

SECTION C-6

PUBLIC EDUCATION

**PROGRAM EFFECTIVENESS ASSESSMENT
2009-10**



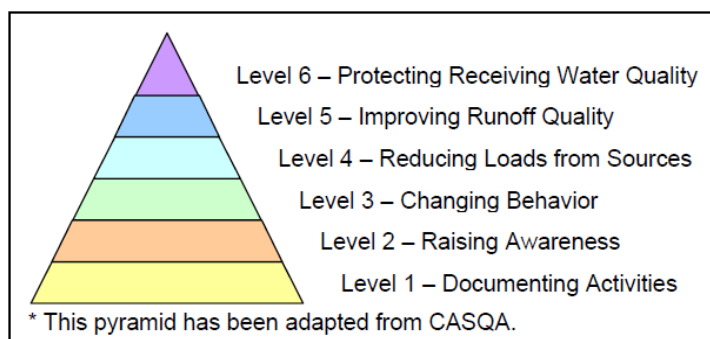


C-6.0 PUBLIC EDUCATION

C-6.1 Introduction (LIP Section A-6.1)

Public education is an essential part of the County's Stormwater Program. Developing methods to inform and involve the public can be an effective method for controlling urban runoff and stormwater pollution. Emphasizing the relevant impacts of urban runoff and stormwater pollution to each particular target audience increases the likelihood that the messages will be noticed and that the desired outcome of behavior change will be achieved.

As described in detail in **Section C-2.5** of this PEA, the County utilizes the California Stormwater Quality Association (CASQA) method of effectiveness assessment in order to demonstrate if program elements, activities, BMPs, etc., are resulting in desired outcomes. CASQA identifies six Outcome Levels (See pyramid below) and for each measure the County reports, the associated Outcome Level (more than one level may apply) is indicated by a colored triangle with a number.



The goal of this program element is to achieve Level 3 Outcomes (Changing Behavior), by raising knowledge and awareness (Level 2 Outcome). Although it is difficult to measure directly, the County firmly believes that success at these levels is leading to improvements in water quality (Outcome Levels 4-6).

C-6.2 Model Public Education Program (LIP Section A-6.2)

The County has, and continues to support, a strong countywide public education program as described in the DAMP (see **DAMP, Section 6**). This program provides the common message and theme for the overall program, coordinates that message with neighboring counties to ensure that media overflow messages are compatible and provides combined media buying power that could not be achieved by the County and the other Permittees individually.

C-6.3 Jurisdictional Education Program (LIP Section A-6.3)

The County supports the Countywide Program – *Project Pollution Prevention* through its financial contributions, participation in the Public Education Committee and the use of countywide materials. The County also supplements the countywide campaign at a local level



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to address County-specific issues and target constituencies that are best reached through a local rather than a countywide effort.

During the 2009-10 reporting period the County completed the following:

C-6.3.1 Public Education Material Distribution



The County has distributed approximately **6,518** brochures and other outreach items through events and to County agencies, water districts and the construction industry. Public education materials are available for viewing, downloading and ordering on the County website, www.ocwatersheds.com/publiced or by calling the County's 24-hour hotline number, 1-877-89SPILL.

For a complete list of educational materials developed by the Countywide Program and utilized by the County, please see **Table C-6.14** of the Unified Report.

The County also provided the following educational materials to its residents through the following County Departments:

OC Public Works

The primary mission of OC Public Works is to provide, operate and maintain quality public facilities and regional resources for the people of Orange County. OC Public Works provides services on a local basis to unincorporated areas, to other County agencies and departments and on a countywide basis to regional facilities. OC Public Works provides educational materials to employees and/or residents at the following locations:

OC Public Works Headquarters – 300 N Flower Street, Santa Ana (Osborne Bldg.)

In the lobby of the Osborne Building the following materials are made available:

- *“The Ocean Begins At Your Front Door”*
- *“Help Prevent Ocean Pollution: Household Tips”*
- *“Help Prevent Ocean Pollution: Tips for Pet Care”*
- *“Help Prevent Ocean Pollution: Tips for Landscape and Gardening”*

The Murray Storm Development Processing Center, which is on the first floor of the Osborne Bldg. and is managed by OC Planning, provides the following materials to its customers both at the permit counter and on its website at www.ocplanning.net:

- *“Water Quality Management Plan (WQMP) Guidelines Memo”*
- *“When Is A WQMP Required?”*
- *“WQMP Template”*
- *“Construction Runoff Guidance Manual”*
- *“Erosion and Sediment Control Plan (ESCP) Instruction Manual”*
- *“Best Management Practices (BMP) Fact Sheets” – New Development/Significant Redevelopment, Construction, Industrial/Commercial, Residential NPDES/WQMP Regulations*
- *“NPDES Inspection Requirements”*
- *Orange County Third Term NPDES Stormwater Permits*



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- *Orange County Fourth Term NPDES Stormwater Permit (Santa Ana Region)*
- *2003 Drainage Area Management Plan (DAMP)*
- *County of Orange/Orange County Flood Control District 2006-07 Local Implementation Plan (LIP)*

OC Watersheds – 2301 N. Glassell St., Orange

In the lobby of the OC Watersheds offices the following materials are available (as well as on the website, www.ocwatersheds.com):

