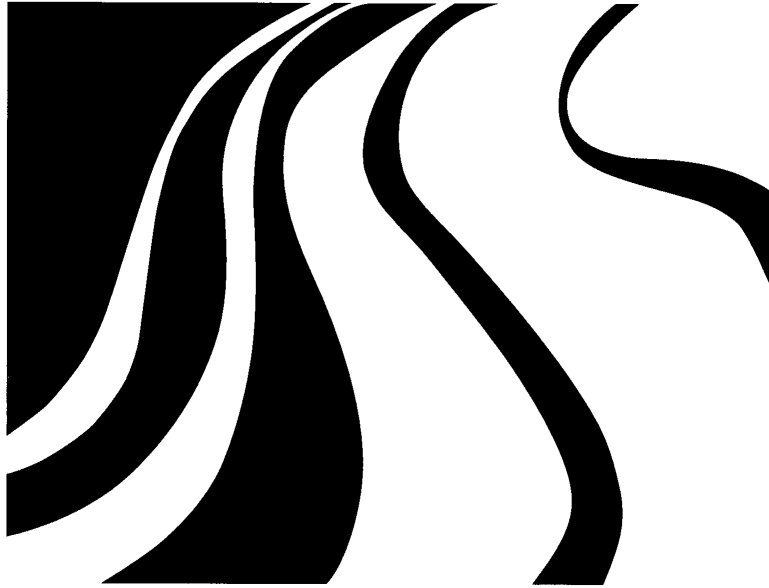


STORM WATER



MANAGEMENT
CITY *of* LONG BEACH

Annual Storm Water Permit & Assessment Report
Order No. 99-060/CAS004003 (CI8052)

December 1, 2005



CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

333 West Ocean Boulevard • Long Beach, CA 90802

December 1, 2005

Jonathan Bishop, P.E., Executive Officer
California Environmental Protection Agency
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Annual Storm Water Permit Report and Assessment for 2004-2005

Dear Mr. Bishop:

The City of Long Beach is pleased to submit its "Annual Storm Water Permit Report and Assessment 2004-2005" in compliance with Order No. 99-060, for the Municipal National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0040003 (CI8052).

Should you have any questions in regard to this report, please contact Tom Leary, Stormwater Management Division Officer, at (562) 570-6023.

Sincerely,

Mark Christoffels
City Engineer

MC:sl

Enclosure



CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

333 West Ocean Boulevard • Long Beach, CA 90802

CITY OF LONG BEACH MUNICIPAL STORM WATER PERMIT ORDER NO. 99-060

Permittee Annual Program Report Form
Permit Year 2004 - 2005

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the **1st** day of **December, 2005.**"

Mark Christoffels
City Engineer

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INTRODUCTION

The City of Long Beach Stormwater Management Program (LBSWMP) continues to be fully implemented in compliance with its National Pollutant Discharge Elimination System (NPDES) permit, the federal Clean Water Act (1972) and subsequent CWA amendments, all of which were adopted to protect receiving waters such as rivers, lakes and oceans from contamination by controlling pollutants from entering municipal storm drain systems (MS4s). The City of Long Beach complies with CWA guidelines through its NPDES permit and is committed to preserving and maintaining the quality of our beaches and waterways while improving marine habitat and the quality of life for our residents.

The Department of Public Works' Stormwater Management Division includes the Stormwater Management Division Officer and two Administrative Analysts. This team implements the goals and objectives of the LBSWMP and ensures compliance with the requirements of the City's Municipal NPDES Permit. Additionally, this team works with the Port of Long Beach and Long Beach Airport to administer their respective industrial permits.

On June 30, 1999, the Regional Water Quality Control Board issued a municipal stormwater NPDES permit (99-060/CAS004003 (CI8052) to the City of Long Beach. The City of Long Beach continues to be the first city in Los Angeles County to receive its own NPDES Permit. The City of Long Beach is currently operating under the requirements of this permit.

On December 26, 2003, the City submitted its Report of Waste Discharge (ROWD) in accordance with Title 23, California Code of Regulations. The City's ROWD consisted of: Statement of Accomplishments, Long Beach Stormwater Management Plan, Water Quality Monitoring Plan, Draft Permit, challenges and future goals.

The Annual Storm Water Permit Report and Assessment details the City's storm water management accomplishments and expenditures for the period of October 1, 2004, through September 30, 2005.

PROGRAM MANAGEMENT

The Citywide National Pollutant Discharge Elimination System (NPDES) Task Force continues to develop and enhance the comprehensive Long Beach Stormwater Management Program (LBSWMP). Task Force members, representing numerous departments, oversee timely implementation of the LBSWMP and are essential in



providing Stormwater Management Division Staff with critical data and information (See Appendix A for Citywide Task Force Matrix).

Stormwater Management Division staff participates in regional task forces, councils, organizations, and committees related to storm water activities (see Appendix B for a list of collaborating regional agencies). This ongoing involvement has proved to be an excellent avenue for exchanging information and collaborating on joint projects. Two such projects are the Los Angeles and San Gabriel River Master Plans.

During the 2005 rain season the City of Long Beach received the highest rainfall total in recorded history with over 27 inches of rain. The Capital Improvement Projects (CIP) completed in FY 04 performed exceptionally well at capturing trash and debris before reaching the Los Angeles and San Gabriel Rivers. These projects and others are more fully detailed in Section 1.3 (Current Projects).

PUBLIC AGENCY ACTIVITIES

In addition to increased code enforcement, distribution of public construction guidelines, and the maintenance of streets, storm drains, and landscapes the City has emphasized community outreach efforts designed to reduce littering throughout the city. The City's Environmental Services Bureau has developed and implemented the citywide "Litter Free Long Beach" campaign. This campaign and the City's other public agency activities are both numerous and extensive. For example, 100% of the household recycling program has been converted to automated collection bins. These combined efforts contributed to the collection of 253,928 tons of waste and recyclables. Other notable Public Agency Activities include:

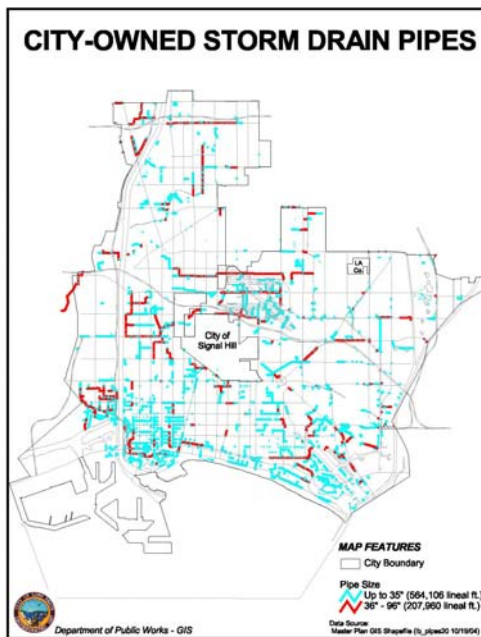
- 17,296 tons of trash and debris collected in beach and marina receptacles (14,929 ton increase from FY 04).
- 2,000 tons of trash and debris from Neighborhood Cleanup programs (20 ton increase from FY 04).
- 2,580 tons of oversized items picked up through the Special Item Pick-up Program (2,568 ton increase from FY 04).
- 380 citations issued by the Long Beach Police Department for litter and dumping related offenses (221 more than FY 04).
- 243 tons from storm drain operations and maintenance (231 ton increase from FY 04).



DEVELOPMENT PLANNING AND CONSTRUCTION

In FY 05, there were 31 development projects for which SUSMPs were completed. The City's plan review process focuses on the impacts of development on storm water quality as early as possible during the planning phase of a project. The City mandates that storm water quality impacts must be fully addressed by the developer prior to issuance of any permits, which safeguards against the discharge of pollutants into the storm drain system and/or receiving waters. Chapter 18.95 of the Long Beach Municipal Code details the City's NPDES and SUSMP regulations.

ILLICIT DISCHARGES AND ILLICIT CONNECTIONS



Within the City limits, there are about 383 miles of active storm water carriers, which include pipes, open channels, ditches, culverts, connector pipes and drains. 180 miles of those carriers are City-owned, 142 miles are LA County-owned and 40 miles are Caltrans-owned with various other owners making up the difference. The City maintains 5.5 miles of channels and ditches, LA County has 32 miles of open flood control channels (i.e. LA River, San Gabriel River, Los Cerritos Channel, etc.) and Caltrans has 11 miles of channels and ditches. Inspectors and field staff from the Fire, Harbor, Health and Human Services, Planning and Building, Public Works, and Water departments receive annual training on how to identify, report, and eliminate illicit discharges and play a vital role in prohibiting illicit discharges and

eliminating illicit connections. For example, the Water Department uses special equipment to inspect storm drain pipes 36-inches or greater in diameter. If an illicit connection is detected an advanced system of communication and follow-up is in place to ensure the removal of the connection.

PUBLIC INFORMATION AND EMPLOYEE TRAINING

Communicating the storm water message to residents, school children, commercial and industrial establishments, and City employees about storm water and urban runoff pollution are a priority for the City. In FY 05, the Stormwater Management Division



made use of the Adopt-A-Waterway Program, Long Beach Community Television programs, The Wave utility bill insert, the Long Beach Area Chamber of Commerce, and a host of El Dorado Nature Center programs, just to name a few. With a permit requirement of 1.5 million impressions, the City made well over 140 million impressions related to storm water pollution prevention issues and their solutions through the use of various media. New outreach materials and methods are constantly being explored while proven techniques are carried on. Additionally, the Adopt-A-Waterway™ program continues to be successful at raising non-taxpayer funds to enhance programs aimed at educating the public about pollution prevention. Since its inception, the Adopt-A-Waterway™ program has generated \$193,583 for the City. In FY 05, Adopt-A-Waterway generated \$45,043 (see Appendix C for list of AAWW expenditures) for the City and relayed Best Management Practices through the 13 installed signs throughout Long Beach.

Public Information and Employee Training are fundamental to changing people's behaviors and stop pollution at its source. The more people are aware that their actions have a specific effect on storm water quality and the environment in general, the more they will be the solution to pollution, rather than its cause.

CHALLENGES

The City of Long Beach continues to face a difficult financial situation. The City's projected structural deficit for FY06 is \$20,000,000, and for FY07 \$10,000,000. Despite funding shortages in many City programs, the Long Beach Storm Water Management Plan was implemented with funding levels equaling FY 04.

In this uncertain environment, the Program is facing a number of new challenges:

- The City's Report of Waste Discharge (ROWD) submitted on December 26, 2003 has yet to be approved, creating further uncertainty and difficulties in planning and implementation.
- Workload and staffing shortages at local, State, and Federal levels.
- Implementation of Total Maximum Daily Load requirements (TMDL's).
- Lack of General Fund dollars, including grant match monies, for Capital Improvement Projects (CIP) and special studies aimed at improving water quality.
- A future goal from the FY04 Annual report was to develop and implement a "Priority" Inspection program for storm drain pipes 36-inches or greater. The City recently completed the development of a Stormwater Master Plan and Management System, which will be used to help create this program.
- Significant cost increases in energy, construction raw materials, and labor.



