

C-6.0 PUBLIC EDUCATION

C-6.1 Introduction

Project Pollution Prevention is the model public education and outreach campaign of the Program. Its goal is to promote awareness of the condition of Orange County's creeks, rivers, streams and coastal waters and encourage participation in behaviors that are protective of water quality. It is built upon a foundation of cooperative Permittee development of programs and materials, implementation at Countywide and city levels, and the validation of its success through the use of opinion surveys and other direct and indirect measures of public knowledge and behavior. The Permittees have produced and continue to supplement a diverse suite of educational materials that support consistent countywide public education and outreach as well as a recognizable *Project Pollution Prevention* label.

A variety of media resources, partnerships with other water agencies, non-profit groups and educational institutions to target specific audiences and an iterative management approach are the key elements of *Project Pollution Prevention*. Also, *Project Pollution Prevention* functions as a template, enabling the Permittees to build successful outreach campaigns that complement the countywide effort.

Significantly more than 10 million impressions have been attained each year since 2003 and performance measures show that the campaign has produced measurable increases in key behaviors protective of water quality. Indeed, rigorous public opinion surveys conducted in 2003, 2005 and 2009 have both validated the effectiveness and provided strategic direction for *Project Pollution Prevention* outreach efforts and jurisdictional programs. A fourth public opinion survey conducted in May 2012 (2012 Survey) will guide *Project Pollution Prevention* design in 2012-13. For a summary of results from the 2012 Survey see **Section C-6.4.1**.

C-6.2 Program Background

The Permittees developed a comprehensive long-term NPDES public and business education strategy in 1999. Per Third Term Permit requirements, the Permittees composed a plan entitled "*Orange County Stormwater Public Education Program Recommendations*" (see **DAMP Exhibit 6.II**). This Plan recommended the key outreach campaign elements necessary to meet the Third Term Permit requirements for public education. These elements comprise:

- Materials Plan: Development and distribution of an extensive library of outreach materials;
- Media Plan: Development, annual revision and implementation of a plan to effectively promote pollution prevention messages through various forms of media;
- Non-Media Plan: Development, annual revision and implementation of a plan to utilize low-cost or free outreach opportunities to complement the media plan; and
- School Plan: Support of a K-12 school programs to provide children and teachers with pollution prevention information and materials.

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Under the Fourth Term Permits, the requirements to increase awareness of water pollution issues and foster behavior change are essentially unchanged; however, the structure of the outreach effort is shifting in an effort to further enhance behavior change in the community. More intensive focus of permit requirements pertaining to LID, outreach to Home Owner Associations (HOAs) and workshops for various public and business sectors have required the addition to *Project Pollution Prevention* of new outreach efforts.

Additionally, the Permittees significantly revised the annual outreach planning process after the completion of the 2012 Survey. During the 2012-13 reporting period the Permittees will utilize data garnered over four biennial public awareness surveys and other measures of program effectiveness to compose a strategic plan for *Project Pollution Prevention* over the next several years. This process will include an analysis of behavior change over time, barriers and motivators to participating in pollution preventative behaviors and establish methods to both identify and outreach to target audiences. This process will be described in detail in the 2012-13 Unified Annual Report. However, analysis of the 2012 Survey began during the current reporting period is included in this report (**Section C-6.4.1**).

C-6.3 Accomplishments

The Permittees rely on *Project Pollution Prevention* to serve as the umbrella campaign that supports and reinforces local efforts to address their specific needs, issues and requirements. This synergistic approach is designed to ensure that *Project Pollution Prevention* presents a consistent, comprehensive and coordinated approach that increases the likelihood of positively influencing public knowledge and behavior.

C-6.3.1 Countywide Efforts

The *Project Pollution Prevention* campaign is comprised of four core elements. These elements are:

- Materials Plan;
- Media Plan;
- Non-Media Plan, and
- School Plan.

C-6.3.1.1 Countywide Public and Business Education Materials Plan

The Principal Permittee, in collaboration with and under the direction of the NPDES Public Education Sub-Committee (Sub-Committee) annually review existing and develop new countywide public and business education materials that effectively communicate the message of pollution prevention (see **DAMP Exhibit 6.III**). Though several materials focus on specific pollutants of concern, stormwater topics (e.g. LID) or target specific audiences, at a minimum, all of the program materials:

- Explain the difference between the storm drain and sanitary sewer system, and emphasize that water in the storm drain does not receive treatment before entering our waterways;

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- Focus on specific pollution-causing behaviors and address them directly to increase the likelihood of changing those behaviors and reducing pollution;
- Emphasize the relevant impact of stormwater pollution to the target audience;
- Include a positive alternative to pollution-causing behaviors;
- Tailor the personality, focus and depth of program messages appropriately for each audience and venue;
- Facilitate a local and regional stormwater theme and look; and
- Include the *Project Pollution Prevention* moniker

An extensive library of brochures, BMP factsheets, posters, BMP stickers (restaurant and automotive maintenance) and other materials produced since 2002 provides resources for Permittee outreach to target audiences within their jurisdictions. Each year, the Subcommittee determines which behaviors and/or pollutants to target based on interactions with the public during inspections or pollution response, and at public counters. As described in the introduction, revisions to this process based on the 2012 Survey results and a strategic analysis of Program efforts will be described in the next reporting period; however, new and revised materials were developed in 2011-12 based on two issues identified as high priority by the Permittees. Materials produced/significantly revised focused on land development regulations that took effect August 17, 2011 in the Santa Ana Region and the landscape irrigation runoff prohibition in the San Diego Region.