- *“The Ocean Begins At Your Front Door”*
- *“The Ocean Begins At Your Front Door” in Spanish*
- *“Help Prevent Ocean Pollution: A Guide for Food Service Facilities”*
- *“Help Prevent Ocean Pollution: A Guide for Food Service Facilities” in Spanish*
- *“Help Prevent Ocean Pollution: Tips for Landscape & Gardening”*
- *“Help Prevent Ocean Pollution: Tips for Landscape & Gardening” in Spanish*
- *“Help Prevent Ocean Pollution: Pet Care”*
- *“Help Prevent Ocean Pollution: Household Tips”*
- *“Help Prevent Ocean Pollution: Pool Maintenance”*
- *“Help Prevent Ocean Pollution: Recycle At Your Local Used Oil Collection Center” - Vietnamese*
- *“Help Prevent Ocean Pollution: Responsible Pest Control”*
- *“Help Prevent Ocean Pollution: Coloring and Activity Booklet”*

OC Inspection – 1152 E Fruit Street, Santa Ana

The OC Inspection office provides the following materials at the front counter:

- *“The Ocean Begins At Your Front Door”*
- *“Help Prevent Ocean Pollution: Tips for Using Concrete and Mortar”*
- *“Help Prevent Ocean Pollution: Household Tips”*

OC Community Resources

OC Parks – various locations

OC Parks operates regional recreational facilities and manages historical and natural resources. These 33,000 acres of parkland and open space include regional and wilderness parks, nature preserves and recreational trails, historic sites, and harbors and beaches. OC Parks provides the following brochures at various park locations:

- *“The Ocean Begins At Your Front Door”*
- *“Help Prevent Ocean Pollution: Tips for Pet Care”*
- *“Help Prevent Ocean Pollution: Tips for Horse Care”*

OC Animal Care – 561 The City Drive S., Orange

OC Animal Care is a division of OC Community Resources. OC Animal Care provides pet licensing and patrol services to 18 contract cities and all the unincorporated areas of the County. OC Animal Care houses and provides medical care for impounded dogs, cats and exotic animals; adoption services are also provided. OC Animal Care provides the brochure, “Tips for Pet Care” to its customers.



Health Care Agency - Environmental & Regulatory Health Divisions

The Environmental Health Division of the County's Health Care Agency is engaged in educational activities in the following areas that compliment the messages of the NPDES Stormwater Program:

Pollution Prevention Program



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The Pollution Prevention Program also operates a Used Oil Recycling Program that encourages the recycling of used motor oil and filters. It operates recycling programs for the following areas: All unincorporated County areas and the cities of Aliso Viejo, Brea, Costa Mesa, Cypress, Dana Point, Fountain Valley, Fullerton, Laguna Hills, Laguna Niguel, Lake Forest, La Habra, La Palma, Mission Viejo, Newport Beach, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda. The Used Oil Recycling Program conducts public outreach and education at over 40 events per year.

The Used Oil Recycling Program maintains the "Got a Boat, Use a Pad" program in Dana Point, Newport, and Huntington Harbors. The County's pad exchange program helps boat owners keep the harbors clean by not pumping out waste oil with their bilge water.

The Used Oil Recycling Program developed a multimedia interactive program with the California Department of Resources Recycling and Recovery (CalRecycle). The interactive program has important environmental, clean water and recycling information, and has fun quizzes for adults and children. The quizzes can be accessed by visiting, http://www.ochealthinfo.com/regulatory/usedoil_quiz.htm.

High school outreach for both the Used Oil Recycling Program and Hazardous Waste management was continued in 2009-10. A similar outreach effort was also instituted for classes at Saddleback College.

Food Protection Program



3

The Food Protection Program focuses on the inspection of retail and wholesale food facilities such as restaurants, markets, bakeries, vending machines, food processing plants, food trucks, and food carts. Registered Environmental Health Specialists (REHS) inspect over 11,000 food establishments throughout Orange County.

The brochure and poster entitled "Help Prevent Ocean Pollution: A Guide for Food Facilities" and the brochure "Sewage Spill Reference Guide" are made available to inspectors for provision during inspections. The materials provide employees, managers and owners with the best management practices that businesses should employ while performing various maintenance activities. In addition, if NPDES stormwater issues are observed the inspector enters the information into a database that produces monthly reports identifying the food service facilities within each jurisdiction with violations. The report is provided to the County who in turns provides it to all the Permittees. It is the responsibility of each Permittee to follow up with each



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facility within their jurisdiction. The County conducts follow up inspections within its unincorporated areas providing additional training and materials as needed.

Hazardous Waste



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The Environmental Health Division was designated by the State Secretary for Environmental Protection on January 1, 1997 as the Certified Unified Program Agency (CUPA) for the County of Orange. CUPA is the local administrative agency that coordinates six programs regulating hazardous materials and hazardous wastes in Orange County. They include: Hazardous Waste, Underground Storage Tanks (UST), Aboveground Storage Tanks (AST), Hazardous Materials Disclosure (HMD) Business Plan, and California Accidental Release Program (CalARP).