EXECUTIVE SUMMARY

- Significant and unpredictable cost increases from terrorism and gang prevention programs and from severe winter storms.
- Enforcement
- Permit required programs that are proving not to be cost effective (~\$600,000 for Water Quality Monitoring Program and IC/ID Inspection Program)



1.0 PROGRAM MANAGEMENT

Section One explains the City's strategy, regional efforts, and projects related to implementing the Long Beach Storm Water Management Program (LBSWMP). The Department of Public Works Stormwater Management Division administers this citywide program. The objective of the LBSWMP is to improve the quality of storm water runoff by effectively prohibiting non-storm water discharges and by reducing the discharge of pollutants to the maximum extent practicable (MEP). All City departments are involved in the cooperative effort to implement the LBSWMP, while it is the Stormwater Management Division's responsibility to coordinate the development, implementation, and revision of the LBSWMP.

1.1 IMPLEMENTATION STRATEGY

The Citywide National Pollutant Discharge Elimination System (NPDES) Task Force (Task Force) guides and supports the implementation of the LBSWMP. The Task Force is made up of representatives from multiple city departments. Because it has become increasingly difficult to find a mutually convenient time when all Task Force members are able to attend meetings, the Stormwater Management Division has emphasized using electronic communications to disseminate information, receive feedback, provide guidance, and discuss pertinent issues related to NPDES. Using electronic communication has also facilitated an increase in dialog between Task Force members from quarterly meetings to daily interaction. As always Task Force members concentrate on integrating the LBSWMP elements into the City's guidelines and standards. The Task Force addresses training, public education, public agency activities, development planning and construction, legal authority, industrial and commercial site visits and procedures to detect and remove illicit connections and improper disposal into the storm drain system. Also, included in this program is a process to identify the appropriate city department(s) to respond to storm water pollution issues (See Appendix D for NPDES First Responders Call List).

The department representatives serving as Task Force members oversee proper and timely implementation of the LBSWMP. These contacts are responsible for coordinating the annual report preparation, training, policy and procedure revisions within their departments. The Task Force members are essential in providing two-way communication that keeps the appropriate staff up to date with NPDES matters (See Appendix A for Citywide Task Force Matrix).



1.2 REGIONAL PARTICIPATION

The Stormwater Management Division staff, and other staff within the City, actively participates on a great number of task forces, councils, organizations, and committees that focus on storm water, pollution prevention, education, and watershed activities.

The Los Angeles River Master Plan (LARMP) Advisory Committee works to continue the implementation of improvement projects within the Los Angeles River Master Plan, which was approved in 1996. These meetings focus on efforts and issues related to the LA River, such as maintenance, signage, and landscaping guidelines. Long Beach Stormwater Management Division staff and the Department of Parks, Recreation and Marine staff attend these meetings to assist the LARMP Advisory Committee in meeting the goals and objectives of the LARMP.

The San Gabriel River Master Plan (SGRMP) is underway and nearing the end of the planning phase. The consultant, MIG, has completed a draft version of the Master Plan with input from stakeholders at regularly held Steering Committee meetings. Staff from the Department of Parks, Recreation, and Marine and the Stormwater Management Program attends these meetings to assist the SGRMP stakeholders in meeting the goals and objectives of the SGRMP.

The Los Angeles and San Gabriel Rivers Watershed Council (LASGRWC) is a nonprofit organization that engages stakeholders in dialogue promoting watershed health and resolving environmental and regulatory issues. The Water Augmentation Study is one of the LASGRWC's current projects, which will explore the potential for increasing local water supplies and reducing urban runoff pollution by increasing infiltration of storm water runoff. The Stormwater Management Program and the Department of Parks, Recreation, and Marine continue to work with Dr. Suzanne Dallman of the LASGRWC on one of the demonstration project's monitoring locations for this study, which is located at Veterans Park in Long Beach. (See Appendix E for Watershed Augmentation Study Executive Summary.) The LASGRWC holds regular stakeholder meetings that not only cover organization business but also include informative workshops. Staff from the Department of Parks, Recreation, and Marine and Stormwater Management Program attends these meetings to participating in the LASGRWC.

The Dominguez Watershed Advisory Council (DWAC) creates and supports implementation of a comprehensive Watershed Management Master Plan (WMMP) for the Dominguez Watershed. DWAC works very closely with the consultant, MEC, who is currently drafting the WMMP. Staff from the Harbor Department and the Stormwater Management Division attends these meetings to assist the DWAC in meeting its goals and objects and the development of its WMMP.



SECTION 1

The Los Angeles Contaminated Sediments Task Force (CSTF) works to identify contaminated sediment in Los Angeles County and develop viable disposal options. The City of Long Beach Harbor Department (Port of Long Beach) helps fund this task force and special studies related to disposal and reuse. Staff from the Harbor Department and the Department of Parks, Recreation and Marine attends these meetings to assist the CSTF with its goals and objectives.

The San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC) is one of seven Conservancies within the California Resources Agency. It works to preserve urban open space and habitat and undertakes projects that provide low-impact recreation, education, wildlife and habitat restoration, and watershed improvements. Third District Council member Frank Colonna worked with state legislators and local cities on legislation to create the RMC, of which he was Chair during this reporting period. Recently, Dan Baker, Second District Council member, was appointed to the Board and Tom Leary, Stormwater Management Division Officer was named as his alternate beginning in 2006. Staff from the Department of Parks, Recreation, and Marine and Stormwater Management Division attends the RMC's public meetings.

The California Stormwater Quality Association (CASQA) assists those entities charged with storm water quality management responsibilities with the development and implementation of storm water quality goals and programs. CASQA also maintains and distributes a Stormwater Best Management Practice Handbook set, which has separate handbooks for Construction, New Development and Redevelopment, Industrial and Commercial, and Municipal operations. Long Beach Stormwater Management Program staff attends the meetings held by CASQA, including the BMP Handbook training.

The Southern California Association of Governments (SCAG) promotes economic growth, personal well being, and livable communities through leadership, vision, and progress. The City of Long Beach continues as a member of SCAG.

The Stormwater Monitoring Coalition (SMC) of Southern California, a collaborative working relationship of storm water regulators and municipal storm water management agencies, works to develop the technical information and tools needed to improve storm water decision-making. The City of Long Beach, a founding member and the only municipality representative, continues to be an active member. For example, in July 2005 the City began participating in the Standardized Data Transfer Formats for Storm Water Monitoring Data with a start up cost of \$10,000 and an annual maintenance fee of \$3,000 (see Appendix F for SMC Annual Report).

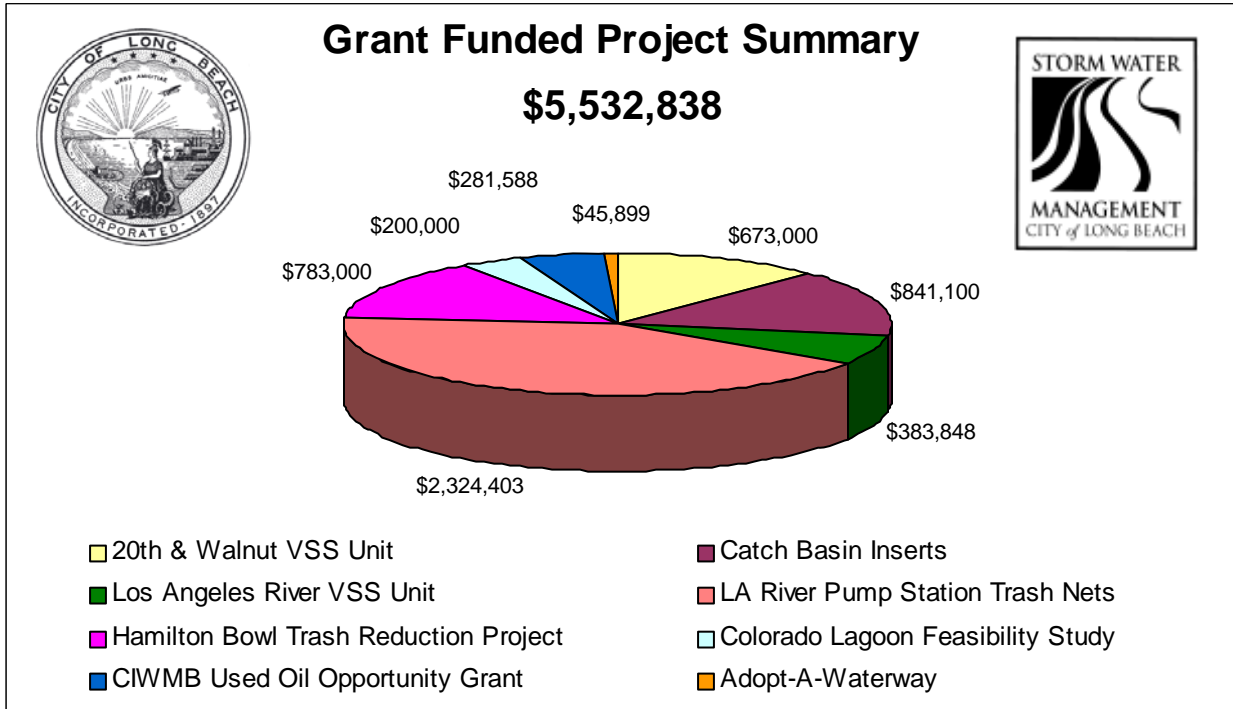


The Long Beach Stormwater Management Division actively participates on several committees and task forces coordinated by the Los Angeles County Department of Public Works.

- The NPDES Municipal Stormwater Permit Executive Advisory Committee (EAC) actively addresses storm water issues among its stakeholders and with representatives from the Los Angeles Regional Water Quality Control Board. Long Beach Stormwater Management Division staff attends these meetings and the TMDL subcommittee meetings to assist the EAC with meeting its goals and objectives. In addition, the City has agreed to join other municipalities within Los Angeles County to pay for consulting services to address TMDL issues at a cost of \$7,500.
- The Los Angeles County Best Management Practice (BMP) Task Force is an ongoing forum to facilitate the selection, implementation, and financing of effective BMPs. Long Beach Stormwater Management Division staff attends these meetings to assist the BMP Task Force with meeting its goals and objectives. Also, Long Beach Stormwater Management Division staff participates in the Los Angeles and San Gabriel Rivers Joint Watershed NPDES Permittee meetings and Public Education and Outreach meetings.

1.3 CURRENT PROJECTS (\$5,532,838)

The Long Beach Stormwater Management Program is currently managing and/or monitoring several capital improvement projects aimed at reducing pollution throughout the city. Funding for these projects total \$5,532,838. Grant writing has become an important component of the Stormwater Management Division administrative functions. Beginning last spring the Division has written and submitted grant applications to the State Water Resources Control Board for Prop. 40 funding, to the United States Army Corp of Engineers for estuary restoration funding, and to the Rivers and Mountains conservancy for Prop. 50 funding. Despite the mixed results from these applications the City will continue to pursue other grant funding opportunities. The following are made possible through various grant awards.



1.3.1 ABTECH/AES SMART SPONGE CATCH BASIN INSERTS (\$841,100)



This BMP assists with bacteria TMDL compliance. The project includes installation and monitoring of AbTech’s Ultra-Urban Filter series with Smart Sponge® Plus antimicrobial technology catch basin inserts. Installation priority was given to drains that are tributary to waters used for recreation and those likely to be most effective at capturing trash debris based on the surrounding land uses (see Appendix G for installation by land use).