Land Development Quad

During the 2011-12 reporting period, a land development “Quad,” was produced for city use in outreaching to contractors, consultants, builders and residents who may need to complete a Water Quality Management Plan (WQMP) as part of their profession. A Quad comprises a newsletter article, news release, billing insert and fact sheet about one topic, intended to provide cities with several options for outreaching to a specific audience on a target behavior or issue.

The quad material included information about priority development and significant redevelopment projects and how contractors or developers may be required to incorporate LID BMPs, as feasible, into their project design. The materials define LID, the importance of reducing stormwater and urban runoff through site design, and provide information on BMP options for project applicants (e.g. infiltration, harvest and use of rainwater, evapotranspiration, biotreatment and regional controls). A webpage has been created for both Permittees and the business community intended to be a one-stop shop for information on land development in Orange County (www.ocwatersheds.com/WQMP.aspx); quad materials direct project proponents to this page for resources, training materials and to contact the Permittees with questions.

Overwatering Brochure

Excessive runoff from landscape irrigation not only has the potential for transporting pollutants into the storm drain system it is also a waste of potable water. Additionally, runoff from landscape irrigation is prohibited for residents and businesses in the San Diego Region. Materials created over the past 10 years have addressed this issue; however, the

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Permittees prioritized creation of a brochure on the topic alone. This brochure was initially created in response to permit requirements issued in 2009 but was revised during the reporting period based on Permittee feedback after two years of implementation under the Fourth Term Permits.

Summary of New Material Developed/Revised

Title	Created/Revised	Targeted Pollutant/Activity of Concern	Audience
<i>New Water Quality Rules for Land Development</i>	July 2011	Low Impact Development	Residents / Developers
<i>Overwatering Brochure</i>	January 2012	Overwatering Landscaped Areas	Residents/Businesses

MATERIAL DISTRIBUTION AND INFORMATION AVAILABLE

Materials developed by *Project Pollution Prevention* are available to all Permittees for distribution and outreach purposes. *Project Pollution Prevention* actively maintains an extensive library of brochures and other outreach materials covering a wide range of constituents and behaviors. Constituents of concern such as pesticides, fertilizers, metals, trash, used motor oil and pet waste are discussed in brochures and in advertising. Behaviors such as proper disposal of household hazardous waste, proper use of pesticides and fertilizers and avoidance of over-irrigation are encouraged in materials as well. Materials are made available to the public through events, city counters, presentations and online at www.ocwatersheds.com/publiced.

For a complete list of materials developed by *Project Pollution Prevention* available to Permittees and other organizations, please see **Table C-6.1** of this report.

C-6.3.1.2 Countywide Public and Business Education Media Plan

A media plan is an important and essential component to the Orange County Stormwater Program's Public and Business Education Plan. The purpose of the media plan is to both achieve a minimum of 10 million impressions and to provide information to the public on targeted behaviors and/or pollutants of concern. The 2011-12 media plan included bus shelter and bus ads, billboards and print advertisements.

In addition to paid media purchased by the Permittees, *Project Pollution Prevention* also successfully leveraged an existing partnership with the Orange County Health Care Agency - Used Oil (OC HCA) to include their extensive advertising on proper disposal of used oil. As motor oil has been identified as a pollutant of concern, OC HCA efforts promoting used motor oil recycling were an important component of the 2011-2012 media plan. Representatives of OC HCA attend Sub-committee meetings and advise Permittees on outreach regarding proper disposal of motor oil and oil filters.

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Indeed, the Permittees look to neighboring stormwater programs to iteratively improve *Project Pollution Prevention*. During the 2011-12 reporting year, the Permittees recorded “earned media,” or program messaging that is included within the context of news stories. Impressions from earned media may be of higher quality than advertising impressions and as a result have been a key part of media plans in neighboring jurisdictions. A detailed perspective on earned media is explained further in this section.

The media plan included the following criteria:

- Use targeted ad placement. Place paid advertising in select media for targeted OC Stormwater-related events (e.g. Coastal and Inner-Coastal Cleanup Day);
- Take advantage of seasonal behaviors and activities. Schedule earned media opportunities and non-media activities to coincide with the seasonal nature of certain behaviors and activities associated with stormwater pollution;
- Use geographic targeting. Focus earned media and non-media activity in areas that have particular relevance;
- Take advantage of media spill from neighboring programs. Plan and schedule paid media to take advantage of media reaching Orange County from neighboring programs, particularly Los Angeles and San Diego counties;
- Coordinate paid media, earned media and non-media activities to maximize their impact and effectiveness; and
- Identify the expected number of impressions that may be achieved for each event.

PRINT ADVERTISING

The use of paid print advertising in certain publications was targeted to specific events and/or groups during the 2011-12 reporting period. It was clear in the 2009 Survey that print media was steadily declining as a primary source of information on stormwater. Subsequent to that programmatic shift, the 2012 Survey described in - **Section C-6.4.1** of this report shows that daily newspapers continue to diminish as an effective tool to convey water pollution prevention methods.

