/25/10 Helix High School (9 <sup>th</sup> – 12 <sup>th</sup> Grade): 4 presentations, 120 persons, Pre Test 48%: , Post Test 70%
Tier II Roads, Commercial Metals - BMP Self Certification Pilot Study	This pilot study includes an assessment of urban runoff from a major, mixed use parking lot in La Mesa (super market with additional shops). The load contribution of the parking will be also assessed. This project includes an education and outreach component to open dialogue with property management.  The shopping center management will provide source control BMP maintenance records for the City to assess. Recommendations will be made to management, and self certifications will be required annually. Additional wet weather samples will be collected for assessment.	Implementation	Level 1: Completed study (understanding of metals sources)  Level 2: Change in awareness  Level 3: Modification of behavior through education and outreach	Completed study and final report.	In 09/10 wet weather analytical results were shared with property management and they were required to submit maintenance records. The City assessed maintenance records and made recommendations to management regarding the improvement of source control BMPs. In FY10-11 self certifications will begin, and they city will collect additional analytical samples from the property in the rainy season.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier III Roads, Residential, Industry, Commercial, Eating/Drinking  Bacteria Treatment Insert Pilot Study	Selected catch basins in the Chollas Creek Watershed will be retrofitted with a treatment sponge insert. The number of these inserts (and bacteria sponges) is still to be determined.	Planning	Level 4: Load reduction	Load Reduction based on amount associated with bacteria sponges.	Planned for approximate implementation date of FY11/12.
<b>Ongoing Agency Wide Activities</b>					
Tier II Residential, Commercial  Clean Up Events	Cleanup Events will be held twice a year at University Channel (Creek to Bay Clean Up and the California Coastal Day). Each event will include an education and outreach component.	Implementation	Level 2: Public Awareness  Level 3: Modification of Behavior  Level 4: Runoff and Load Reductions	# of participants  Trash Load Reduction  Educational Survey	Events held at University Channel: coord. (32.7551, -117.0412)  9/19/09 Costal Clean Up Day: 18 participants, 550 lbs removed, Tests not completed at this location.  4/24/10 Creek to Bay Cleanup: 16 participants, 360 lbs removed, Pre Test 75%, Post Test 100%
Tier I Auto, Roads, Industrial, Commercial, Eating/Drinking  Enforcement: Targeted Facility Inspections	Annual business inspections will include a supplemental questionnaire specific to the Chollas Creek Watershed and targeting businesses along University Channel.	Implementation	Level 1: Completion of Inspections  Level 2: Public Awareness	# of inspections within the Chollas Creek watershed which included the supplemental watershed questionnaire.  # of businesses within the Chollas Creek watershed which implemented corrective actions based on the inspection.	23 Inspections completed within the Chollas Creek watershed which included the supplemental watershed questionnaire.  2 businesses within the Chollas Creek watershed took corrective actions based on the results of the inspections.
<b>New Activities</b>					
N/A					

## City of Lemon Grove Watershed Activities Reporting Year 2, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Activities For Current Reporting Year</b>					
Tier II Collaborative Special Study #1: Jurisdictional Monitoring in the Upper Watershed	Storm water monitoring will be conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring will be conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples will be analyzed for organophosphate pesticides (Diazinon and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc, and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> . Partnership with City of San Diego, Caltrans, and City of La Mesa	Planning	Level 1	Completed study and final report prepared by City of San Diego consultant.	Potential delayed participation by the City of Lemon Grove due to severe budget constraints. City is working to collaborate on a solution to maintain participation.