The Ultra-Urban Filter series with Smart Sponge® Plus is designed to encapsulate and successfully remove harmful substances, including hydrocarbons, oil, grease, and other toxins, before they enter local waterways. The antimicrobial technology adds the capability to destroy dangerous disease causing microorganisms, such as Staphylococcus aureus, E. coli, and Fecal coliforms. The fully recyclable filters can be installed very quickly. If we find they are needed more critically in a different area, we can easily relocate them. After the filters reach saturation, they can simply be replaced.



To date 328 drains with 1375 inserts have been retrofitted with these successful capture devices. In FY 05 \$600,000 was spent from 2000 Water Bond funding. Another \$241,100 will be spent to purchase additional inserts thanks to a grant from the USEPA.

1.3.2 PUMP STATION TRASH NET INSTALLATION (\$2,324,403)

This BMP assists with LA River Trash TMDL compliance. These trap nets are designed to capture trash and debris prior to it entering city-owned pump station (SD 1, 3, 4, 5, 6) pumps, thereby significantly reducing contaminants discharged directly into the Los Angeles River. The project involved removing existing trash racks, installing storm drain pollution trap nets, constructing a hoist-crane structure and low flow channel steel screens.



During the 2004-05 storm season the trash nets captured and prevented 312,880 lbs. of trash and debris from entering the Los Angeles River. Continuing improvements to the trash net structure will result in an even higher percentage of trash and debris being captured in subsequent years (See Appendix H for trash net monitoring results).

1.3.3 LOS ANGELES RIVER PUMP STATION 12 VSS UNIT (\$383,848)

This BMP assists with LA River Trash TMDL compliance. Recognizing that treatment and drainage of storm water from the 91 and 710 freeways was a necessity, the City of Long Beach joined with the State Department of Transportation (Caltrans) to construct this highly successful project.



Monitoring of this VSS Pollution Trap shows that 9,615 lbs. of trash and debris was captured during the 2004-05 rain season (See Appendix I for LA River VSS monitoring results).

1.3.4 20th & WALNUT CDS UNIT (\$673,000)

This BMP assists with LA River Trash TMDL compliance. Project expenditures totaled \$673,000 and were funded by the State Budget Act Appropriation of FY 2000-2001.



Construction was completed in September 2004. In the past year approximately 5,400 lbs. of trash, sediment and debris have been captured and removed from the storm drain system. The unit is placed on a 42-inch pipe that drains into Hamilton Bowl. This picture, taken after our first storm in October 2005, shows that this BMP technology continues to be extremely successful at capturing trash and debris. The Long Beach Stormwater Management Division, PPC Construction, Inc. and CDS Technologies

completed the installation of this CDS unit at the intersection of 20th & Walnut streets, which is adjacent to the northwest corner of Hamilton Bowl.

1.3.5 HAMILTON BOWL TRASH REDUCTION (\$783,000)

This project assists with BMP evaluation. In 2002, the City of Signal Hill, Los Angeles County Department of Public Works, and the City partnered on a grant application to reduce trash deposited into Hamilton Bowl via the storm drain system. This facility is a combination detention basin / pump station system that is owned by Los Angeles County and leased to the City of Long Beach for recreational purposes. John L. Hunter and Associates, Inc., served as project manager for the cities and county.

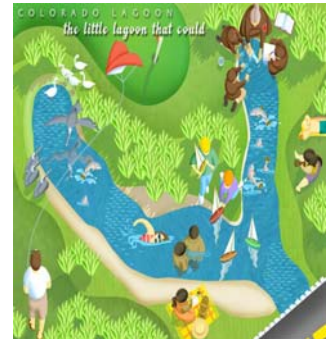


On August 2, 2004, the State Water Resources Control Board notified the City of Signal Hill (grantee) that the grant would not be awarded to them due to the matter of Cities of Arcadia et al v. State Water Resources Control Board et al, San Diego Superior Court # GIC803631 entered a Writ that directed them to: cease and desist any and all actions to implement, enforce, or otherwise apply the Los Angeles River Trash TMDL; and suspend all activity relating to the Los Angeles River Trash TMDL's that could result in any change or alteration to the physical environment.

At the time this report is being written, it is understood that the State has offered to consider a modification to the grant project so that the funding is not lost. The modified project removes the City of Signal Hill from the project and names the County of Los Angeles as the grantee. Should the modification be approved by the State we expect construction of the structural BMP's to begin during the summer of 2006. The City of Long Beach commitment and role remains the same.

1.3.6 COLORADO LAGOON RESTORATION FEASIBILITY STUDY (\$200,000)

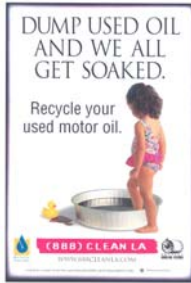
In April 2003, the City of Long Beach entered into an agreement with the California State Coastal Conservancy to receive \$200,000 in grant funds for a Colorado Lagoon Feasibility Study. The Feasibility Study was completed by Moffatt & Nichol Engineers and submitted to the California Coastal Conservancy in February 2005. The Feasibility Study enumerates a 17-point plan for restoring the Lagoon's estuarine ecosystem. Based on these recommendations, the City's Stormwater Management Division applied for a Clean Beaches Initiative grant that will modify the existing culvert,



install low storm water flow diversions to the sanitary sewer system, and build several bioswales. In October 2005, the City was given final approval by the State Water Resources Control Board (SWRCB) for its CBI grant, although the funding amount, between \$2.5 million and \$3.8 million, is yet to be finalized. The Colorado Lagoon Restoration Feasibility Study can be found on the City's website at: <http://www.longbeach.gov/pw>.



1.3.7 CALIFORNIA INTERGRATED WASTE MANAGEMENT BOARD –USED OIL OPPORTUNITY GRANT (\$281,588)



The purpose of this program is to 1) identify the root causes of illegal dumping / barriers to recycling oil, and 2) determine the most effective outreach strategies for preventing pollution. The program is being implemented in partnership with the cities of Carson, Compton, Huntington Park, Lynwood, and South Gate and will tackle the growing problem of illegal dumping in the southern Los Angeles River Watershed. The ultimate goal of the program is to establish effective outreach and education techniques aimed at “do-it-yourselfers,” newcomers, and people practicing improper waste oil disposal. This will be done through identifying barriers, conducting surveys, and evaluating outreach efforts. The City’s consultant S. Groner and Associates, Inc., began the study in June 2004 and will continue through April 2007 (see Appendix J for Used Oil Opportunity Grant Update for the City of Long Beach).

In addition to the Used Oil Opportunity Grant the City was instrumental in supporting S. Groner and Associates, Inc. in their successful bid to get grant funding for a Used Oil Research and Development Grant. This grant provides funding to conduct research and deliver outreach material to Shade Tree Mechanics, who are do-it-yourselfers operating a quasi oil changing business (see Appendix K for City’s Letter of Support).

1.3.8 BMP EFFECTIVENESS STUDY (\$354,866)

The Stormwater Management Division is working with the Southern California Coastal Water Research Project (SCCWRP), who is the lead agency, and Los Angeles County Department of Public Works, Santa Monica Bay Restoration Commission, the Los Angeles and San Gabriel Rivers Watershed Council, Orange County Water District, County of Orange Public Facilities and Resources Department, and the Los Angeles Regional Water Quality Control Board on a project to study BMP effectiveness. SCCWRP serves as the project director and will coordinate with the Stormwater Management Program to study the effectiveness of BMPs located at sites within the City of Long Beach. Both wet and dry weather flows will be analyzed in CDS-type units, dry detention basins, UV treatment systems, and wetland systems.



2.0 MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

The City of Long Beach puts into practice public agency activities that reduce the discharge of pollutants into the storm sewers and local receiving waters to the maximum extent practicable. In order to effectively improve the quality of storm water, the City has the following in place:

- Storm Drain System Operations and Maintenance,
- Trash and Greenwaste Control,
- Code Enforcement,
- Street Maintenance,
- Public Construction Activities,
- Landscape Maintenance,
- Training.

2.1 STORM DRAIN SYSTEM OPERATIONS AND MAINTENANCE

Within the City limits, there are about 383 miles of active storm water carriers, which include pipes, open channels, ditches, culverts, connector pipes and drains. 180 miles of those carriers are City-owned, 142 miles are LA County-owned and 40 miles are Caltrans-owned with various other owners making up the difference. The City maintains 5.5 miles of channels and ditches, LA County has 32 miles of open flood control channels (i.e. LA River, San Gabriel River, Los Cerritos Channel, etc.) and Caltrans has 11 miles of channels and ditches.

In addition, The City owns 3,872 catch basins and 23 pump stations, all of which are cleaned annually. During FY 05, the total amount of trash and debris collected from the catch basins was 84.2 tons, while the trash and debris collected from the pump stations in FY 05 amounted to 158.7 tons. This is a 1,323% increase compared to 12 tons collected in FY 04. This tremendous increase is attributed to the installation of the pump station trash nets (see section 1.3.2). Table 2.4 shows the amount of trash and debris collected during the cleaning of catch basins and pump stations.

Waste characterization shows that the predominant types of debris include trash (a combination of plastics, polystyrene-foam, glass, and paper) and greenwaste. The most likely source of the trash is littering, whereas the most likely source of the greenwaste is a combination of non-anthropogenic sources, individuals and landscapers sweeping, hosing, or blowing this material into the storm drain. The Water



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

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Department maintains a storm sewer cleaning database that includes the number of catch basins, cross drains, and grates cleaned for each date as well as categories and quantities of the debris removed for each date.

Table 2.1: **INLET MAINTENANCE**

Activity	Quantity	Tons Collected
Catch Basin Cleaning	3,872	84.2
Pump Stations	23	158.7
TOTAL		242.9

Selected areas in the MS4 have been designated as high priority based on the amount of trash and debris normally collected. A Rain-Emergency Checklist identifies catch basins, grates, cross drains, etc. that are checked immediately prior to rain being forecasted. These areas are cleaned of any trash and debris prior to a storm event to ensure that these pollutants are not washed into the receiving waters. To ensure that no clogged systems contribute to flooding, a separate list is maintained at areas to be checked while it is actually raining.

The Water Department also operates and maintains the City's sanitary sewer system, as detailed in the Public Agency Activities section of the LBSWMP. Procedures are implemented to keep sewage from entering the storm drain system. Methods may include education, inspection, covering or blocking storm drain inlets and catch basins or containing and diverting the sewage away from open channels and other storm drain facilities. In FY 05, the Water Department responded to 14 sewer overflows totaling 5,650 gallons (compared to five overflows totaling 2,900 gallons in FY 04). This 48.7% increase is due to flooding directly related to the historical rain totals in Long Beach last year. One way the City is trying to prevent sewer overflows is through a Stormwater Management Division and City Water Department joint outreach effort to enlighten residents about the negative effects of pouring Fats, Oils & Grease down the kitchen sink.