Despite the diminishing impact of newspapers, the 2009 Survey results showed that local newspapers – weekly city publications – have seen steady increases in their readership while the larger regional publications have seen a steady and significant decline. Additionally, local newspapers remain one of the few media alternatives for the Orange County market that have any significant penetration with target audiences. To that end, the program chose to utilize local newspaper advertising but to limit this paid advertising to target action-oriented events such as Coastal and Inner-Coastal Cleanup Day.

Numerous weekly papers cater to varied segments of Orange County’s population. The Orange County Register has 24 weekly community papers that serve Anaheim, Brea, Costa Mesa, Fountain Valley, Fullerton, Irvine, Newport Beach, Orange, Placentia, Tustin, Huntington Beach, Yorba Linda, San Juan Capistrano, Dana Point, Laguna Beach, Laguna Niguel, Aliso Viejo, Ladera, Laguna Woods, Lake Forest, Mission Viejo, San Clemente and the unincorporated areas.

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The Los Angeles Times has a weekly community paper that serves Huntington Beach, as well as a daily paper that serves Newport Beach and Costa Mesa. An advertisement was also placed in the OC Metro, a popular monthly business/lifestyle magazine, OC Weekly, a popular weekly county-wide free newspaper, in Excelsior and Miniondas, the County's best read Spanish language newspapers, and the News-Enterprise, to reach areas not served by the Los Angeles Times and Orange County Register community papers. Ads ran the week leading up to Coastal and Inner-Coastal Cleanup Day (September 12 - 17, 2011) and were designed to elicit interest and participation in Coastal and Inner-Coastal Cleanup Day. The ads would drive the reader to the website (www.ocwatersheds.com) where they could find information about Cleanup Day sites near them. Please see **Table C-6.2** for a listing of news outlets and associated impressions garnered.

Orange County Police Canine Association Advertisements

In addition to traditional print advertising for Coastal and Inner-Coastal Cleanup Day, the Permittees also advertised proper pet waste disposal in the program flyer for the Orange County Police Canine Association (OCPCA) event on October 15, 2011. Each year, approximately **6,000** Orange County residents, OCPCA supporters and dog enthusiasts attend from throughout Orange County. The advertisement, "Poollution" encouraged residents in this target audience to pick up pet waste and prevent bacteria from entering our waterways.

Impressions for all print advertising total **2,235,265** for the 2011-12 reporting period. Please see **Table C-6.2** for a summary of impressions from print media.

BUS SHELTER ADVERTISING

Bus station or stationary ad impressions are estimated by vehicle traffic rates, the formula for which is based on traffic studies conducted at intersections or streets at which the bus stations are located¹. The program placed bus shelter advertisements at 50 locations throughout Orange County, each of which achieved approximately 21,520 impressions per day (varying by location) for a combined total of 2,642 days during April and May 2012.

In an effort to reduce the excessive or unnecessary use of pesticides by the general public, the spring "Overkill" bus shelter campaign sought to bring attention to the impact of pesticide overuse on local waters. As temperatures increase heading into summer, pest pressures increase and the public responds with increased pesticide use, mainly to control nuisance insects such as ants, cockroaches, crickets and spiders. Excessive or inappropriate pesticide applications coupled with irrigation runoff potentially leads to pesticide toxicity issues in local creeks and streams. The campaign's main goal was to remind pesticide users to follow the label and refrain from "overkill."

The total number of impressions garnered from the bus shelters was **58,818,683** during the 2011-2012 reporting period. Please see **Table C-6.3** for a listing of bus shelter locations (by

¹ Daily Effective Circulation (DEC) formulas used to calculate bus shelter advertisement impressions were determined by Clear Channel Outdoor, the operators of the bus shelter advertising program.

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jurisdiction) and impression breakdown.

BUS ADVERTISING

Through the OC HCA Used Oil Program, consistent and regular promotion of motor oil recycling on Orange County Transportation Authority (OCTA) busses was utilized in September 2011 and in March 2012 for two separate four-week runs. The used oil recycling ads ran on the side, back and the front of 171 OCTA busses throughout the county, generating **21,417,139 impressions**² over the combined eight week run (see **Table C-6.4**). Proper disposal of motor oil is an important and successful part of the Program. For more information on collection of used motor oil and oil filters through OC HCA, please see **Section C-5.2.3** and **Table C-5.11** of this report.

BILLBOARD ADVERTISING

Billboards in support of the OC HCA Used Oil Program were also posted at several locations in the Santa Ana (SAR) Region by OC HCA in both English and Spanish. Billboards were located in high visibility areas off of the SR-22 freeway and SR-55 freeways and ran for approximately one month at a time during the months of September 2011 and February through May 2012. The billboards garnered 705,000 impressions per week totaling **16,920,000** over the 2011-2012 reporting year (see **Table C-6.5**).