The Orange County Fire Authority and some city fire agencies within Orange County have joined the CUPA, as Participating Agencies, to form a partnership with the County's Unified Program. In most cities, Orange County Environmental Health administers the Hazardous Waste, Underground Storage Tank and Aboveground Storage Tank programs while the Fire Agencies administer the other three elements listed above.

The purpose of the Hazardous Waste Inspection Program is to ensure that all hazardous wastes generated by Orange County businesses are properly handled, recycled, treated, stored, and disposed. Specialists in this program inspect facilities that generate hazardous waste, evaluate hazardous waste generating industries, investigate illegal hazardous waste disposal, and respond to emergencies involving spills of hazardous chemicals. Materials were produced in previous reporting periods for distribution during inspections, including the poster entitled "Good Gas Station Operating Practices" and "Good Operating Practices for the Auto Repair Industry". The materials provide employees, managers and owners with the best management practices that businesses should employ while performing various maintenance activities.

Water Quality Program



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The Water Quality Program encompasses three programs: Ocean Water Protection Program, Cross Connection Program and Well Permitting Program.

The Ocean Water Protection Program ensures that all public recreational waters meet applicable bacteriological water quality standards for swimming, surfing and diving. Program staff routinely conduct microbial monitoring of ocean and bay waters, respond to sewage spills and other unauthorized discharges of waste, close sewage contaminated ocean and bay waters, post warning and closure signs, respond to illness complaints, issue rain advisories, and maintain a website (www.ocbeachinfo.com) and hotline (714-433-6400) which provides ocean and bay bacteriological water quality information to the public.

As part of the County's joint outreach effort to prevent water pollution, the Ocean Water Protection Program provides a daily stormwater tip in the Orange County Register. The stormwater tip is also provided on the Ocean Water Protection Program's website and Hotline Tips via email. Due to a website reconfiguration during the reporting period, website statistics were available for only half of the FY 2009-10 reporting year; website visits totaled 167,526 during the reporting year and approximately 193 were sent via e-mail.



In addition, the OC Watersheds website, www.ocwatersheds.com provides a link to www.ocbeachinfo.com website. Public notifications of water quality status changes are also communicated to the public through the social media network "Twitter;" the account for which can be found at www.twitter.com/ocbeachinfo.

OC Waste & Recycling (OCW&R)



OC Waste & Recycling manages the household hazardous waste program and utilizes a variety of educational materials to recommend alternatives to hazardous products as well as proper disposal of household hazardous waste. There has been close intra-County coordination with OC Waste & Recycling to ensure that the Orange County Stormwater Program promotes the proper disposal of household hazardous wastes both within the printed materials as well as at outreach events.

OC Waste & Recycling produces additional educational materials and distributes them at their facilities, outreach events, to cities, other County departments, schools and the public. During the 2009-10 reporting period, OC Waste & Recycling participated in or provided materials for the following community events:

- Waste Free OC Campaign Launch
- Boeing Earth Day
- Beyond Copenhagen Conference
- Silverado Canyon Household Hazardous Waste Collection Event
- OC Green Fair
- League of Cities Landfill Tour - Prima Deschecha
- Green Boat Show - Dana Point
- Mission Viejo 2010 Environmental Fair
- OCCR Green Pet Fair
- Radio Remote at Habitat for Humanity ReStore
- Discovery Science Center Assembly Program
- Various Landfill tours for youth and adults

Numerous items made from recycled materials were distributed at these events along with several brochures.

C-6.3.2 Employee Training and Outreach



The overall goal of the County is that its employees lead others by their example through the implementation of pollution prevention methods. The County has developed and implemented an internal job-specific training for its employees. This information can be found in detail in **Section C-5.6** of this PEA.

The following is a list of the outreach conducted during the 2009-10 reporting period:

- April 28, 2010 - An article on low impact development (LID) and new NPDES requirements for land development and significant redevelopment was included in the



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County of Orange/OC Real Estate newsletter. The newsletter went out to 20,000 employees and interested parties.

A-6.3.3 Workshops

The County annually participates in/promotes Countywide Program administered regional workshops for the following public sectors:

Sector Reached	Workshop	Date
Manufacturing Facilities	Managing Stormwater in Orange County: New Requirements for Land Development - Held in coordination with the Industrial Environmental Coalition of Orange County	May 20, 2010
Mobile Service Industry	Waste Water Workshop: How Much Do You Know? - Held cooperatively with the Carpet and FabriCare Institute (CFI)	August 30, 2010*
Commercial, Distribution and Retail Sales Industry	Stormwater Best Management Practices (BMPs): New Development/Significant Redevelopment Projects (Including Parking Lots)	April 8, 2010
Residential/Commercial Landscape Construction and Services Industry	Rainwater Harvesting with Brad Lancaster at the Ecology Center - A two day workshop for residents and landscapers	May 11 & 12, 2010
Residential and Commercial Construction Industry	North and South Orange County MS4 Permit Seminar: Implementation and Compliance with Land Development Requirements and Water Quality Management Plan Update Process - Held in coordination with the Building Industry Association (BIA) Orange County Chapter	June 4, 2010
Residential and Community Activities	Rainwater Harvesting with Brad Lancaster at the Ecology Center - A two day workshop for residents and landscapers	May 11 & 12, 2010

*Santa Ana Regional Board was notified of this workshop occurring after the reporting period. Coordination with CFI required a date subsequent to July 1, 2010.