2.2 TRASH AND GREENWASTE CONTROL

The Public Works Department's Environmental Services Bureau (ESB) developed a "Litter Free Long Beach Campaign" program this past year. Please visit the website at <http://www.litterfreelb.org>. This outreach program launched in the spring, and so far has:

- Conducted 15 Community and business corridor clean-ups;
- Involved 227 Volunteers at neighborhood clean-up events;



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

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- Collected approximately 31 tons of trash and debris from clean-up efforts;
- Partnered with ten car wash businesses which distributed 56,000 car litter bags;
- Given away through events and outreach efforts 2,000 litter bags;
- Promoted the "No Litter Zone" program through door-to-door efforts with 96 businesses participating in the program receiving a free 20 gallon trash can, liners, broom and dust pan to use to help keep their store fronts clean;
- Developed and hung 18 poster signs at bus stop shelters and partnered with Viacom for installation;
- Installed litter abatement campaign signs on City refuse trucks;
- Promoted the campaign at various community meetings;
- Advertised the campaign in the Long Beach Press Telegram, Grunion Gazette and Downtown Gazette newspapers;
- Issued a series of press releases to coincide with local newspaper print advertising;
- Distributed flyers promoting the neighborhood cleanup events (English, Spanish, Khmer);
- Created and printed customized posters for clean-up events;
- Created and distributed campaign bumper stickers and baseball caps.

Two other programs the City emphasizes are Adopt-A-Street and Adopt-A-Gutter. The **Adopt-A-Street** is a program that allows local businesses the opportunity to adopt portions of streets that will be serviced by special litter cleanup crews on a monthly basis. The City of Long Beach adopted six miles of streets. The **Adopt-A-Gutter** curriculum engages students and teaches them about basic storm drain education, including the effects of trash along the street and curb. The program now includes student monitoring and characterizing trash in gutters around each student's home. Students received magnets, rulers, pencils and literature to remind them that they are the solution to ocean pollution.

Trash and green waste are controlled through various operations across several departments. These include:

- Litter Receptacles,
- Neighborhood Cleanup Assistance,
- Household Recycling,
- Greenwaste Disposal,
- Special Collection,
- Used Oil Recycling,
- Household Hazardous Waste Collection, and
- Trash Collection on the Beach and Along Water Bodies.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

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2.2.1 LITTER RECEPTACLES



Keeping refuse from entering the storm drain system takes an enormous effort. Placing trash receptacles in convenient locations and servicing them on a regular basis a consuming task. To ensure that people have an alternative to littering the City has placed 172 litter receptacles along residential streets and 688 litter receptacles along commercial streets, each of which are emptied weekly. Approximately 782,000 lbs. of waste and recyclables was collected from these litter receptacles in FY 05. In addition, the Long Beach Parks, Recreation, and Marine Department maintain another 145 beach receptacles that are emptied four times per week during the summer and two times per week during the winter and 75 marina trash receptacles that are emptied six times per week. The Queensway Bay area has 30 litter receptacles, which are emptied daily. In FY 05, over 34,592,000 lbs. of trash and debris was collected from litter receptacles along the beaches and marinas. This is an increase of 29,858 lbs. collected compared to FY 04.

2.2.2 NEIGHBORHOOD CLEANUP ASSISTANCE

The City's Department of Community Development assists resident volunteers by conducting Neighborhood Cleanup events. In FY 05, there were 169 cleanup events, which resulted in 2,000 tons of waste being collected. This is an increase of approximately 20 tons compared to the 1,980 tons collected in FY 04 at 173 cleanups. The Department provides free trash dumpsters, trash bags, and gloves and lends tools for use during the cleanup events. Neighborhood groups are also given free use of community computers and photocopiers to produce flyers for the event. Please visit the website http://www.longbeach.gov/cd/neighborhood_services/clean_up_programs.asp.

2.2.3 HOUSEHOLD RECYCLING

The City's Environmental Services Bureau continues to improve the household recycling program. 100% of the city has now been converted from manual collection of open bins to automated collection of covered carts. Residents are provided with 32-gallon, 64-gallon, or 96-gallon carts for commingled collection of recyclables in the categories of newspaper, cardboard, mixed paper, plastic, cans (aluminum, steel, and tin), glass, and empty paint and aerosol cans. Approximately 28,372 tons of material was collected through the curbside recycling program during FY 05. This is approximately a 9% increase from the 25,826 tons collected in FY 04. Table 2.2 shows recyclables collected in FY 05.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

SECTION 2

Table 2.2: **CURBSIDE RECYCLING**

Item	Tons Collected
Newspaper	15,866
Corrugated Cardboard	3,716
Commingled Containers	8,452
Mixed Paper	338
TOTAL	28,372

2.2.4 GREENWASTE DISPOSAL

The City requires residents to tie tree limbs, shrubs, and trimmings into bundles and securely wrap materials for proper disposal. The Special Collection Program provides pickup for these materials. In FY 05 142 tons of green waste was picked up from residential properties. The departments of Parks, Recreation and Marine and Public Works recycled approximately 72,000 tons of grass from City grounds in FY 05. This is a .5% increase over last year. The Street Landscaping Division recycled approximately 4,850 tons of grass and tree limbs last year. This is a 21% increase compared to the amount collected in FY 04 (3,831 tons). City departments minimize the amount of greenwaste collected from City facilities by reuse. Grass clippings are evenly distributed over the areas that are being mowed (grasscycling). Excess grass clipping and other greenwaste, such as tree limbs, are recycled. BMP's, such as surrounding the base of bulk materials with sand bags and covering with plastic tarps, are utilized to assure that exposed materials will not migrate from their temporary storage locations. As an added incentive to residents the City offers seminars on composting and distributes literature that explains methods of greenwaste composting.

2.2.5 SPECIAL COLLECTION



Two well-publicized special item collection programs, the Oversized Items Pickup and Dumped Items Pickup, are designed to reduce bulky items from alleys and vacant lots throughout the City. The Environmental Services Bureau (ESB) distributes a trilingual (English, Spanish, and Khmer) promotional flyer to inform residents about the Oversized Items Pickup program (see Appendix L for full view of flyer). Table 2.3 shows the amounts collected from special item pickup requests.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

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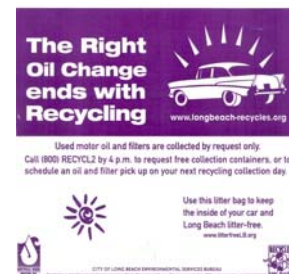
Table 2.3: **SPECIAL ITEM PICKUPS**

Category	# of collection requests	Tons Collected
Furniture	11,471	613
Tires	112	38
Yard Waste/Tree Trimmings	1,139	142
City-provided recycling bins (old)	2,334	Not Available
Out Lates (missed collections)	395	Not Available
E-Waste	638	26
Appliances	1,770	Not Available
Other:	7,605	767
TOTAL	25,464	1,586

The Dumped Item Pickup program allows residents to report illegally dumped items for collection. ESB staff collected 1,351 tons of illegally dumped items, which is an 11.5% increase from the 1,196 tons collected in FY 04. A contributing factor to the increased tonnage of illegally dumped items collected is a policy implemented by ESB whereby Refuse Operators are required to collect dumped items along their regularly scheduled routes. ESB works closely with the Police Department to help enforce laws against illegal dumping. Additionally, surveillance cameras have been installed in some alleys to detect this behavior. These efforts led the Police Department to issue 380 citations and make 18 arrests for littering and dumping-related issues in FY 05. Citations increased by 221 and arrests doubled compared to FY 04.

2.2.6 USED OIL RECYCLING

The City operates a curbside residential recycling program that includes collection of used motor oil and oil filters. Residents are provided with free used motor oil recycling containers at their request. Waste Management, Inc., the City's recycling contractor, collects the containers and leaves empty replacement containers. ESB staff attended numerous community events throughout the year to promote the Used Motor Oil Recycling program and distribute motor oil containers and funnels. ESB continues to display tri-lingual street pole banners with the "Cleaner Long Beach" slogan promoting motor oil recycling as a method of supporting clean beaches and waterways. Last year 15,535 gallons of used motor oil was collected through the curbside recycling program.





MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

SECTION 2

In addition, drop-off locations throughout the City, such as gas stations and auto parts stores are posted on the Environmental Services Bureau website and listed in ancillary promotional materials. These certified drop-off centers are managed and maintained by the business owners and supplement the City’s programs.

2.2.7 HOUSEHOLD HAZARDOUS WASTE COLLECTION



ESB staff, in partnership with the Los Angeles County Department of Public Works and the Sanitation Districts of the County of Los Angeles, held a very successful Household Hazardous Waste (HHW) Roundup at Veterans Stadium in Long Beach. Table 2.4 shows the amounts of hazardous waste collected at the April 2, 2005 event. Approximately 2,800 cars were served by this collection event (see Appendix M for full view of flyer).

Table 2.4: **HOUSEHOLD HAZARDOUS WASTE COLLECTION**

Motor Oil	1,550 gallons
Oil Filters	460 units
Car Batteries	14,515 lbs
Antifreeze	2495 lbs
Paint	17,500 lbs
Batteries	3,438 lbs
E-Waste	70,332 lbs
CRT's	555 units
Misc Waste (pesticides, pool chemicals, etc)	163,445 gallons

2.2.8 TRASH COLLECTION ON THE BEACH AND ALONG WATER BODIES

In FY 05, the Long Beach Parks, Recreation, and Marine Department collected 17,296 tons of storm debris from City beaches. Several miles of ocean front beaches are raked five to six days per week, depending on conditions. Also, Los Angeles County Department of Public Works has a boom installed at the base of the Los Angeles River within Long Beach city limits. During the last storm season, the boom collected 125 tons of material. Other tools for collecting floating debris from the water are a skimmer boat, known as the “Predator,” and a stationary skimmer box.

In addition, the Parks, Recreation, and Marine Department is responsible for the maintenance of recreation water bodies at Heartwell, Scherer, and El Dorado Parks, the Colorado Lagoon and Rainbow Lagoon. At all locations, the contractor is required to remove trash, including floating and submerged debris, from the lakes on a daily basis.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

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Trash removal from the restored wetland area of Queensway Bay is done by hand (usually from a boat) with great care. Furthermore, the Port of Long Beach Maintenance Department operates a boat, called the "Big Dipper," which patrols the waters throughout the Port picking up debris that has fallen into the water. The Big Dipper is operated by a two-person crew approximately three days a week and picks up wood piles, industrial debris, construction debris, plastics, etc.

In addition, the Parks, Recreation, and Marine Department coordinates several cleanup efforts that occur during the year.

- At the 21st Annual International Coastal Cleanup in September 1,645 people cleaned nine sites along the City's beaches, LA River and Colorado Lagoon and collected 5,800 pounds of trash, debris and recyclables. At the "Birds, Bikes and Trash Cleanup event in May, two dozen volunteers collected 50 large bags of trash along the San Gabriel River. Between the two events, 4.15 tons of trash and debris was collected.
- During the year 1,800 volunteers donated over 1,300 hours to collect non-point source pollution during several special volunteer cleanups that took place at the Long Beach Marine Stadium, Golden Shore Reserve, Dunster Marine Reserve, and Hamilton Bowl.
- In honor of Earth Day 350 Albertsons/SavOn pharmacists and grocers brought their families to a special beach cleanup event in Belmont Shore. 106 large bags of trash and debris were piled high from this effort. During the event El Dorado Nature Center staff used a watershed display to model the effects of non-point source pollution.