INTERNET ADVERTISING

Though no internet advertising was conducted during the reporting year, it is noted that internet usage is increasing in Orange County. The 2009 and subsequent 2012 Survey results indicated that the number of Orange County residents who receive their information about stormwater-related issues via the internet continued to climb significantly. Internet usage to learn information about water pollution prevention has nearly tripled since 2003. Based on 2012 Survey data, the *Project Pollution Prevention* will incorporate various forms of internet advertising that drive residents to the Program website to supplement current efforts that have been successful in increasing traffic to the website and are of apparent interest to residents. Tracking click-throughs and other forms of internet metrics will provide valuable information for advertising conducted during the 2012-13 reporting period.

EARNED MEDIA

Earned Media is generally defined as any unpaid publicity either through mainstream outlets like television, radio or print or social media outlets like blogs, Facebook, Twitter, YouTube or podcasts. In this case, Earned Media includes any unpaid news stories regarding water pollution prevention issues that appear as content in the various forms of media.

² Impressions for bus advertising were determined by overall county-wide traffic studies on OCTA bus routes provided by Titan Advertising.

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Impressions from earned media are usually far more effective than paid media. A 2012 Study by the Nielsen rating agency³ determined that ninety-two percent (92%) of consumers worldwide say that they trust earned media above all other forms of advertising. Trust in paid advertising has declined by approximately twenty-five percent (25%) since 1990. People buy newspapers, watch TV programs or listen to radio shows for the content, not for the advertising. If information about water pollution prevention is within the content of the media programming, it is far more likely to be considered by the audience than a paid advertisement. Additionally, information embedded in content has the added advantage of being perceived as “independent” and having “third-party endorsement” that a paid advertisement by its very definition cannot have. Earned media impressions are calculated using similar methodology to impressions calculated through advertising; however earned media impressions are high in quality because they are content driven.

The 2011-12 media plan included earned media impressions for the first time and will expand in 2012-13 to include earned media opportunities through news releases, op-ed articles and other content based media stories rather than relying solely on advertising. Beginning in the 2012-2013 reporting year, the Program will also “pitch” relevant stories to journalists and develop a pro-active plan to place opinion articles from key stakeholders in publications of record for Orange County. The program will also closely review regional and local news media in order to track articles or stories that address water pollution prevention issues.

While the impressions garnered from earned media for this reporting year are described below, they are not included in the total number of impressions garnered by the Program in this report. The Program will include these metrics in future annual reporting as other programs throughout the region have done.

Region	Impressions
Santa Ana	3,204,456
San Diego	11,785,164
TOTAL	14,989,620

2012-13 Program Focus:

- Utilize “higher quality” earned media impressions to meet impression benchmarks and record public exposure to messaging in support of Program goals.

³ 2012 Nielsen article, “Global Consumers’ Trust in ‘Earned’ Advertising Grows in Importance” based on 2012 Nielsen study of consumer “trust” in earned and paid media sources (<http://www.nielsen.com/us/en/insights/press-room/2012/nielsen-global-consumers-trust-in-earned-advertising-grows.html>).

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C-6.3.1.3 Summary of *Project Pollution Prevention* Media Plan Impressions

In order to be effective, a media outreach campaign must reach a majority of the selected target groups with sufficient frequency to measurably increase their knowledge and measurably change their behavior. **Table C-6.6** shows that the countywide advertising campaign created **99,397,087 impressions** during the 2011-12 reporting period.

Headline Indicator – Number of Impressions: The Project Pollution Prevention media plan created nearly 100 million impressions during the 2011-12 reporting period. This greatly exceeds the Fourth Term Permit requirement to deliver a minimum of 10 million impressions within the Santa Ana Regional Board Area through various forms of media.

C-6.3.1.4 Countywide Public and Business Education Non-Media Plan

A cost effective and strategic non-media outreach plan was developed and implemented in order to both support the Program’s public and business education efforts and to compliment paid media outreach (see **DAMP Exhibit 6.III**). As defined here, “non-media outreach” refers to activities that are other forms of information sharing, such as participation in events, speakers’ bureau presentations, workshops and outreach to businesses. Combined with paid advertising, the free or low cost outreach efforts reached selected target audiences with sufficient frequency to increase their awareness and motivate them to change their polluting behaviors. The key non-media outreach opportunities identified for implementation included:

OUTREACH TO PERMITTEES

Distribution of “Quads”

Project Pollution Prevention continued to implement “The Quad” as a tool to communicate with cities, businesses, utilities and organizations. Each Quad contains a newsletter, press release, fact sheet and billing insert focusing on a season-appropriate stormwater theme. The following Quad was provided to Permittees for use in newsletters, on websites, in email blasts to residents, at events and for distributing through payroll checks or utility bills during the 2011-12 reporting period:

Title	Stormwater Issue(s) Addressed	Targeted Pollutant of Concern
<i>Keeping the LID on water pollution: How to use Low Impact Development to protect our waterways.</i>	This quad featured information about Low Impact Development and how its implementation will protect water quality in Orange County as well as new requirements for land development to examine the use of LID in project design.	General pollution prevention achieved through on-site water retention.