Tier I Legislative: Municipal Code and General Plan Amendments  Sustainability Policy and Green Building Policy	To update the City's Municipal Code and General Plans to include green building concepts including LID and create a sustainability policy for overall City functions.	Planning and Implementation	Level 1	Amendment Adoption and Plan Development Approval Process	Development Code amendment adoption by Jan. 2010 Municipal Code amendment adoption by Mar. 2010 General Plan amendment adoption delayed due to quantity of work and necessity of performing work in house (budget constraints prevent the hiring of a consultant)
<b>Ongoing Agency Wide Activities</b>					
Tier I Discharger Facilities  Municipal Facility Inspections	Municipal facilities are inspected for compliance with the requirements of the NPDES Permit. During these inspections, facilities are also inspected for activity specific BMPs and all designated pesticide, herbicide, and fertilizer BMPs required by the FY08 JURMP. Municipal Treatment Control BMPs are inspected for completeness, cleanliness, and other factors.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior	Total Inspections Timeliness of Inspections	53 Number of Inspections The City inspects all industrial facilities and all automotive and restaurant facilities within the City's boundaries. 1 inspection was conducted per facility and follow up inspections were performed as necessary
Tier II Residential, Commercial  Clean up Events	Clean up events are held annual in the Chollas watershed or more frequently based on volunteer group availability. Each event will now include a brief post clean up survey.	Implementation	Level 2 and 4	# of participants Trash Load Reductions Survey data	Completed Creek to Bay in April 09 and Coastal Clean up Day in Sept. 09. Will participate in these two I Love a Clean San Diego events every year. Approximately 13lbs of trash and debris were collected by 4 volunteers for Creek to Bay. Approximately 600 lbs of trash and debris were collected by 20 volunteers for Coastal Clean up Day.
Tier I Residential  City Newsletter	To provide Watershed specific information in the semi-annual City wide Newsletter. The Newsletter is distributed to all residents, business owners and business tenants in the City. The City will provide updates on current programs and TMDL efforts. Will contain a brief survey in future editions pertaining to Watershed knowledge.	Implementation	Level 1 and 2	Data collected from surveys	Newsletters are published biannually by the City and contain an environmental section.
Tier I Residential  Water Quality Booth at City Events	To provide water quality and watershed information to the attending public. Obtain survey information pertaining to household BMPs.	Implementation	Level 1, 2, and 3	Data collected from surveys	During FY 08-09, the City had booths at the both the Fire Station open house and the Winter Bonfire. These two events ready approximately 800/900 people, residents and non-residents. The City has participated in one event so far during FY 09-10, the Fire Station Open House. The City will be participating in the Winter Bonfire in Dec. 09.

Activity Name (Project #)	Project Description	Current Status ( <i>Planning or Implementation</i> )	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Municipal Xeroscaping Municipal Medians	Ongoing rehabilitation of municipal landscaping to include LID concepts, water conservation, and xeroscaping	Implementation	Level 1, 2 and 3 Potential Level 4 based on water saved	Amount of water saved Rehabilitation of all medians	This is an on-going project that was begun in FY 08-09. None of the new xeroscaped areas have been in ground long enough to assess water savings at this time.
<b>New Activities</b>					
Tier III Vector Control Grant Project	Vector Control Grant for minor stream restoration for 2 small drainage channels, both less than a mile in distance.	Application Planning Process	Potential Level 4 and 5, but no official monitoring will be performed	Decrease in vector control treatment frequency, visual improvement and flowing water	This project is currently in process with the County with potential implementation in 2012 if the projects are approved and grant funds remain available.

## United States Navy Watershed Activities Reporting Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Activities For Current Reporting Year</b>					
Tier I  Evaluation and Minimization Plan for Copper and Zinc in Storm Water	Prepare an evaluation and minimization plan to address sources of copper and zinc in storm water from the base.	Implementation (Contract awarded in Sept 2010)	Level 4 load reduction	Measure copper and zinc in industrial storm water discharges.	Results available after 2010/2009 wet season.