2.3 CODE ENFORCEMENT

The City conducts several code enforcement activities that assist with controlling the discharge of pollutants into the storm sewers and reduce the discharge of pollutants to Long Beach receiving waters to the maximum extent practicable. These include:

- Property Maintenance,
- Weed Abatement,
- Abandoned / Inoperative Vehicle Abatement, and
- Oil Code Enforcement.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

SECTION 2

2.3.1 PROPERTY MAINTENANCE

Property maintenance activities deal with eliminating unsightly conditions and governing the maintenance of buildings and surrounding property. Complaints of trash and debris in yards, overgrown vegetation, inoperative or abandoned vehicles, etc. are investigated and Municipal Code violation notices or citations issued where warranted. Failure to comply may result in a referral to the City Prosecutor or in a cleanup by City staff at the owner's expense. In FY 05, the Department of Planning and Building conducted 640 investigations, which resulted in the correction of 125 violations.

2.3.2 WEED ABATEMENT

Weed abatement enforcement activity is closely related to Property Maintenance but strictly focuses on prohibiting overgrown vegetation on vacant lots or in yards. Notices to Clean are issued where warranted. Failure to comply may result in a referral to the City Prosecutor or in a cleanup by City staff at the owner's expense. In FY 05, there were 2,624 investigations conducted, which resulted in the issuance of 464 Notices to Clean.

2.3.3 ABANDONED / INOPERATIVE VEHICLE

This activity is directed toward the removal of abandoned and inoperative vehicles (including unlicensed) vehicles located on vacant lots or visible yard areas. There were 2,462 investigations last year, which resulted in the removal of 285 vehicles.

2.3.4 OIL CODE ENFORCEMENT

In the 1970s, four islands were constructed in the Long Beach Harbor for the purpose of accessing oil under the harbor. Strict procedures are in place for preventing and dealing with oil spills. Monthly field inspections cover housekeeping practices, potential safety hazards, security, and a number of other issues. Employees are trained annually, and the department stays abreast of new technologies and industry progress by attending various committees and focus groups, including some specifically related to storm water.

The Code Enforcement Division of the Department of Planning and Building is responsible for enforcing City regulations governing the drilling of new wells and the maintenance of existing production sites. Annual permits are issued, and investigations are conducted to ensure compliance. In FY 05, there were 4,458 investigations conducted, which resulted in two enforcement actions.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

SECTION 2

2.4 STREET MAINTENANCE

The City's street sweeping service is one of the largest and most effective programs supporting storm water pollution prevention. The majority of streets and street medians in Long Beach are swept on a weekly basis, which greatly exceeds the permit requirement of twice per month. To increase the effectiveness of street sweeping, signs are posted and citations issued to encourage vehicle owners to leave certain streets vacant on street sweeping days. In addition, street sweeping and refuse collection routes have been better coordinated this past year to provide more efficient service, such as having street sweeping occur after refuse collection on a given street. The Public Works Environmental Services Bureau and Street Maintenance Division combined to collect approximately 13,429 tons of debris while sweeping 165,497 street and alley miles last year. This is 316 tons more than the 13,113 tons collected in FY 04.

All Departments involved in construction-type activities implement good housekeeping practices. They ensure that properly managed wastes are disposed of during street, road and other maintenance activities. Employees who conduct maintenance activities are given appropriate BMP training about the potential pollutants that may be released as a result street repair.

2.5 PUBLIC CONSTRUCTION ACTIVITIES

Public construction activities are focused toward city projects whose construction contracts are administered by one of many city departments. City design staff and consultants have the responsibility to prepare plans and specifications that include appropriate BMPs. The BMPs selected are to be based on rational criteria including magnitude and type of potential pollutant.

Public Works inspectors routinely verify that construction work is in compliance with the contract documents or Public Works permit, including the use of appropriate BMPs. This effort nearly doubles during the wet weather season. When a project is not in compliance with the contract documents or Public Works permit, the Public Works inspectors have the authority to enforce the contract or permit by issuing verbal warnings, written notices, withholding progress payments, or suspending the work. In FY 05, Public Works inspectors filed 14 NPDES Inspection Reports.



2.6 LANDSCAPE MAINTENANCE

Landscape maintenance activities are a contributing factor in the deterioration of storm water quality. The City is concerned when these activities are being conducted. These include:

- pesticide, herbicide, and fertilizer usage,
- native vegetation practices,
- municipal swimming pools maintenance.

2.6.1 Pesticide, Herbicide, and Fertilizer Usage

Pest Control Advisors licensed by the State Department of Agriculture supervise the use of pesticides, herbicides, and fertilizers for street medians and parks. These products are applied only “as needed” and never just before or during a rain event. All grounds and landscape maintenance contractors with the Parks, Recreation, and Marine Department must possess a Pest Control Advisors License, have certified Pest Control Applicators on staff, and possess a Los Angeles County Agricultural Permit. All Staff receive annual updates in the laws governing the use and storage of these chemicals and applicable BMPs, such as restricted use around waterways and prohibition of spraying when rain is forecasted.

City staff employs Integrated Pest Management (IPM) practices to minimize the necessity for pesticide applications at Cesar Chavez Park and Queensway Bay. It should also be noted that a state-of-the-art BMP, known as “fertigation,” which is a system that applies fertilizer efficiently and with a minimal amount of run-off is employed at Cesar Chavez Park. The fertigation system at Chavez Park applies liquid fertilizer to approximately 25-acres of turf and landscaped areas (23-acres for Chavez Park and then the remainder is the acreage for other small greenbelts in the area). This system consists of pumps, timers, flow meters and several underground tanks that are tied into the Cal Sense irrigation system on the site. A valuable feature for water conservation efforts and NPDES compliance is that the irrigation system has a master valve function that acts in case of an emergency. In the case of a large break after hours, the system will read that an excess of gallons per minute are flowing through the regulator and will automatically shut the system down.

2.6.2 Native Vegetation Practices

Native plant materials are of particular concern in three locations – the El Dorado Nature Center, the Queensway Bay Area (which includes Golden Shore Marine Reserve), and the Jack Dunster Marine Biological Reserve. The maintenance staff at El



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

SECTION 2

Dorado Park is responsible for landscape maintenance at the El Dorado Nature Center. The nature center is a mixture of native and non-native plant material that was originally planted over thirty years ago. It is department policy to replace any material that must be removed (for various reasons such as disease or general decline) with native plants. Maintenance staff works in conjunction with the El Dorado Nature Center to ensure that plant material selections are appropriate and sustainable. The plant material is irrigated only on an as-needed basis as determined by the maintenance and nature center staff. Herbicides and pesticides are minimally used to eliminate invasive weeds.

In the Queensway Bay Area, native species have been planted in Shoreline Park, Lighthouse Point and Beach Garden and in the restored wetland area commonly referred to as the "Golden Shore Marine Reserve". The selection of native species, which include perennials, grasses, and aquatic species, has been done with input from consultants (i.e., MBC Applied Environmental Science, Acorn Group) and from qualified in-house staff. All invasive weeds are removed by hand, without the use herbicides or pesticides. Removal of trash from Golden Shore Marine Reserve is done by hand and with great care to prevent any human impact on the site.

Steven Ormany and Associates, the Los Cerritos Wetland Steward, who is experienced in maintaining delicate habitats, performs all maintenance and record keeping at the Jack Dunster Marine Biological Reserve. Only native plant species that are on the original approved plant pallet are used. All non-native plants are removed by hand without the use of herbicides or machinery. Mulch is then applied to the site to prevent unwanted plants from returning until the native plants have colonized.

Chapter 18.95, "NPDES and SUSMP Regulations," of the Long Beach Municipal Code requires that during subdivision design, native vegetation clearing should be limited to the minimum needed to build lots, allow access, and comply with fire protection regulations.

2.6.3 Municipal Swimming Pool Maintenance

The City owns four municipal swimming pools. Two of these pools discharge water directly into the sanitary sewer. One is currently being reconstructed so that it will drain to the sanitary sewer in the future. The fourth pool is dechlorinated by evaporative loss (all pump and chemical systems shut down) for a period of 72 hours prior to discharging into the storm drain system.



MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

SECTION 2

2.7 TRAINING

All City staff whose job activities directly affect storm water quality and those who respond to questions from the public related to storm water pollution prevention and education receive a mandatory annual refresher training regarding the requirements of the storm water management program, BMP implementation, and identifying and reporting illicit connections and discharges. The majority of training is now conducted via the City's Intranet, giving employees easy access to professional training material.



MANAGEMENT PROGRAM FOR DEVELOPMENT PLANNING AND CONSTRUCTION

SECTION 3

3.0 MANAGEMENT PROGRAM FOR DEVELOPMENT PLANNING AND CONSTRUCTION

The Development Planning and Construction program is in place to have developers and owners consider storm water quality management during the planning phase of their projects and implement appropriate controls during construction. This program applies equally to privately and publicly owned property. Projects within the public right of way are addressed in the Public Agency Activities Section (2.0). Applying this program to applicable development projects will effectively prohibit non-storm water discharges and reduce the discharge of pollutants into the storm drain system. To achieve this objective, the City has implemented the following:

- California Environmental Quality Act (CEQA) guidelines,
- General Plan considerations for watershed and storm water management,
- Chapter 18.95, "NPDES and SUSMP Regulations," of the Long Beach Municipal Code, and
- Training.

3.1 CEQA

Under the CEQA Act of 1970, the City of Long Beach is required to consider the potential environmental impacts of proposed developments. The Planning and Building Department's Environmental Planner conduct this review. Environmental review is required for projects that cause a public official or body to take "discretionary" action in approving or denying a project. The environmental review documents serve as guidance and informational documents provided to the person or persons who must make a decision about the project. Projects may be processed as a Categorical Exemption (exempt from CEQA Act), a Negative Declaration (declares that there are no impacts or that impacts can be mitigated), or an Environmental Impact Report (done for large projects that are likely to have significant effects on the environment). The outcome of the environmental review is included in Council reports, and documents are attached in the case of Negative Declarations and Environmental Impact Reports.

3.2 GENERAL PLAN

The Land Use and Mobility elements are in the process of being rewritten and are scheduled for completion in 2006. The Air Quality, Housing, Seismic Safety, Public Safety, Noise, Local Coastal Program, and Conservation elements are also being



MANAGEMENT PROGRAM FOR DEVELOPMENT PLANNING AND CONSTRUCTION

SECTION 3

rewritten, although a schedule has yet to be finalized. The City will notify the Regional Board of the dates once they have been finalized.

3.3 CHAPTER 18.95, “NPDES AND SUSMP REGULATIONS,” OF THE LONG BEACH MUNICIPAL CODE

The Long Beach Municipal Code includes a chapter specifically for NPDES / SUSMP requirements. This addresses requirements for BMPs, Storm Water Pollution Prevention Plans, and Standard Urban Storm Water Mitigation Plans. Enforcement actions are currently not documented separately from inspections. Table 4.1 shows FY 05 statistics for Development Planning and Construction.

Table 4.1: **DEVELOPMENT PLANNING AND CONSTRUCTION STATISTICS**

Number of projects requiring SWPPPs in FY 05	14
Number of Inspections in FY 05	169*
Number of development projects for which SUSMPs were completed in FY 05	31
Number of development projects for which SUSMPs were completed since the permit was adopted	86

*This includes enforcement actions. One site may have several inspections done during one visit. Checking each BMP is considered a separate inspection.