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OUTREACH EVENTS

The following is a list of outreach events the Program participated in during the 2011-12 reporting period supplemental to individual Permittee event participation:

- September 17, 2011: Cleanup Day 2011
- October 1, 2011: Laguna Beach County Water District Smart Scape Event
- October 1, 2011: UCCE Open House Event
- March 14, 2012: California Landscape Contractor Association – DCM Color Event
- March 28-29, 2012: Children’s Water Education Festival
- April 19, 2012: City of San Juan Capistrano Earth Day Event
- April 27, 2012: City of Mission Viejo Environmental Fair
- June 30, 2012: OC Animal Care Event

Through these *Project Pollution Prevention* events approximately **1,957 event participants** visited the Program booth and received stormwater pollution prevention information. Impressions from in-person events, though much lower in quantity than advertising impressions, are of higher quality; booth visitors are able to ask questions, speak to Program representatives and take educational material home to show others.

BUSINESS AND COMMUNITY OUTREACH

Speakers’ Bureau Presentations

A speakers’ bureau was developed for *Project Pollution Prevention*. On behalf of the Permittees, the Principal Permittee distributed requests for presentations to local groups and/or presented on behalf of the Permittees. *Project Pollution Prevention* materials such as Quad newsletters, brochures and other information were provided to attendees and for posting on organization websites, when interested. Speakers’ bureau presentations garnered **325 impressions** during the reporting period for *Project Pollution Prevention*. Impressions garnered from presentations provided by city staff are included in their respective jurisdictional PEAs.

AUTOMOTIVE REPAIR INDUSTRY OUTREACH

In July 2011, the Orange County Stormwater program distributed hundreds of posters, stickers and brochures focused on automotive repair BMPs to **126 automotive repair businesses**. Managers of each automotive repair store were contacted and provided an overview of the Program; follow-up included mailings and in-store visits to hand deliver materials and talk about the importance of spill prevention and other automotive maintenance BMPs. Many of the repair shops and retail stores expressed appreciation for *Project Pollution Prevention* outreach efforts and support for keeping water ways clean. Several noted that they would share the information with their staff. With an average staff conservatively estimated at 10, automotive outreach earned approximately **1,260 impressions**.

The list of jurisdictions in which automotive repair shops and auto parts retail stores to which BMP information was provided is listed in **Table C-6.7**.

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WORKSHOPS

Project Pollution Prevention outreach to the business community and general public also included workshops during the reporting period. Coordination between *Project Pollution Prevention* and industry professionals garnered direct access to business owners and operators in Orange County. Through a partnership with UCCE Cooperative Extension, *Project Pollution Prevention* was able to directly outreach to plant nursery owners and operators about pesticide use and to members of the landscape industry. Six workshops were held during the reporting period; however, though several manufacturing industry associations and groups were contacted, not one wanted a workshop on stormwater pollution prevention. For the 2012-13 reporting period, the NPDES Public Education Sub-committee and Principal Permittee will examine how best to outreach to this business sector.

- 2012-13 Program Focus:**
- Develop a relationship with local manufacturing facilities and encourage the holding of a workshop for other local businesses through the NPDES Public Education Sub-committee.

Permittees were encouraged to promote and participate in region-wide workshops on the following topics for public and business sectors:

Sector Reached	Workshop	Date
Manufacturing Facilities	N/A*	N/A
Mobile Service Industry	Where Water Quality Meets the Pavement: A Workshop for Mobile Detailers	June 27, 2012
Commercial, Distribution and Retail Sales Industry	California Nursery Conference 2011 in Southern California (including nurseries from Orange County as part of Orange County IPM outreach) - Held by University of California Cooperative Extension	October 6, 2011
Residential/Commercial Landscape Construction and Services Industry	University of California-Cooperative Extension Landscape Open House - Held with Project Pollution Prevention and for Landscapers, Residents and Landscape Product Manufacturers	October 1, 2011
Residential and Commercial Construction Industry	Stormwater Management & Rainwater Harvesting Technical Seminar - Held Cooperatively with Contech	February 9, 2012
	New Orange County Stormwater Management Requirements for Land Development Projects and LID Best Practices Technology Forum - Held	September 14, 2011

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Sector Reached	Workshop	Date
	Cooperatively with OC BIA	
Residential and Community Activities	University of California-Cooperative Extension Landscape Open House - Held with Project Pollution Prevention and for Landscapers, Residents and Landscape Product Manufacturers	October 1, 2011

*Several groups contacted; two responded and were not interested in a workshop.

UTILITY OUTREACH

One Orange County waste hauler (Waste Management) continued to display the *Project Pollution Prevention Sad Fish* vehicle magnet on their waste hauling trucks.

Waste Management had approximately 10 trucks and support vehicles with the magnets trucks with routes throughout the County. It is estimated this effort created **375,000** impressions during the 2011-2012 reporting period. Non-media impressions are reported in **Table C-6.8**.

C-6.3.1.5 Summary of *Project Pollution Prevention* Non-Media Plan Impressions

Table C-6.8 shows that non-media outreach created **378,542 impressions** in the 2011-12 reporting period.

C-6.3.1.6 Countywide Public and Business Education School Outreach Plan

Educating school children about stormwater and urban runoff pollution is critical to the long-term success of the Orange County Stormwater Program. Information provided to students in school is often brought into the home and shared with parents and other relatives. Children are excellent watchdogs when it comes to their parents’ activities, and they are likely to try to correct a parent’s polluting behavior.

The *Project Pollution Prevention* school program initiated in the 2003-2004 reporting year has been maintained, revised and/or supplemented during successive reporting years. School programs highlighted during the 2011-12 reporting year are detailed below and in **Table C-6.9**.