Tier I/II  MS4 Storm Water Management Plan	The Navy will prepare a Storm Water Management Plan for Naval Base San Diego to comply with the Statewide General Permit for storm water. The Management Plan will describe BMPs, measurable goals, and timetables for implementation in the following six program areas: <ol style="list-style-type: none"> <li>1. Public Education and Outreach;</li> <li>2. Public Participation/Involvement;</li> <li>3. Illicit Discharge Detection and Elimination;</li> <li>4. Construction Site Runoff Control;</li> <li>5. Post-Construction Runoff Control; and</li> <li>6. Pollution Prevention/Good Housekeeping.</li> </ol>	Planning (Contract for updated MS4 plan awarded in Sept 2010)	Level 2 Change in awareness, Level 3 behavioral change, Level 4 load reduction	Track required inspections, audits, and maintenance activities and document in annual report. Track attendance at training and awareness events.	Navy is presently discussing the conditions for the updated Naval Base San Diego NPDES storm water permit with SDRWQCB. Status of permits should be available by December 2009/2010.
<b>Ongoing Agency Wide Activities</b>					
Tier II  Creek Trash Removal Program	Program to remove accumulated trash and debris from mouth of Chollas Creek. Trash and debris is captured behind booms strung across the creek. Navy personnel utilize cranes and small boats to remove trash and debris which is transported to the local landfill for disposal. Hazardous substances removed from the creek are stored in a secured area and properly disposed of in accordance with Federal and state laws and regulations. Conducted in partnership with City of San Diego.	Implementation	Level 4: load reductions in Creek and San Diego Bay	Report weight (tons) of trash and debris removed from creek.	Total removed in 2009-2010 wet season is approximately 9 tons.
<b>New Activities</b>					
None					

**Port of San Diego Watershed Activities Reporting  
Year 2, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan**

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Activities For Current Reporting Year</b>					
Tier I Brake Pad Partnership	The project involves providing support for bill SB346 which requires for brake pads sold in California to contain no more than 0.5% copper by 2025. In addition, the bill will: 1) creates limits for other brake pad materials; 2) establishes a certification process by a third party testing agency and requires DTSC to charge a fee to cover the costs; 3) establishes civil penalties for violations; and 4) creates a Brake Friction Materials Water Pollution Fund.	Implementation	Level 4: Load Reduction	Support of Sustainable Conservation	<u>Activity Results for FY 2009-2010:</u> The Port supported Sustainable Conservation's Brake Pad Partnership technical efforts legislatively this reporting period by providing letters of support. The Port's support was critical in obtaining Senator Kristine Kehoe's sponsorship of Senate Bill 346. This draft bill was under committee review when it was placed on a two year legislative schedule, and was heard by the Assembly Committee on Environmental Safety and Toxic Materials in June 2010.
Tier I Public Seminars	Integrated Pest Management for Landscape Professionals: The regional seminar provided information to professionals on Integrated Pest Management, is a pest management method that combines biological, cultural, physical, and chemical tools to minimize health, environmental, and financial risks.	Implementation	Level 2: Change in awareness; Level 3: Modification of Behavior through education and outreach	Does the education activity result in behavioral change or raise awareness?  Survey	Seminar held on 5/27/2010. 150 people were in attendance and 100% of the participants indicated that the seminar was useful and protecting water quality is important.
Tier I Green Machine IPM Education Program	The Port of San Diego sponsored the San Diego County Office of Education's "Green Machine" traveling outreach van to visit elementary schools within the Chollas Creek watershed area. This interactive agricultural program teaches students about soil, the water cycle, and integrated pest management (an environmentally friendly approach to pest control). The Green Machine curriculum is aligned with the California State Science Content Standards for grades K-4.	Implementation	Level 2: Change in awareness; Level 3: Modification of Behavior through education and outreach	Does the education activity result in behavioral change or raise awareness?  Number of people reached; Formal pre- and post-tests are not applicable due to the young age of the children.	<u>Activity Results for FY 2009-2010:</u> • 2,848 children were reached during July 2009 through June 2010.  <u>Activity Update:</u> This activity is on-going and assessment will be available in FY 2011.