3.4 TRAINING

Development planning, construction, and inspection staffs receive training on storm water management requirements and BMP implementation. The Developer Information Handbook remains current and is available online. The City continues to use the handbook in conjunction with existing training materials.

Stormwater Management Division staff and several construction inspectors attended the Stormwater BMP Pollutants, Selection and Maintenance Exposition on May 13, 2005 in Irvine, California.



MANAGEMENT PROGRAM FOR ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

SECTION 4

4.0 MANAGEMENT PROGRAM FOR ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

The general objective of this program is to improve the quality of storm water by reducing the pollutants entering the storm drain system that may negatively affect receiving water quality by effectively eliminating illicit discharges and prohibiting illicit connections.

Departments such as Fire, Harbor, Health and Human Services, Planning and Building, Public Works, and Water play important roles in investigating possible illicit connections and discharges. They communicate their findings to the Stormwater Management Division and other appropriate parties, oversee cleanups, and follow-up as needed. Incident documentation is recorded and maintained by the responsible department. Reports of suspected illicit connections and discharges may also come from the public via the Stormwater Management Program hotline, 562-570-DUMP (3867) and website, <http://www.lbstormwater.org/>.

4.1 ILLICIT DISCHARGES

When the City is informed of an alleged illicit discharge(s), the Fire Department is the lead responder. The Fire Department evaluates the situation and, when necessary, will dispatch the Hazardous Materials (Haz Mat) unit of the Department of Health and Human Services. The Haz Mat unit will then verify the magnitude of the spill, identify the responsible party, and give instructions on how to proceed with the cleanup. The responsible party is then required to have the area cleaned up. Haz Mat will oversee the cleanup and decide when the situation has been adequately remedied. If the responsible party does not have an established account with a cleanup contractor, the City's contractor is used and the expense charged to the responsible party. The responsible party may choose to do the cleanup personally if the amount is small. In this case, the responsible party may dispose of materials at a household hazardous waste roundup. These disposals must be verified by the presentation of a receipt to the Haz Mat Specialist. If no responsible party can be identified, the City will pay for the cleanup through a contractor, or if the discarded amount is small, the Haz Mat Specialist will personally conduct the cleanup.

Education and maintenance procedures serve as preventive measures for future illicit discharges. The Department of Health and Human Services responded to and provided cleanup oversight to 343 hazardous material release incidents and 126 non-hazardous waste spills in FY 05. There were approximately 2.3% more hazardous material release incidents and 21.4% more non-hazardous waste spills compared to FY 04.



MANAGEMENT PROGRAM FOR ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

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Other tools which have proven to be very useful in assisting with the cleanups and elimination of illicit discharges, are the Stormwater Management Program hotline and website. It is important to note that calls coming in from the public expedite the response to illicit discharges that may have otherwise gone undiscovered. Calls are responded to immediately, and most issues are resolved within one business day.

Annual refresher training for Inspectors and field workers is conducted through the use of instructional videos and guest lecturers used in conjunction with a review of the department/division procedures. This training specifically addresses how to identify and report illicit discharges.

4.2 ILLICIT CONNECTIONS

An illicit connection is any man-made conveyance that is connected to the storm drain system through which prohibited flows are discharged. The City of Long Beach rarely issues permits for storm drain connections. The Public Works Construction Division maintains a database of permitted connections. Historically, the City has encouraged through-curb connections rather than direct pipe connections because these are the easiest and least expensive to survey for illicit connections and discharges. They are located above ground and can be easily observed by City staff. In addition, City staff checks the inside of catch basins and the sides of open channels during regular maintenance activities for any illicit connections. All open channels and catch basins owned by the City have been inspected for illicit connections.

Historically, investigating underground pipes for pipe-to-pipe illicit connections has proven to be the most expensive and least effective means for illicit connection inspection. The Water Department uses special camera equipment to inspect storm drain pipes 36-inches in diameter or greater for illicit connections. In FY 05, 6.5 miles of pipeline were inspected.

If the presence of an illicit connection is suspected, the storm drain is investigated and the necessary action is taken to eliminate the connection. The Water Department spent \$18,000 last year thoroughly investigating illicit connections; but found none. During the past five years the Water Department has spent over \$90,000 investigating illicit connections.



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5.0 MANAGEMENT PROGRAM FOR PUBLIC INFORMATION AND EMPLOYEE TRAINING

The City of Long Beach takes a comprehensive approach to storm water and urban runoff educational outreach. The goal is to provide information about the impacts of storm water and urban runoff pollution and to encourage behavioral changes that will lead to reducing pollutants at the source.

- General public / city residents
- Commercial/industrial establishments
- School children
- City employees

This effort is lead by the City's Stormwater Management Division, however many city departments are also active in educational outreach. Most outreach campaigns include urban runoff pollution prevention messages in their materials. Throughout the year, City staff participates in numerous activities to deliver the storm water message and supply the tools and guidance on how to be the solution to pollution.

The Stormwater Management Division continues to develop materials that are applicable to more than one targeted audience or pollutant and explain the nature of non-point source pollution and its significant contribution to water quality impairment.

5.1 GENERAL PUBLIC / CITY RESIDENTS

The Long Beach Stormwater Management Division continues to be the principal player in educating the public on ways to modify behavior that will lead to improved water quality. The information and reporting hotline, 562-570-DUMP (3867), and website, www.lbstormwater.org, are excellent educational tools that give the public a way to become active participants in the fight against pollution by being able to easily report illegal dumping via telephone or email 24-hours a day, seven days a week. Hotline calls and emails are received and reviewed by Stormwater Management Division staff and are then routed to the appropriate department for investigation and subsequent cleanup or enforcement action. Once the issue has been resolved, the Stormwater Management Division is informed of the outcome for record keeping. In the past year over 50 storm water complaints have been responded to and resolved.

On May 3, 2005 the City Council joined other coastal communities by passing an ordinance banning smoking on the City's beaches. The goals of passing this ordinance



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are to (1) reduce the number of cigarette butts left on the beaches; (2) reduce exposure to second-hand smoke; (3) reduce the amount of carcinogens from cigarette butts leaching into the ocean; and (4) reduce the potential health impact on wildlife.



In another example of the City's conscientious efforts to reduce storm water pollution, the Stormwater Management Division mandated that participants in a sidewalk chalk drawing competition, held in the Belmont Shore area of Long Beach, draw their pictures on paper instead of the sidewalk. The City regulated this competition because there was a fear that chalk would be washed into the storm drain system from showers that were forecasted for later that evening.

The City prioritizes inter-agency cooperation when dealing with storm water issues. On a regular basis the Stormwater Management Division staff resolves issues with members of other city departments, especially Health, Planning and Building, Public Works Construction, Water and Fire. On other occasions the Division staff join forces with other government agencies, in particular the LA County Department of Public Works and the LA County Sanitation District.

The Stormwater Management Division Officer was a panelist at Assemblywoman Betty Karnette's and Councilmember Frank Colonna's "Keeping Our Beaches Litter Free" Town Hall meeting held on September 10, 2005. This community meeting examined the persistent problem of litter on the City's beaches. The California Integrated Waste Management Board and the Surfrider Foundation also had representatives on the panel (see Appendix N for Thank You letter).

During special events, such as community meetings and watershed cleanups, the Stormwater Management Division staff is present to listen to constituent concerns and answer storm water related questions from the attendees. In FY 05 Stormwater Management Division staff reached out to thousands of constituents through the Port of Long Beach Green Port Exposition, the Long Beach Unified School District Science Fair and the City's Stormwater Program's website. The Division has used the website as a vehicle for announcing important information about storm water projects. For example, the Colorado Lagoon Feasibility Study has been posted on the site.

The City of Long Beach's diverse population creates a unique challenge for conveying storm water information to recipients of outreach and public education efforts. The Stormwater Management Division is always looking for new opportunities to deliver the message. Promotional items such as magnets, pencils, and rulers are made available and informational literature is printed in several different languages.



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Advertising in a variety of publications is paramount to this public education effort. Some of the publications the Program advertises in include the Parks, Recreation and Marine quarterly schedule of classes, Long Beach Chamber of Commerce Membership Directory and Ecolink insert of the Press-Telegram newspaper. These publications account for over 2,164,000 annual impressions.

An additional medium for outreach is the 6-panel kiosk strategically placed in the Civic Center Plaza, which is centrally located in the area of City Hall, public parking, and the library. During September and October of each year, people are exposed to these storm water pollution prevention panels aimed at educating and modifying personal behaviors.

Another useful educational tool is the City’s telephone system. When callers are put on hold they hear a series of messages including one that has the Stormwater Management Program’s key educational points, hotline telephone number, and website address.

The Stormwater Management Division continues to take advantage of the Adopt-A-Waterway™ program. Adopt-A-Waterway™ is a national program that raises non-taxpayer dollars through business sponsorships to help municipalities fund storm water pollution prevention and education activities. This program brings revenue into the City specifically for storm water pollution prevention and education but also educates the public with its signs. There are currently 13 signs installed, and each has an environmental message, such as “Please Do Not Litter,” displayed below the corporate sponsor’s information. These signs are placed in high traffic areas and account for approximately 82,292,000 annual impressions.

The Environmental Services Bureau (ESB) staff participated in approximately 53 events/meetings, which is 10% more than the previous year, to promote environmental



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programs. These included City Council and neighborhood association meetings, safety and community fairs, composting and vermiposting classes, and support to events held by other departments. As mentioned in the Public Agency Activities Section, ESB continues to display tri-lingual street pole banners promoting motor oil recycling as a behavior that will lead to cleaner beaches and waterways. The Bureau also has an informational and reporting hotline, 562-570-2876, which is staffed by five full-time employees (FTEs) Monday through Friday and one FTE for a half day on Saturdays. After-hours callers have the option to leave a message in the hotline voicemail box, which is then responded to during the next business day.

The **Developer Information Program** continues to be used by the Planning and Building Department to educate contractors, developers, and “do-it-yourselfers.” In addition, during normal business hours, permit applicants have access to staff at the Development Services Center. Information about storm water management, applicable BMPs, various brochures, pamphlets, handouts, and related permit requirements are made available in the Development Services Center on the 4th floor of City Hall and via the City’s web site.

Water Conservation is a top priority of the Water Department, especially the Long Beach Board of Water Commissioners. Implementation of conservation BMPs and a variety of educational outreach programs are integral parts of their master plan. This is another example of how the City of Long Beach exceeds its NPDES permit requirement (Part 3, I, A, 2, f, Water Conservation Practices). The “Water Ambassador” volunteers of the Water Department routinely attend events throughout the year to promote water conservation and water quality issues. The Department continues to make use of a mobile, interactive water conservation kiosk, which rotates to different City buildings for display and use in the lobby area. Landscape/gardening education classes, which address issues such as water conservation and fertilizer/pesticide use, are sponsored by the Water Department.

The programs and services provided at the El Dorado Nature Center (EDNC), which part of the Parks, Recreation and Marine Department, are critical to the success of the City’s public information and education program for storm water. EDNC is a 102.5-acre wildlife habitat with two lakes, a stream, two miles of dirt trail, and a 1/4-mile paved access trail. The site is near the mouth of the San Gabriel River, one of the largest conveyers of storm water in the City. All of this makes EDNC the perfect setting for NPDES education. Following are brief descriptions of EDNC’s educational outreach programs and events that address issues of non-point source pollution and storm water management and are geared towards the general public.