DISCOVERY SCIENCE CENTER / MUNICIPAL WATER DISTRICT OF ORANGE COUNTY (MWDOC)

In 2011-2012, The Orange County Stormwater Program provided **11,000 fifth grade students** a workbook produced in coordination between *Project Pollution Prevention* and the Discovery Science Center in 2009. The workbook meets California Science Content Standards and focuses on water pollution prevention. The workbooks were provided to students in support of the Municipal Water District of Orange County’s (MWDOC) program at Discovery Science Center to both outreach to students and bolster the existing relationship with MWDOC.

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In addition to the workbooks, the Orange County Stormwater Program has an interactive water pollution prevention game on its website in the “Kid’s Corner” section. The website is promoted to the school children and teachers on the workbook provided at the Discovery Science Center.

PACIFIC MARINE MAMMAL CENTER

The Pacific Marine Mammal Center initiated the Pinniped Pollution Project program in 2009⁴, focused on watershed education and pollution prevention. The curriculum includes pollutant transport and the effects of trash and other pollutants on the marine environment and its inhabitants. The program was initially developed in partnership with the *Project Pollution Prevention*, including curriculum content and the provision of maps and other materials.

The Pacific Marine Mammal Center is located in Laguna Beach, but serves students from throughout the County. During the 2011-2012 reporting year, the Pinniped Pollution Project program was presented to **490** Orange County students.

PROJECT WATER EDUCATION FOR TEACHERS (WET)

Project WET is an international, interdisciplinary water science and education program for formal and non-formal educators of K-12 students. The goal of the Project WET program is to facilitate and promote awareness, appreciation, knowledge and stewardship of water resources through the development and dissemination of classroom-ready teaching aids and the establishment of state-sponsored Project WET programs.

The Project WET Curriculum and Activity Guide is a collection of innovative, interdisciplinary activities that are hands-on, easy to use and fun. Project WET includes many activities on pollution prevention including “A Drop in the Bucket,” “The Incredible Journey,” “The Thunderstorm,” “Water Match,” “Water Actions” and “Get the Groundwater Picture.” Based on the goals and objectives of the Orange County Stormwater Program, Project WET has developed curriculum specific to stormwater pollution.

A Project WET session was held March 21, 2012 at the Irvine Ranch Water District, Outdoor Science School Classrooms. A total of **35 teachers** attended the Project WET session, subsequently reaching approximately **1,050** students.

Table C-6.9 shows the School Plan created **12,540 impressions** for the 2011-12 reporting year.

THE IMPORTANCE OF SCHOOL CHILDREN FOR POLLUTION PREVENTION

According to the 2012 survey, students are taking an active and impactful role in teaching their parents about water pollution prevention. While there are fewer Orange County families with

⁴ Impressions garnered through the PMMC Pinniped Pollution Project were not included in the 2009-10 and 2010-11 reporting years. The 2011-12 report has corrected this oversight.

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children under 18 living at home (29% in 2012 compared to 35% in 2005), there is an increase of information about water pollution issues coming from students to their parents (46% in 2012 compared to 26% in 2005). Additionally, parents of students who provided them water pollution prevention information are more likely to engage in “stormwater safe” behaviors such as using a broom and dustpan rather than a hose to clean off their driveways. This may indicate that messaging disseminated through school programming since 2002 has been effective; further, results stress the need for continued and varied school outreach efforts in the future. In the 2012-2013 reporting year, the Program will develop a detailed school outreach plan, drawing from the 2012 Survey and subsequent behavioral analysis.

C-6.3.2 Public Education Sub-Committee

Project Pollution Prevention was developed and is annually revised per permit requirements and assessment results under the aegis of the Public Education Sub-Committee (Sub-committee). The Sub-Committee is comprised of Permittees and educational groups in Orange County and provides direction and oversight on plan development and implementation. The goal of the Sub-Committee is to provide regional consistency and oversight for the stormwater public education efforts. The Sub-Committee met monthly during the 2011-12 reporting period.

Please reference **Section C-2.3.1 – Management Framework** for a detailed discussion of the Committee structure.

C-6.3.3 Other Principal Permittee Outreach Efforts

The Principal Permittee conducted a number of countywide public education efforts on behalf of the Permittees in addition to those listed in previous sections. These efforts included:

- Provision of brochures, magnets, workbooks, pamphlets, factsheets, manuals, and posters to the Permittees, general public, businesses, schools and other agencies. **Table C-6.1** provides a complete list of educational materials available to Permittees and other organizations through *Project Pollution Prevention*. Brochures and other materials are available on the County website at www.ocwatersheds.com/publiced.
- American Public Works Association (APWA) recognized the Orange County Stormwater Program *Project Pollution Prevention* public education website as a “model practice” as part of the Accreditation of OC Engineering (of which OC Watersheds is a division) received on May 14, 2012.
- Management of the countywide 24-hour bilingual water pollution reporting hotline number, 1-877-89SPILL, which handles water pollution complaints as well as inquiries about stormwater and public education materials. During the reporting period the hotline received 84 water pollution calls. Water pollution complaints are also received through the County web site and new OC Public Works iPhone app (See **Section C-10.2** of this report).