Public events such as those for residential and community activities above are regularly posted on the OC Watersheds website at <http://www.ocwatersheds.com/publiced/news-events/index.html>.

C-6.3.4 Outreach to Construction Site Contractors/Developers

This information can be found in detail in **Section C-8.7** of this PEA.

C-6.3.5 Outreach to Industrial Site Owners and Operators

This information can be found in detail in **Section C-9.1.6** of this PEA.



C-6.3.6 Outreach to Commercial Site Owners and Operators

This information can be found in detail in **Section C-9.2.6** of this PEA.

C-6.3.7 Outreach to Residential Community, General Public, and School Children

Educating the general public and school children is essential to a successful outreach plan. The County has supplemented the Countywide Program education effort with outreach events, internet outreach, public presentations and school initiatives detailed below:

Outreach Events

Earth Day 2010



The County participated in the *Orangewood Earth Day 2010*, April 22, 2010 in honor of the nationally recognized day. Approximately **30 school-aged children** visited the Stormwater Program booth. Visitors received an overview of pollutants of concern, participated in an activity highlighting the difference between the storm drain and sewer systems and received tips to minimize their negative impact on water quality.

Snapshot Day



On May 8, 2010 the County of Orange participated in California Snapshot Day in partnership with Orange County CoastKeeper, a member organization of Citizen Watershed Monitors of Orange County (CWMOC). The CWMOC, sponsored by Southern California's Regional Water Quality Control Boards, was formed to grow the citizen water quality monitoring effort of watersheds in Orange County, with a networking approach and with participation from the involved agencies, non-profits, and community based organizations. CWMOC provides a forum for water quality monitoring related information sharing, technical assistance, quality assurance exercises, and field monitoring coordination involving people from the community with all levels of expertise.

This year's event marked the seventh year CWMOC participated in California Snapshot Day. The County supported the event through the provision of in-kind supplies. Supplies included water quality testing equipment and personal protective gear (gloves, etc.) for the event participants. Similarly, the County provided in-kind supplies for World Monitoring Day held on October 10, 2009. **For both events, more than 50 members of the public participated.**

The Children's Water Education Festival



The County participated with the Cities of San Clemente, Newport Beach, Huntington Beach, Mission Viejo, Lake Forest and Irvine in the Children's Water Education Festival on March 24 and 25, 2010 at the Richard Nixon Library and Birthplace Foundation in Yorba Linda. The festival featured lively entertainment and interactive displays led by groundwater and natural resources professionals representing government agencies, environmental organizations, higher education, and private business. The activities were designed to teach children about



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groundwater and other water issues in Orange County. As in 2009, the Festival required that all booth activities align with State of California Science Content Standards for 3rd, 4th or 5th grade.

The County's booth, "Stormy Times in Orange County" used the Enviroscape® Coastal Model to teach approximately 335 students and 15 teachers, about sources of pollution, water quality and their role in protecting the environment (impressions included in Countywide Program calculations). Each student that participated in the interactive Stormwater booth activity received the following educational materials:

- "The Ocean Begins At Your Front Door" brochure
- "My Watershed – Our Ocean" bracelet
- "My Watershed – Our Ocean" pledge form to protect water quality
- Project Pollution Prevention reusable grocery bag
- Project Pollution Prevention sea-life themed temporary tattoos

Annual California Coastal/Inner Coastal & Watershed Cleanup Day



Coastal Cleanup Day, hosted by the California Coastal Commission (CCC) and Inner Coastal & Watershed Cleanup Day, are part of the larger International Coastal Cleanup organized by The Ocean Conservancy. The international cleanup, held on September 19, 2009, included sites all over the world.

On this important day, volunteers across the state helped clean up shorelines, bays, rivers, creeks, parks, roadsides, and highways. Coastal Cleanup Day, organized by CCC, provides an opportunity for residents to steward their neighborhoods, encouraging beautification around shorelines, creating pride in their surroundings and ultimately having a positive impact on our coastal waterways.

Inner Coastal & Watershed Cleanup Day is held in conjunction with Coastal Cleanup Day, in partnership with the Coastal Commission, the County, and spearheaded by Trails4All, a non-profit group established in 1992 as the Trails Council of Orange County. The event, collectively termed Cleanup Day 2009, was promoted by County staff through the posting of event posters and site listings on the County website www.ocwatersheds.com.

Each September, Cleanup Day brings together volunteers to collect trash and debris and help restore beaches, channels, creeks and trails throughout Orange County. Results from Cleanup Day 2009 from all sites in Orange County were impressive; 10,279 volunteers picked up 90,026 pounds of trash and debris.

The County and the cities of Buena Park, Fullerton and La Palma co-sponsored the clean up of the Fullerton Creek Channel in Buena Park. This was the fifth year for the Fullerton Creek Channel location which is a concrete lined channel. The location was selected to draw attention to the destination of all the trash and pollutants left in our yards, on sidewalks and roads. The event was a success with **97 volunteers** removing some 1,420 pounds of trash and another 100 pounds of recyclables along a 2 mile stretch of the channel.