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Adopt-A-Beach is an innovative conservation program which allows school clubs, businesses, community associations and other groups to get involved, agreeing to clean up a quarter mile section of the Long Beach shoreline four times annually. People of all ages and diverse backgrounds have become part of the solution to ocean pollution, increasing public awareness that trash on the land inevitably becomes trash on the beach. This past fiscal year, more than 1,800 volunteers from 18 community groups contributed more than 1,300 hours to collecting non-point source pollution on City beaches.

Adopt-A-Wetland cleanup events at Golden Shore Reserve happened in December, October, January and May. Volunteer cleanup parties at Dunster Marine Reserve took place in December, March, and July of 2005. Cleanup events at Colorado Lagoon took place in November, February, June, August and September. Hundreds of individuals received education about non-point source pollution, while removing debris and litter from these environmentally sensitive areas.



As a special wetlands project, the Nature Center is partnering with community groups such as Friends of the Colorado Lagoon, Calif. State Univ. Long Beach, Long Beach City College, and the Aquarium of the Pacific to create the Colorado Lagoon Wetlands and Marine Science Education Center. The Center will provide education opportunities for area students on such concepts as the watershed, non-point source pollution, water quality and wetland ecology. One of the most visible developments at the Lagoon thus far is the physical transformation of the Center building. The grand opening of the Education Center is set for January 28, 2006.

At the **21st Annual International Coastal Cleanup** in September, nine sites along the City's beaches, LA River and Colorado Lagoon were cleaned by 1,645 people. At the "Birds, Bikes and Trash Cleanup" event in May, two dozen volunteers collected 50 bags of trash along the San Gabriel River. Between the two events, 4.15 tons of trash and debris were collected.

Parades are another way to reach out to the community. The El Dorado Nature Center staff participated in the Daisy Lane Christmas Parade and Martin Luther King Holiday Parade, increasing the Nature Center's profile and sharing the message of renewal and restoration. Staff handed out "You're the Solution to Ocean Pollution" pencils and rulers to thousands of parade-goers.



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5.2 COMMERCIAL / INDUSTRIAL ESTABLISHMENTS

The City's Department of Health and Human Services (DHHS) conducts educational site visits to distribute and discuss applicable BMP and educational materials to business owners/facility operators, including information about the City's Municipal NPDES permit, and requirements regarding Notice of Intent (NOI) and Storm Water Pollution Prevention Plans (SWPPP). DHHS has enhanced its database that is used to track visits and other information. In FY 05, DHHS conducted 35 educational site visits. Staff also checks for applicable Notices of Intent and Storm Water Pollution Prevention Plans at Phase I industrial facilities.



The Stormwater Management Division continues to reach out to the business community through its membership with the Long Beach Area Chamber of Commerce. The 2005 edition of the Business Referral Guide and Membership Directory features an advertisement that targets the business community. It introduces them to the Adopt-A-Waterway™ program and encourages their participation.

5.3 SCHOOL CHILDREN



Getting the storm water message and materials into the Long Beach Unified School District (LBUSD) continues to be an extremely important goal and several different programs are in place and/or being created to specifically target this very important audience. At outreach events open to the general public, school children are often enticed by the Program's promotional items and are undoubtedly being influenced by their messages. In addition, Stormwater Management Division staff go out to schools to give presentations and answer questions about storm water quality issues, the storm drain system, the effects of pollution, and behavioral changes that children can make to keep the ocean and other waterways clean. One example of this was the Program's staff attending the Long Beach Unified School District Science Fair held on Saturday, April 23, 2005. Event organizers estimate that over 5000 people attended the Fair, which includes about 1300 students from 55 schools.

The City's Storm Water Management Division Officer participated in The Sustainable Coastal Community Project sponsored by the Aquarium of the Pacific on Thursday, December 2, 2004. This project allowed 4th & 5th grade students to present their vision of Long Beach in 2025. The Aquarium of the Pacific, located in Long Beach, is one of

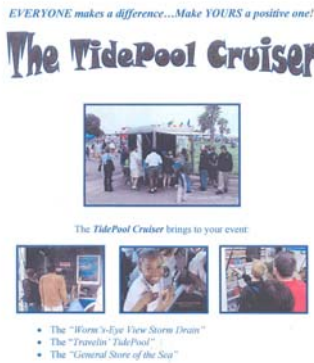


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the largest aquariums in the United States. Its nearly 1,000 species fill 19 major habitats and 32 focus exhibits and take visitors on a journey throughout the Pacific Ocean's three regions: Southern California/Baja, the Tropical Pacific, and the Northern Pacific (See Appendix O for Thank You Letter).

The City found through surveys and direct contact that the "Window On Our Waters"



Tidepool Cruiser used for LBUSD outreach efforts was so well received that continued funding of \$20,000 in FY05 was more than justified. This mobile educational vehicle addresses many of the critical issues of nonpoint source (NPS) pollution and its effect on the marine environment in an exciting, innovative, and hands-on way. Most importantly, participants are given the tools they need to decide for themselves the type of impact they will have on the beaches and coastal waters. For the first time, the Tidepool Cruiser was displayed at the California State University Long Beach Kaleidoscope Fair, where approximately 20,000 guests saw it. In FY

05, the Tidepool Cruiser brought its message to 25,282 students versus 2,067 students in FY 04 (see Appendix P for WOOW Annual Report).

The City of Long Beach's Storm Water Education Partners



The Stormwater Management Division was once again able to contribute \$4,000 to support Heal the Bay's "Key to the Sea" Marine Education Program. This allowed over 950 LBUSD students to participate in the program, which helps instill in students a sense of social responsibility toward their environmental choices (see Appendix Q for Keys to Sea Annual Report).



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In addition, the Stormwater Management Division continues to support Partners of Parks (POP), a nonprofit organization supporting Long Beach parks, recreation, and beaches.

The City supports the Aquarium of the Pacific Scholarship Fund. This scholarship program, funded with Adopt-A-Waterway monies, provides an extraordinary learning experience to approximately 1,125 students and 50 teachers.

TREC, the Traveling Recycling Education Center, is used by the Environmental Services Bureau staff to spreading the recycling and anti-littering message to the Long Beach community at public events. During FY 05, the TREC mobile classroom made a total of eight visits to three LBUSD schools, making 45-minute presentations to over 24 fourth-grade classes. TREC also participated in one weekend event. In addition, ESB has assisted 66 LBUSD schools to establish or maintain recycling programs. This is an increase of 20 facilities in the past year.

Discover Long Beach Parks is a program conducted by the El Dorado Nature Center that works with third graders to get them actively involved in the care and maintenance of "adopted" parks and neighborhoods. One of the lessons this program addresses is the problem of urban runoff and the resulting impact on ocean water quality. Part of the lesson includes students tabulating the types and amounts of trash found in the gutters of each park. They learn about the storm drain system and about the effects of trash and debris on wildlife and human health. The **Adopt-A-Gutter** curriculum was taught by Center staff to more than 2880 third graders in 144 classes. The curriculum has been extended to include student monitoring and characterization of trash in gutters around each student's home as well as basic storm drain education. Students received materials enabling them to perform these studies. They are given magnets, rulers, pencils and literature to remind them that they are the solution to ocean pollution. Upon completion, students are awarded buttons and certificates.

The Nature Center's Moveable Museum features two presentations, "Protect Our Watery World" and "Paws and Jaws," that foster community awareness of water quality issues and one presentation on Native Americans called 'Acorn, Sea and Sage'. Trained volunteer docents visited 144 classrooms in the Long Beach area elementary schools. POWW includes hands-on exploration of coastal marine life and illustrates negative impacts of litter and non-point source pollution on the aquatic ecosystem. Students learn that their choices and behaviors do make a crucial difference.

'Paws and Jaws' conveys a strong message of stewardship for our planet and especially for our aquatic eco-systems. It, too, includes Adopt-A-Gutter as one way



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young people can make a difference in protecting habitat. Magnets, pencils, rulers and posters reinforce the message. POWW training involves twenty-five hours, including in-depth education about non-point source pollution effects on marine life, human health and regional water quality and cleanups of Los Cerritos Wetlands and Golden Shore Marine Reserve.

The Long Beach Health Department's Bureau of Environmental Health has developed a curriculum entitled **The Junior Health Inspector Program** that teaches children to recognize the benefits of living in a healthy and safe home and ways to improve the environment in their community. Upon completion of the program, students will be able to use techniques to reduce and/or eliminate hazards in the home. The health hazards include mold contamination, lead poisoning, storm water pollution, vector, household hazardous waste and unintentional injuries. The program began in March 2004 and has reached 1621 students. The Stormwater Management Division has provided \$12,000 in financial support for this important program.

The **Environmental Defenders** is a program of the Los Angeles County Department of Public Works. It is a free assembly geared for children in grades K-6. Two professional actors present the interactive 30-minute program. Through animated and live action video segments, role-playing, an action-packed game and educational giveaways, students are taught about important environmental concepts. Topics covered in the assembly include the Three R's (Reduce, Reuse and Recycle), storm water pollution, household hazardous waste, illegal dumping and water conservation. In FY 05, the Environmental Defenders program visited approximately 1,200 students in 24 LBUSD schools.

5.4 CITY EMPLOYEES

City employees are educated about storm water issues through web-based trainings, flyers, displays, and other viable means. The Stormwater Management Division has paid for and will send employees to appropriate external training workshops, including the BIA Construction Storm Water Compliance Training Seminar, the State Water Resources Control Board's Clean Beaches Conference and the Plastic Debris Rivers to Sea Conference.

Many Departments incorporate NPDES training into their regular training and safety meetings. Here are the links to the City's new web-based Stormwater Training Material.



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Storm Water Division

Training Videos:

Storm Watch is a video training program that describes the fundamental concepts and practices of storm water pollution prevention for municipal operations. The video describes storm water pollution and its negative effects on people, wild life and the environment. The primary focus of the video is on operational Best Management Practices (BMPs).

[Storm Water Pollution Prevention for Municipalities: Storm Watch](#)

[Training Acknowledge form](#)

[Training Quiz](#)

[Training Quiz Answers](#)



6.0 ASSESSMENT

The Long Beach Stormwater Management Program (LBSWMP) continues to be implemented, revised, and expanded as needed to ensure effective reduction in urban and storm water pollution. The effectiveness of our efforts, as detailed in this report, is confirmed by qualitative and quantitative methods. The methods include surveys, pre and post assessment, feedback received via hotlines and Internet sites and monitoring. Three major reporting and informational hotlines remain available to the public 24-hours per day: 570-DUMP (Storm water), 570-2876 (Refuse) and 570-4199 (Beach Advisory). Despite large fiscal deficits, in FY 05, the City spent \$21,637,297 (\$44.07 per capita) on NPDES expenditures, which is a 5.5% increase compared to FY 04 (See Appendix R for the FY 05 Stormwater Management Program Expenditures).

Proof that the LBSWMP implementation is working effectively is demonstrated by the following: 1,225 ton increase in the collection of waste and recyclables; nearly 15 ton increase in trash and debris collected from beach and marina receptacles; 20 ton increase in trash and debris collected from Neighborhood Cleanups; 155 ton increase in collection of large and oversized items from the improved Dumped Item Program; over 145 ton increase in pump station collection of trash and debris; 250% increase in enforcement efforts by the Long Beach Police Department and 140 million storm water impressions.