Summary of Public Education Program Impressions

Permittee impressions individually total **98,559,504** during the 2011-2012 reporting period (see **Table C-6.10**). **Table C-6.11** shows that all impressions created by the public education program total **195,897,598** during the 2011-2012 reporting period.

Headline Measure - Public Education Program Impressions

Headline Indicator – Number of Impressions: *The public education program created nearly 196 million impressions during the 2011-12 reporting period. One of the goals of the public education program is to target 100% of the residents of Orange County. Orange County has a population of approximately 3 million people. It is estimated that in order to be successful the campaign should make approximately 12 million impressions or approximately 4 per person in the County. The total impressions earned greatly exceed the program goal.*

C-6.4 Assessment

The principal means of both evaluating the effectiveness of *Project Pollution Prevention* and informing the ongoing development of the campaign is the use of scientific telephone public opinion surveys. Other measures of program effectiveness are considered in **Section 6.4.2** and **Table C-6.12**.

C-6.4.1 Public Awareness Surveys

It was determined during the 2002-03 reporting period that the development of a specific methodology for future Orange County public awareness surveys was paramount to ensuring the scientific defensibility of results in identifying changes in public knowledge and behavior. The resultant study, designed by a leading expert in the field with oversight from the Principal Permittee and Public Education Sub-Committee was conducted in May 2003 (2003 Survey). This initial survey established the baseline knowledge level and willingness of residents to participate in pollution preventative behaviors.

Mid-way through the Third Term permit cycle, *Project Pollution Prevention* conducted a subsequent (and almost identical) survey in November of 2005 (2005 Survey). The 2005 Survey served as an assessment of improvements in public knowledge of stormwater issues and whether or not Orange County residents made any behavioral changes as a result of the *Project Pollution Prevention* campaign. Results from the 2005 Survey showed an increase in awareness of the *Project Pollution Prevention* campaign and stormwater issues for the majority of questions asked, indicating that the public information campaign on stormwater and urban runoff had increased awareness.

To assess the progress of *Project Pollution Prevention* at the start of the Fourth Term Permits and assist with future program planning, a third survey was conducted in late 2009 (2009 Survey). Responses to the 2009 Survey indicated incremental and statistically significant changes in behavior and increases in awareness since the 2005 Survey.

In May 2012, the Program conducted a fourth public opinion survey (2012 Survey) utilizing some questions from across the previous three surveys to show patterns in knowledge and behavior over time, and introduced new questions to target specific behaviors, potential motivators or barriers to those behaviors and involvement of residents within their community. Specifically, questions were added to identify: a) participation in behaviors such as pesticide and fertilizer use, landscaping/gardening, overwatering and automotive maintenance/washing; b) involvement in community groups such as hobby, professional, faith, environmental or school-based organizations; and c) motivators or barriers to participating in “stormwater safe” activities (e.g. washing a car at home versus at a commercial car wash).

Behavior Change

Regarding the progress of the program, all four surveys tracked willingness of residents to participate in seven “stormwater safe” activities as an indicator of temporal behavior change. These activities included using a broom and a trash bag instead of a hose to clean one’s driveway, picking up after one’s pet and adjusting one’s sprinklers to avoid overwatering. The number of respondents who have participated in one or none of these “stormwater safe” activities decreased between 2012 and 2009. The number of respondents who have participated in four or six of the seven “stormwater safe” activities increased between 2009 and 2012 and the number of respondents practicing the most of these behaviors (5 to 7) has been highest for 2009 and 2012. Though behavior change is slow and fluctuates, it is steady over the long term and changes seen over the course of four surveys have been small, but significant.

Regarding identification of target groups based on activities queried in the 2012 Survey, specific demographic information was noted as potentially significant for some activities. For example, Latino men are more likely than other groups to conduct home automotive maintenance (note: sample size less than 50 respondents); further, some indicated that they would dispose of motor oil in the street. Other responses identified barriers and motivators to participation in “stormwater safe” activities. Respondents under 30, for instance, were the least willing to take their car to a commercial carwash, citing financial cost as the driver for their unwillingness. Identifying target groups for outreach, such as Latino men (automotive outreach, OC HCA Used Oil) and residents under 30 (carwashing) provided *Project Pollution Prevention* helpful information on which groups to target to have the greatest impact on pollution-generating behaviors.

The 2012 Survey also sought to identify other community behavioral drivers on a long-term scale. For example, 88% of respondents were “very” or “somewhat” concerned with preserving the environment for their children or grandchildren, stressing the importance of leaving an environmental legacy for the next generation. Additionally, as noted in **Section C-6.3.1.6**, students are teaching their parents about water pollution prevention. The 2009 survey indicated that twenty-six percent (26%) of adults with school-aged children at home received information about water pollution prevention. By 2012, that number almost doubled (46%). In addition, parents of students who provided them with water pollution prevention information were more likely than those without kids to engage in the seven “stormwater safe” behaviors (**Figure C-6.1**). Leaving an environmental legacy and

outreaching to adults by way of their children will be considered in program development for 2012-13.