OC Green Fair



The OC Green Fair, hosted by the County of Orange, promoted “green” programs, industries and organizations in Orange County. Members of the public and County of Orange employees attended the event, held downtown Santa Ana. The County hosted a booth for the OC Watersheds Program, highlighting the efforts of the Orange County Stormwater Program, watershed management and TMDL implementation groups. Brochures provided to attendees include information on proper landscape and gardening, sewage spill prevention, responsible pest control, pool maintenance, sustainable water use, and general stormwater BMPs. Approximately **75 members of the public and County employees** visited the booth.

Event Impressions

Event participation for the County garnered a total of **302 impressions** during the 2009-10 reporting period. Though the number of overall impressions from event participation is low, the County believes these to be “high quality” impressions and an important part of the program’s outreach efforts. As a result, event participation will continue to be a significant part of the outreach program for 2010-11.

County Website Outreach



The County completed a comprehensive revision to the www.ocwatersheds.com website to provide Orange County residents and businesses with improved resources regarding stormwater and water quality information. Specifically, the website includes information on all eleven Orange County watersheds, watershed management, water quality data, TMDL implementation and the Orange County Stormwater Program.

Though the entire site provides extensive information on Orange County waterways, a portion of the website dedicated specifically to public education was produced during the reporting period. The Countywide Program public education site, www.ocwatersheds.com/publiced, includes materials available online or by order, event listings, interactive games, videos on stormwater pollution prevention and pages for Spanish and Vietnamese resources. The site is built to more effectively showcase new marketing campaigns, partnerships and educational information for children, residents, businesses and schools.

Problem Reporting Hotline

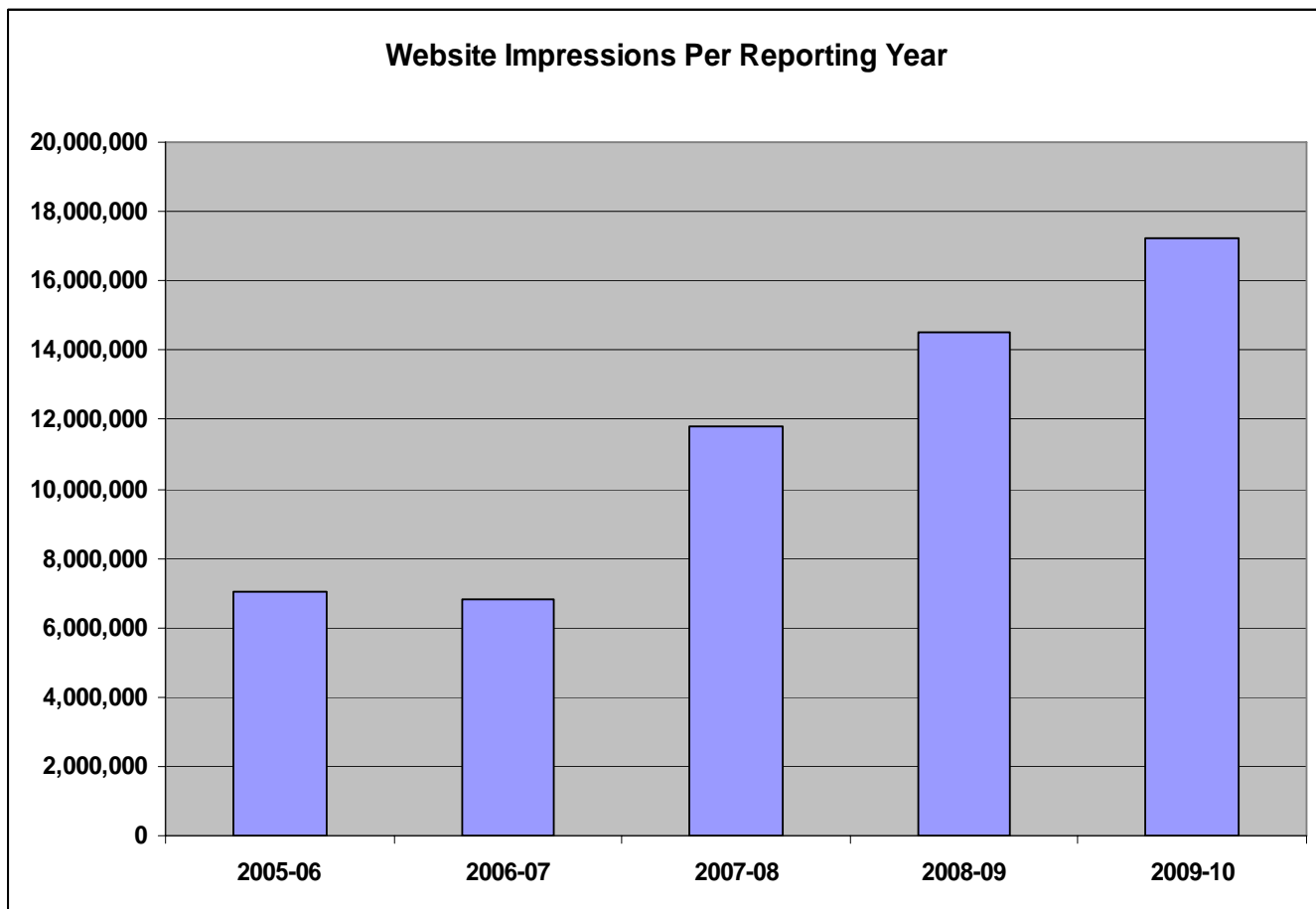
As with the previous County website, one of the key functions of the revised website is to provide forms to facilitate the reporting of water pollution and street drain problems. During the 2009-10 reporting period, the toll free 24 Hr., bilingual (English/Spanish) water pollution hotline (1-877-89 Spill) and website reporting form combined received a total of 107 water pollution complaints/ notifications from the public.