The successes of the Long Beach Stormwater Programs are directly attributable to the well defined and fully implemented LBSWMP and the level of commitment from the City Manager, City Council and the City staff. On a scale of 1 to 10, the City of Long Beach should once again receive a 10 based on its commitment to the full implementation of the requirements of its municipal MS4 permit.

6.1 ASSESSMENT OF MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

Overall, the City spent \$15,116,878 (70% of LBSWMP expenditures) for expenses associated with Public Agency Activities. Rollout of the "Litter Free Long Beach" campaign has been targeted towards changing resident's behavior. Initial indications show that it has been successful. For instance, a very successful Public Agency Activity, the Curbside Recycling Program, has become even more successful. In FY 05 this program collected 2,546 tons of recyclables more than the previous year. Also, the amount of illegally dumped items collected increased by 11.5% (1,196 in FY 04 to 1,351 in FY 05).



The Long Beach Police Department has been vigilant enforcing Municipal Code violations associated with littering and illegal dumping. This is demonstrated by an increase of approximately 250% in citations and a 100% increase in arrests.

During FY 05, the total amount of trash and debris collected from the storm drain system was 243 tons. This is 231 tons more than what was collected the previous year. This significant increase is directly attributable to the completion of structural BMP projects throughout the city (see section 1).

6.2 ASSESSMENT OF MANAGEMENT PROGRAM FOR DEVELOPMENT PLANNING AND CONSTRUCTION

Development Planning and Construction costs increased by approximately 5.6% from FY 04 to FY 05. This is due to increases in environmental review and developer storm water information program implementation.

There were fewer construction projects in Long Beach during the past year compared to the previous year. Thus, the number of projects requiring Storm Water Pollution Prevention Plans (SWPPPs) decreased 40% and the number of projects for which Standard Urban Stormwater Mitigation Plans (SUSMP) decreased 25%.

6.3 ASSESSMENT OF MANAGEMENT PROGRAM FOR ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

The expenditures associated with Illicit Connections and Illicit Discharges decreased slightly compared to FY 04. The Water Department inspected more than 6.5 miles of 36-inch or greater storm drainpipe in FY 05 using state of the art equipment and well-trained staff. They found no illicit connections. Due to the tremendous amount of rain last year there were 14 sanitary sewer overflows totaling 5,650 gallons of spillage.

6.4 ASSESSMENT OF MANAGEMENT PROGRAM FOR EDUCATION AND PUBLIC INFORMATION

This program element is probably the most important component of the LBSWMP because it leads to behavior changes and tangible improvements. This past year, the Stormwater Management Division's special event outreach alone resulted in over 450,000 impressions, while several other departments continue to implement additional educational programs that include the NPDES storm water message. When ads in publications, Adopt-A-Waterway™ signs, educational programs, and other media are



included, well over 140 million impressions were made in FY 05. This far exceeds the permit required 1.5 million annual impressions. The beach cleanups are being expanded into the inland community and occur at several water bodies, not just beaches. This helps to reinforce our overarching messages that "The Ocean Begins At Your Front Door" and "Storm Drains Lead Directly to the Ocean." Approximately 1200 elementary school students received environmental awareness education as part of Los Angeles County's "Environmental Defenders and Rock the Planet" program. The Department of Health and Human Services brought the "Junior Health Inspector Program" to 951 LBUSD students. In addition, LBTv8, the local cable channel, has been an excellent medium for disseminating information. Shows such as Snapshot Long Beach, Heart of the City, and recorded City Council presentations have provided avenues for storm water education to a vast and very diverse audience. Two exemplary contracted out educational outreach programs showing tremendous success are the Tidepool Cruiser (Windows-On-Our-Waters) and Key to the Sea (Heal The Bay). The Tidepool Cruiser delivered its message to 25,282 LBUSD and CSULB students in FY 05 and the Key to the Sea program brought the message to some 1,695 LBUSD students.

6.5 ASSESSMENT OF WATER QUALITY MONITORING

The City of Long Beach's water quality monitoring program for storm water and dry weather discharges through the City's municipal separate storm sewer system (MS4) began in the 1999/2000 wet weather season under terms of Order No. 99-060 National Pollutant Discharge Elimination Systems Municipal Permit No. CAS004003 (CI 8052). Since that time, 65 wet weather monitoring events have been conducted at the four Long Beach mass emission stations for the full set of analytes, along with 48 dry weather inspections/monitoring events. In addition 27 wet weather events have been monitored to develop Event Mean Concentrations (EMCs) for total suspended solids only. For the past three years, annual studies have been conducted in Alamitos Bay to characterize the vertical and horizontal extent of the storm water plume and document potential toxicity effects in the receiving waters in the Bay.

The Long Beach storm water monitoring program has emphasized an approach of paired chemical analysis and toxicity testing of discharges of municipal storm water. The purpose of this approach was to first identify the constituents in the City of Long Beaches storm water discharges that exhibited potential water quality impacts. Also, since numerical storm water quality standards do not exist, it was desired to measure the impacts of these discharges in the Long Beach receiving waters.

A number of conclusions can be made based upon both the results of the 2004/2005 monitoring effort and the cumulative results of the first six years of the City of Long



Beach Stormwater Monitoring Program. Many of these conclusions have been stated previously in each annual report. The body of evidence to support these basic conclusions has continued to build over the course of the past six years. These include:

- Exceedances of available benchmark values based upon receiving water, ocean water, drinking water or other available comparisons are common for several metals (copper, lead and zinc). Exceedances of benchmark values are less common for diazinon and chlorpyrifos (organophosphate pesticides). Exceedances of the diazinon and chlorpyrifos benchmarks have not followed any consistent seasonal or spatial pattern.
- With the exception of a few measurements, indicator bacterial counts tend to exceed Basin Plan single sample criteria during storm events. During recent dry weather investigations, indicator bacteria have been consistently lower than measured at the same sites during storm events. Total and fecal coliform concentrations in Bouton Creek continue to be unique. Concentrations of total and fecal coliform are below Basin Plan single sample criteria approximately 50% of the time during dry weather discharges.
- Concentrations of dissolved cadmium, copper, nickel and lead are relatively comparable during both wet and dry weather periods compared to concentrations of the total recoverable forms. Although the concentrations of many dissolved metals remain relatively consistent between storm events and dry weather flows, higher levels of hardness during dry weather conditions tend to prevent frequent exceedances of freshwater CTR water quality criteria.
- Unlike these four metals, dissolved zinc concentrations are consistently higher during storm events.
- Concentrations of total copper, lead and zinc are distinctly higher in association with storm flows. Regressions developed in the previous, five-year report (Kinnetic Laboratories, Inc., 2004) provided evidence of strong relationships to the concentration of total suspended solids at each site.
- Stormwater discharges from the Dominguez Gap Pump Station are consistently of a higher quality than the other mass emission sites. In addition, storm water discharges are less frequent at Dominguez Gap because of the storage capacity and infiltration that occurs in the basin associated with this pump station. Exceptions to this occur in situations when unusually high volume storm events occur repeatedly over a relatively short time interval.



- Stormwater discharges have consistently shown measured toxicity to freshwater and marine test species, but lesser or no toxicity after a series of storms or very large runoff events.
- Toxicity Identification Evaluations (TIEs) typically implicate organophosphate pesticides (diazinon and chlorpyrifos) in causing toxicity to the freshwater water flea (freshwater test). Over the past two years, fewer TIEs were conducted due to lower incidence of toxicity but results have implicated possible added toxicity due to pyrethroid pesticides as well as cationic metals.
- Stormwater plumes that develop in Alamitos Bay have consistently shown little evidence of toxicity. The largest storm events show the least evidence of toxicity. This contrasts with similar studies of storm water plumes from in Santa Monica Bay from Ballona Creek and in San Diego Bay from Chollas Creek. In the latter studies, toxicity was measured in receiving waters when the plume consisted of as little as 10 to 25 percent storm water. Minimal toxicity was evident in the storm water plume in Alamitos Bay where the plume consisted of up to 68% storm water.
- Occasional elevations of pH during dry weather surveys in open concrete channels of the Los Cerritos Channel are consistent with normal diurnal variations associated with periods with high photosynthetic activity. Evidence suggests that pH increases during the day. Algae in the channels consume carbon dioxide (CO₂) while undergoing photosynthesis. The removal of CO₂ from the water causes bicarbonate and carbonate ions to react with hydrogen ions (H⁺) to form more CO₂. The loss of H⁺ from the water causes the pH to increase. During the night, respiration of the algae and bacteria in the channel cause CO₂ to be released and oxygen to be consumed. This allows the pH drop during the night. The diurnal cycling of pH is a common occurrence in open waterways.

6.6 SPECIFIC HIGHLIGHTS AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD

- Construction, installation and bringing "online" \$5.2 million of structural BMPs prior to the 2004 winter wet weather season (See Section 1.3).
- Completion of the Colorado Lagoon Restoration Feasibility Study (1.3.6) and securing grant funding to begin implementing its recommendations.
- Implementation of the City Manager's "Litter Abatement and Awareness Campaign" to provide a cleaner and safer community.



- Development and implementation of structural and non-structural BMP programs that complement the City Council's FY 2005 stated goal of "Improve Environmental Conditions."
- Development of LBUSD and AOP educational partnership programs.
- Actively participated in development and enhancement of the SMC's Standard Data Transfer program.
- 140 million stormwater impressions and \$5,532,838 invested in BMP projects that are successful in reducing the amount of pollutants entering the rivers and ocean!

6.7 SUGGESTIONS TO IMPROVE LBSWMP

Once again, despite dramatic increases in program compliance costs and equally dramatic decreases in revenue offsets, the City's program remains strong, dynamic and effective. However, the program data and achievements to date indicate that improvements to this program would come from a reallocation of resources within the Stormwater budget and replacement of the current Water Quality Monitoring Program with a Regional Water Quality Monitoring Program.

Each year nearly \$500,000 is spent on water quality monitoring with little or no return on this costly investment. Throughout the region water quality data collected from Municipal, Industrial and Construction permit programs is not correlated. It is our recommendation that the City's Water Quality Monitoring Program be replaced with a Regional Water Quality Monitoring Program (RWQMP). The RWQMP's primary objective would be to integrate all water quality monitoring data collected and to develop a new, focused, and comprehensive program. The LBSWMP budget should be reallocated so that up to 20 percent (\$100,000) be dedicated to Regional Studies, up to 20 percent (\$100,000) be used to supplement a Regional/Countywide monitoring program and the balance of the funds (\$300,000) be redistributed by the City to enhance those LBSWMP elements that tangibly reduce and/or eliminate pollutants from entering the storm drain system.

6.8 THE FUTURE

- Enhancement of Web-based Internet training and an upgrade to the stormwater website.
- Assessment of the effectiveness of the structural BMP demo projects that will have been on-line for two storm seasons.
- Begin construction at Colorado Lagoon of project(s) that will lead to remediation/restoration.



ASSESSMENT

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Develop and implement programs to compliment the ROWD's enhanced LBSWMP and permit once the ROWD is approved.