Tier II Chollas Creek Family Stream Team Initiative (SBD-051)	The project is a four pronged strategy involving education, restoration, enforcement, and evaluation components. Financial support for this project is provided by the Port of San Diego's Environmental Fund.  City of San Diego collaborated on this activity by monitoring the refuse collection events, surveying participants' motivation and participants' general understanding and attitude about illegal dumping to assist in efforts to eliminate trash and debris in the Chollas Creek watershed.	Implementing	Level 3 Behavioral Modification; Level 4 Load Reduction	Does education result in behavioral change or raise awareness? Does education result in lower trash pollution? What is the load reduction of trash/debris that is disposed through these efforts?  Groundworks San Diego provided a final report on the findings to the Port of San Diego. The report includes information on: Community education and participation, collection events, enforcement, and tracking and assessment.	<u>Activity Results for FY2008-2009 and FY2009-2010:</u> • Held eight events • ~115 tons of trash and debris • ~12 tons of non-native vegetation (i.e., <i>Arundo donax</i> ) was removed • ~2000 bilingual flyers distributed, also distributed illegal dumping magnets and refrigerator magnet boards. • Approximately 200 residents joined in trash abatement and clean up activities. • Approximately 600 residents participated in large trash "Come Dump On Us" events. • Over 200 Chollas Creek students received classroom instruction and participated in three field trips. • City of San Diego monitored events, characterized type and volume of trash collected, and surveyed participants. Refer to the City of San Diego's activities table for further details.  <u>Activity Update:</u> This activity was completed during this reporting period. See Activity Summary Sheet SDB-051 in Appendix D for more detail.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Stream Team Stewards (SBD-068)	The education project for elementary school children consists of a series of in-school and after school classroom sessions and field trips; cleanup, storm drain stenciling and restoration of one acre of the Chollas Creek stream corridor. Financial support for this project is provided by the Port of San Diego's Environmental Fund.	Implementing	Level 3 Behavioral Modification; Level 4 Load Reduction	Does education result in behavioral change or raise awareness? Does education result in lower trash pollution? What is the load reduction of trash/debris that is disposed through these efforts?  The San Diego Zoo has prepared a final report on the activity to date. The report includes: Number and/or amount of plants removed or planted; Amount and type of debris removed; Number of people reached	<u>Activity Results for FY 2009-2010:</u> <ul style="list-style-type: none"> <li>Schools that participated in the program: Carver Elementary, Chollas-Mead Elementary, Encanto Elementary, Nye Elementary, Valencia Park Elementary, and Sherman Elementary</li> <li>Program served a total of 578 students (K-8)</li> <li>Pre and post-tests indicated that the program was effective in increasing knowledge about water quality issues and actions they could take.</li> <li>Restored habitat at two sites: 38<sup>th</sup> and Alpha and EarthLab. Learned to identify plants and animals and planted 250 plants. Trash removal day at either the school or at a local beach. Approximately 60 pounds of trash was collected.</li> <li>Storm drain stenciling: 50 stormdrains were done on September 26, 2009.</li> </ul> <u>Activity Update:</u> This activity was completed during this reporting period. See Activity Summary Sheet SDB-068 in Appendix D for more detail.
Tier II Chollas Creek Student Stream Restoration Team	The restoration project removed non-native plant species and plant native plant species, cleanup of trash and debris, and provide environmental education. Financial support for this project is provided by the Port of San Diego's Environmental Fund.	Implementing	Level 3 Behavioral Modification; Level 4 Load Reduction	Does education result in behavioral change or raise awareness? Does education result in lower trash pollution? What is the load reduction of trash/debris that is disposed through these efforts?  The Urban Corp of San Diego County has prepared a final report on the on the activity to date. The report includes: Number and/or amount of plants removed or planted; Amount and type of debris removed; Number of people reached	<u>Activity Results for FY 2009-2010:</u> <ul style="list-style-type: none"> <li>Education: Reached approximately 200 students from Cesar Chavez and Emerson-Bandini Elementary Schools through in-class and field trip experiences at 38<sup>th</sup> and Alpha Street Park. Students also participated in creating a native species open space supporting wetland habitat.</li> <li>Public Outreach: Tabling events, cleanup events (September 19 and October 24, 2009) and door to door residential outreach effort to surrounding neighborhoods and businesses.</li> <li>Restoration: Removal of 166 cubic yards of non-native vegetation (i.e., <i>Arundo donax</i>). Planted 350 native plants.</li> <li>Cleanups: Coordinated with Groundworks San Diego during the 2009 ILACSD Coastal Cleanup Day event at 33<sup>rd</sup> and National Ave. on October 24. Approximately 2.5 tons of trash and recyclables was also collected, filling one 40-yard roll off dumpster. 71 adults and 25 youth participated.</li> </ul> <u>Activity Update:</u> This activity was completed during this reporting period.