General Statistics

The graph below shows the total number of website hits per reporting year. Previous reporting years recorded the number of hits to the County website. Though “hits” are considered a



method for tracking traffic to web pages, “page views” is another, more accurate interpretation of visits to the website. As a result, impressions for the FY 2009-10 reporting period are reflective of the total “page views” to the www.ocwatersheds.com website. The website experienced 17,251,730 website page views during the 2009-10 reporting period. Though a more conservative measure than the total number of “hits” to the website (21,991,159 in 2009-10), the number of page views still represents a remarkable 145% increase in website visits since 2005-06.



As noted previously, the increase in traffic to the website continued during the reporting period. Results from the 2009 Public Awareness Survey conducted by Project Pollution Prevention were reflective of this trend. Use of the internet to receive information on stormwater issues increased significantly since the 2005 Survey. As shown in the figure above, this trend is evidenced by use of the County website.

Outreach Presentations



The following is a table of presentations in which information was presented to other County agencies, the general public and special interest groups, as requested or when deemed necessary.



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Date	Group	Presenter	Presentation
July 16, 2009	OCWD Water Camp	Grant Sharp	Water Pollution Response
August 19, 2009	StormCon	Grant Sharp/Duc Nguyen/Dindo Carrillo (OCSD)	Countywide Area Spill Control (CASC) Program
August 19, 2009	StormCon	Grant Sharp/Duc Nguyen/Trung Chanh Phan (City of Fullerton)	Finding the Mystery Odor: A Source Investigation Case Study
August 20, 2009	Newport Bay Watershed Executive Committee	Jamie Habben	Borrego Canyon Wash Fluvial Study Update
August 21, 2009	Ocean Institute	Mary Anne Skorpanich	Watershed Science, Human Impacts and BMPs
September 18, 2009	OC Community Foundation	Mary Anne Skorpanich	Community Involvement in Improving Water Quality
October 1, 2009	La Habra High School	Beatrice Musacchia/Jenna Voss/Dr. Theodore Von Bitner/Len Narel	Water Quality Monitoring and Watershed Assessment
October 2, 2009	Latino Health Access (LHA) Park Advisory Board	Beatrice Musacchia	LEED Certification for Buildings (in Spanish)
October 2, 2009	Water Advisory Committee of Orange County	Mary Anne Skorpanich	Integrated Solutions for Water Resource Management
October 22, 2009	Santiago Lofts	Beatrice Musacchia/Jenna Voss/Ana Carricchi (LHA)	Watershed Management and Pollution Prevention
October 28, 2009	H2O Conference	George Edwards	Bacterial Quality Improvements at Baby Beach, Dana Point Harbor
November 2, 2009	CASQA 2009 Conference	Grant Sharp	Stormwater Fundamentals - Construction
November 4, 2009	CASQA 2009 Conference	Grant Sharp	Tracking Pollutants Through Dry Weather Runoff Monitoring in Orange County, California



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Date	Group	Presenter	Presentation
November 11, 2009	Southern California Beach Water Quality Workgroup	Dr. Theodore Von Bitner	Seasonal and Natural Sources of Fecal Indicator Bacteria in the Lower San Juan Creek Watershed
November 24, 2009	Sierra Sage	Jenna Voss	OC Watersheds and the OC Stormwater Program – Project Pollution Prevention
December 2, 2009	OC Public Works/OC Planning and OC Inspection	Grant Sharp/Ruby Maldonado/Robin LaMont	Construction Projects and NPDES Requirements
December 3, 2009	California Coastal Coalition	George Edwards	Bacterial Quality Improvements at Baby Beach, Dana Point Harbor
December 9, 2009	Mustang Ladies - Valencia Elementary, Fullerton, CA	Jenna Voss	Stormwater Pollution Prevention and Careers in Science
December 10, 2009	Wastewater Agencies and Cities	Grant Sharp	Countywide Area Spill Control (CASC) Program Kickoff Meeting
January 14, 2010	Ocean Institute Kids Conference on Watersheds	Grant Sharp	Water Pollution/Spill Response
February 23, 2010	OC Coastkeeper	Beatrice Musacchia	Watershed Management and Water Quality Science
March 1, 2010	CWEA P3S Conference	Chris Crompton	Implementing the 2009 Orange County MS4 Permits
March 4, 2010	Wastewater Discharge Requirements (WDR) Steering Committee	Grant Sharp	Countywide Area Spill Control (CASC) Program Update
March 18, 2010	Wastewater Discharge Requirements (WDR) Committee	Grant Sharp	Countywide Area Spill Control (CASC) Program Update
April 8, 2010	OCTA Measure M Fund Environmental Allocation Committee	Dr. Theodore Von Bitner	Fullerton Creek Watershed Trash and Litter Monitoring Program
May 5, 2010	OC Public Libraries	Grant Sharp	County Stormwater Program Implementation/Coordination
May 11, 2010	Social Services Agency	Grant Sharp	County Stormwater Program Implementation/Coordination



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Date	Group	Presenter	Presentation
June 14, 2010	OC Public Works/OC Planning and OC Inspection	Grant Sharp/Ruby Maldonado/Bob Whitlock	Construction Site Best Management Practices - Classroom Session
June 16, 2010	Newport Bay Watershed Executive Committee	Mary Anne Skorpanich	Overview of Sediment Control Plan and Progress of Implementation
June 16, 2010	OC Public Works/OC Planning and OC Inspection	Grant Sharp	Construction Site Best Management Practices - Field Session

Publications and Posters

Date	Title	Publication/Author(s)	Outreach Purpose
April 28, 2010	Low Impact Development Update	County of Orange-OC Real Estate Newsletter/Grant Sharp	Notification of LID and NPDES New Development Requirements

School Outreach Initiatives

The following initiatives targeted schools and school aged children:

2009-10 Watershed Education Program (Watershed Program)

With the adoption of the Third Term MS4 Permits, the Permittees were required to develop and implement a watershed-based management process to complement the established Countywide Stormwater Program (OC Stormwater Program). The purpose of this separate watershed based effort is primarily to provide a local focus on the highest priority water quality issues/pollutants in each watershed. The Watershed Program, implemented by the County and the OC Stormwater Program - Project Pollution Prevention has promoted this effort by supporting school-based watershed and water awareness programs throughout the County into the Fourth Term.

Each aspect of the Watershed Program supports the mission of the County to address water pollution on the watershed scale and to incite a sense of public ownership of the watersheds of Orange County. Though the Ocean Institute watershed program is supported by the County and the others listed by the Project Pollution Prevention, it is important to show the links between these efforts and the County support that bolsters Countywide Program efforts. For a full description of the school outreach initiatives and impression numbers garnered for programs supported by Project Pollution Prevention (i.e. DSC and Inside the Outdoors), please see **Section 6** of the Unified Annual Report for the Orange County Stormwater Program.

Ocean Institute Watershed Education Program



The Ocean Institute was established in 1981 as a community-based 501(c) (3) organization and is known for its unique marine science and maritime history programs. The *Watershed Education*



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Program is a standards based program designed to bring 5th grade students in communities not adjacent to the coast to the Ocean Institute to explore the science of their respective watersheds. Each class engages in a project that addresses specific concerns within their respective watershed. At the completion of their project the class presents their findings to their peers and invited guests such as elected officials and non-profit groups. The goal of this program is train students in self-management of their watersheds and to provide them with the tools to effect change within their communities.

During the reporting period the *Watershed Education Program* reached **1,110** students from 10 Orange County cities through their participation in the program. They included students from the following schools:

School Name	City
Landell Elementary	Cypress
Saint Callistus School	Garden Grove
Fisler Elementary	Fullerton
College Park Elementary	Irvine
Nelson Elementary	Tustin
Lake View Elementary	Huntington Beach
Eastwood Elementary	Westminster
McPherson Magnet School	Orange
Newland Elementary	Huntington Beach
Harbor Day School	Newport Beach
Schroeder Elementary	Huntington Beach
The Pegasus School	Huntington Beach
Raymond Elementary	Fullerton
West Park Elementary	Irvine
Castille Elementary	Mission Viejo

The County provided the Institute with education and outreach materials and a customized poster size map of their watershed. The students learned about current watershed topics and used an Enviroscope® Coastal Model to learn about point source and non-point source pollution. The students developed research projects in their local watersheds and returned to the Ocean Institute in January 2010, to present their research projects at the Kids' Conference on Watersheds. The goal of this program is to train students in self-management of their



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watersheds and to provide them with the tools to effect change within their communities. County of Orange staff provided presentations at the Kids' Conference on Watersheds as well to provide insight into watershed management and stormwater pollution prevention.

Discovery Science Center Programs



During the 2009-10 reporting period, the DSC, in partnership with Project Pollution Prevention, continued to provide a stormwater-specific demonstration and learning station for the general public, visitors and students on field trips to the DSC. Annually, more than 444,655 people visit the DSC. Designed for visitors of all ages but primarily students (and their chaperones, parents, teachers), Project Pollution Prevention overarching messages are:

- The importance of water
- Water reclamation / water reuse
- Knowledge of urban pollutants, such as used motor oil and pet waste
- Stormwater and urban runoff pollution

Through a partnership between the Municipal Water District of Orange County and DSC, the *Elementary Water Science Education Program* regularly provides grade-specific science lessons to elementary school students in an assembly format. Themes of water sources, water conservation, and water and trash pollution complement the science content standards. As part of this program, all students receive water quality workbooks developed by Project Pollution Prevention in collaboration with DSC. These workbooks contain information on stormwater pollution prevention, the water cycle and watersheds.

Students also participate in field trips taught through a program entitled "Watershed Photo Detective" where students examine a storm channel in the Santa Ana River watershed and assess overall stream condition based on key indicators of watershed health.