Tier II Ocean Science Explorers Initiative	The Port of San Diego supported science education for low-income youth in City Heights, a neighborhood in the Chollas Creek watershed, through the SEA Series Initiative. The science education program includes professional development for teachers, hands-on activities, thematic curriculum, books and materials, and an environmental service project the students implement at the end of the program.	Implementing	Level 2 Increase in Awareness; Level 3 Behavioral Modification	Does the education activity result in behavioral change or raise awareness?  Ocean Science Explorers has prepared a progress report on the activity to date. The progress report includes: # of students and teachers reached, # educational hours; Pre and post test assessments	<u>Activity Results for FY 2009-2010:</u> <ul style="list-style-type: none"> <li>Reached 2,200 low-income students and 69 teachers from schools within the City Heights area</li> <li>18,726 total educational hours through the initiative</li> <li>Program provided to 3<sup>rd</sup> through 6<sup>th</sup> grade classes at five elementary schools and three middle schools.</li> <li>Storm drain stenciling: 24 storm drains adjacent to the schools</li> </ul> <u>Activity Update:</u> This activity is on-going and assessment will be completed in FY 2011.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
<b>Ongoing Agency Wide Activities</b>					
Tier I Port of San Diego Industrial Inspection Program	The Port of San Diego performs routine inspection and enforcement of industrial facilities as part of its JURMP. During the 2008-2009 reporting period, the Port conducted facility inspections to ensure the impacts of urban runoff from industrial and commercial facilities were reduced or eliminated. There is one industrial facility, NASSCO, within the Port's portion of the Chollas Creek Watershed. This facility is inspected approximately annually, with follow ups and enforcement performed as necessary.	Implementing - Ongoing	Level 1 Programmatic Outcomes; Level 3 Behavioral Modification through enforcement	Is the site continuing to be in compliance with the industrial requirements of the Port of San Diego's JURMP?  # Inspections, # Violations Observed # Corrective Actions Implemented	The Port conducted one facility inspection of National Steel and Shipbuilding Company (NASSCO) on 11/10/2009. A written warning was issued to the facility for failure to keep the facility clean of leaking fluids from a vehicle and was cited for no having spill materials readily available. Follow-up inspection on 12/10/2009 determined the facility to be in compliance with JURMP requirements. The corrective action was addressed in a timely manner and no further enforcement actions were required.
Tier I NASSCO Environmental Practices	The NASSCO Shipyard, an industrial facility on Port of San Diego property, identifies and implements BMPs in order to maintain compliance with their NPDES industrial permit requiring zero discharge from the facility.	Implementing - Ongoing	Level 1 Programmatic Outcomes	Are the appropriate BMPs installed to ensure zero discharge of pollutants to the Chollas Creek? Is the facility collecting all of their water or discharges?  NPDES Industrial Permit Report (Order NO. R9-2003-005) prepared by NASSCO	Results provided in NASSCO's NPDES Industrial Permit 2010 Annual Reports (Per Order NO. R9-2003-005)
Tier I Booths at major events	The Port annually sponsors booths at various events, such as the Del Mar Fair and San Diego Boat Show	Implementing - Ongoing	Level 2: Change in awareness; Level 3: Modification of Behavior through education and outreach	Are booths at major events an effective outreach tool? What level of awareness does the public have about water quality in Chollas Creek?  # posted advertisements or pamphlets distributed Results from public opinion/awareness surveys (as applicable)	Sun Road Boat Show on 1/28/09 – 1/31/09. Estimated 30,000 in attendance over the timeframe of the event. No surveys distributed.