Orange County Department of Education (OCDE)



Inside the Outdoors is an environmental education program administered by the Orange County Department of Education (OCDE). The mission of *Inside the Outdoors* is to empower students, teachers, parents and the community to explore natural areas and expand their knowledge. There are four types of programs within *Inside the Outdoors* that work to bring water quality issues and water science to students and teachers in a hands-on and engaging way. These include a water pollution session at the *Outdoor Science School*, the traveling scientist presentation *Drip Drop*, the *Where Do I Flow?* field program and the Project WET teacher workshop.

C-6.3.8 Outreach to Quasi-Governmental Agencies/Districts



Orange County Sanitation District (OCSD)

The County had partnered with the Orange County Sanitation District on the Countywide Area Spill Control (CASC) program, since 2000. Information on this program can be found in detail in **Section C-3.3** of this PEA.



C-6.4 Public Participation (LIP Section A-6.3)

Public participation allows the public to be directly involved with the stormwater program. The County has encouraged public participation at the local level by providing opportunities for the public to ask questions and provide comments. When the public asks questions it provides valuable information about their major concerns, effective and ineffective approaches in dealing with their concerns, and fosters a relationship in which the public proactively engage in protecting water quality.

C-6.4.1 County Website

The OC Watersheds website (www.ocwatersheds.com) includes a variety of ways for the public to communicate with County staff. Contact information is provided and documents posted for public reference and review have direct e-mail links for public comments. The website is listed on all outreach materials.

C-6.4.2 Participating in Outreach Events

Participation in outreach events allows for a two-way communication with the public. It is an excellent opportunity to not only disseminate stormwater public education information and materials but also allows the public to respond with questions, comments and/or concerns.

The County has participated in several public outreach events during the reporting period. Refer to **Section C-6.3.7** of this PEA for more information.

C-6.4.3 Volunteer Information

Volunteerism not only provides access to Orange County residents and businesses for outreach and education, it is also encourages behavior directly protective of water quality. The County website provides a page devoted exclusively to volunteer opportunities at: <http://www.ocwatersheds.com/publiced/news-events/index.html>

Organized by both region and by date, the News/Events section of the website allows residents to search for volunteer events in their area and/or on a specific date. Large County-wide events such as Cleanup Day and Earth Day are prominently highlighted in this section of the website.

C-6.4.4 Volunteer Creek/Channel Cleanups



During the reporting period, a student club from UC Irvine (Anteater Recycling and Conservation Club), expressed an interest from its members in performing volunteer cleanups of San Diego Creek, immediately adjacent to the UCI campus. County staff provided logistical support and supplies and two successful cleanup events were held (April 3, 2010 and May 15, 2010). 40 UCI student volunteers helped remove over 700 lbs. of trash from San Diego Creek during while fostering stewardship of the receiving water that is impacted by stormwater runoff from their campus. This partnership will continue into the 2010-11 reporting period as more cleanups of San Diego Creek by this UCI student club are planned.



The County also began working on an “Adopt-A-Channel” program during the reporting period and is currently in discussions with a major local corporation over a pilot project. More details on this effort will be reported in the 2010-11 PEA.

C-6.4.5 School Programs

Providing children with the tools to actively participate in the protection of their local waterways and beaches creates powerful environmental stewards of the future. Refer to **Section C-6.3.7** of this PEA for more information.

C-6.4.6 Public Participation Meetings



The public has a vested interest in stormwater management and needs to be informed of the water quality issues affecting their watershed and encouraged to participate in the process. During the reporting period, the County participated in the following public workshops, seminars, and hearings addressing stormwater management issues:

Date	Group	Topic
July 7, 2009	Laguna Beach City Council	Water Quality and Stream Stability Issues and Potential Solutions
November 17, 2009	San Clemente City Council	Water Quality at Poche Beach and Proposed Solutions
March 16, 2010	Tustin City Council	Stormwater Pollution Prevention
March 18, 2010	Santa Ana Regional Water Quality Control Board	Orange County MS4 Permit New Development/Significant Redevelopment Program Process
April 14, 2010	San Diego Regional Water Quality Control Board	Bacterial Quality Improvements at Baby Beach, Dana Point Harbor



C-6.5 Program Effectiveness Assessment (LIP Section A-6.5)



Through its own public education efforts, the County made **17,281,222** impressions during the reporting period.

County Outreach	Impressions
Material Distribution	6,518
Outreach Events	302
School Outreach	1,110
Website Impressions	17,251,730
Presentations/Publications	21,562
Total	17,281,222

C-6.6 Public Education Program Modifications

As the last step in the effectiveness assessment process, the County has evaluated the outcomes for this program element to determine if any program modifications are necessary. The data suggests that desired Outcome Levels are being achieved, so no major modifications to the Public Education Program are planned. Based on 2009 Survey results, however, Project Pollution Prevention has made modifications to the countywide media plan to reflect trends in media used by residents. For example, print media has seen a marked decrease in popularity that coincides with a dramatic increase in use of the internet to obtain information pertaining to Project Pollution Prevention. As a result, the www.ocwatersheds.com website has been extensively updated and advertising online will be an important part of the advertising campaign in the 2010-2011 reporting year. Refer to **Section C-6.4** of the **Unified Annual Report** for the Orange County Stormwater Program for a complete summary of the 2009 Survey results.