Other target behaviors, such as controlling excess runoff from sprinklers, is of particular interest to Permittees due to both the requirement in the San Diego Region (SDR) to eliminate runoff from landscape irrigation and the potential for runoff to transport pollutants throughout Orange County. A majority of residents (67%) use sprinklers; however, few noticed wet pavement or pooling after irrigation, indicating a majority do not notice overwatering. Almost half of respondents noted that higher water rates or fines would motivate them to adjust their sprinklers, suggesting that barriers to action might include a lack of knowledge concerning irrigation controllers and a lack of financial incentive to change watering habits. Based on these results, the Sub-committee decided to focus on this behavior in particular during the 2012-13 reporting year and work with local water agencies to address barriers and encourage motivators to reduce overwatering.

Effectiveness of Media Campaign

Survey results also guide purchase of advertising based on shifts in effectiveness of various advertising types. Results from the 2012 Survey indicated the following:

- Print Media
 - Large circulation newspaper advertising once again dropped precipitously. There was nearly a forty percent (40%) drop in reliance on the dominant print media (Orange County Register).
 - The local community newspapers however stayed statistically even in terms of educational impact from 2009.
- Internet Media
 - Similarly to the 2009 Survey, there was a significant rise in the number of respondents who said they use or would use the internet to learn more about water pollution prevention. Internet usage has increased consistently since 2003, surpassing the Orange County Register as a source for information about water pollution prevention.
- Earned Media
 - Studies including the 2012 Nielsen study (see **Section C-6.3.1.2**) indicate that earned media may be a more efficient use of resources to achieve impactful impressions. While advertising is an effective tool for reinforcing messages, earned media may be a better indicator of *what* stormwater information residents receive and retain through forms of media measured as part of the 2012 Survey and provide insight into knowledge of residents.

MWDOC Survey Analysis

It is notable that the Municipal Water District of Orange County conducted a public awareness survey in October 2011 targeting consumer willingness to adjust behaviors to use water more efficiently inside and outside the home. Analysis of the 2012 Survey and

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MWDOC survey in tandem will provide insight into the most efficient ways to cross-pollinate messaging between water purveyors and *Project Pollution Prevention* in the 2012-13 reporting year.

The MWDOC survey results indicated that about twenty percent (20%) of respondents said they were using less water now than they did the prior year. Of those people who were using less water, approximately thirty-three percent (33%) said it was to help the environment. Twenty percent (20%) said it was in response to requests from water agencies to conserve and seventeen percent (17%) mentioned financial considerations. The top motivator for a decrease in water use would be if water rationing were imminent. Eighty-six percent (86%) of the respondents said they would change their water use habits in the face of water rationing. The term “water efficiency” was better received than the term “water conservation.” Notably it did not appear to make a difference with women, but men favor the term “water efficiency” by about a two to one margin.

The Orange County Stormwater Program will consider and incorporate these results in the further development of its outreach program going forward. For example, materials should emphasize the term “efficiency” rather than “conservation.” *Project Pollution Prevention* plans to partner with MWDOC and other water agencies to reinforce the message of water use efficiency, which both decreases demand for potable water and the amount of water runoff that can carry pollutants into the storm drain system.

Summary

The surveys show that *Project Pollution Prevention* has achieved meaningful increases in both public knowledge of stormwater pollution issues and the willingness of residents to participate in “stormwater safe” activities protective of water quality since 2003. The 2012 survey identified several areas where a programmatic shift would be beneficial. Water pollution prevention in and of itself is not a high priority in the minds of most residents. Over the past decade, a consistent eight (8%) to nine (9%) percent of all residents list it as “the most important issue” facing our elected officials. The survey does show, however, that maintaining an environmental legacy for future generations is incredibly important.

The 2012 survey also delved more deeply into the *why* of “stormwater safe” behavior participation than the three previous surveys, providing insight into motivators and barriers to behavior change. For example, many individuals take part in “stormwater safe” behavior because they feel obligated to do so. Seventy-one percent (71%) of pet owners understand that it is “their responsibility as a pet owner” to pick up after their dog when on a walk.

2012-13 Program Focus:

- Utilize 2012 Survey results to focus outreach efforts on specific behaviors to eliminate identified barriers and document small-scale behavior change to complement public opinion surveys.
- Maximize opportunities to “cross-pollinate” water use efficiency and runoff reduction messaging.

- Include community-focused outreach based on shared traits, barriers, motivators and behaviors.
- Maximize earned media opportunities to reach more general audience to continue encouraging enhanced knowledge and behavior change.

C-6.4.2 Other Metrics

Concurrent with the surveys and in the periods between the surveys, additional indices are used to evaluate the effectiveness of *Project Pollution Prevention*. These metrics include trends in website traffic, household hazardous waste collection and level of public participation in water pollution themed events, notably Coastal and Inner Coastal Clean-Up Day. For more trends in volunteer participation in Coastal and Inner-Coastal Cleanup Day please see **Figure C-5.12** in **Section C-5.0** of this report.

Website traffic, specifically “page views” on www.ocwatersheds.com, was collected via Google metrics; unlike previous reporting periods, impressions garnered from the public education pages of the website during the 2011-12 reporting year are reported separately from the full www.ocwatersheds.com website. The public education pages received **12,400 page views** during the reporting period (see **Table C-6.11**).

Print media during 2011-12 directed people to the website (www.ocwatersheds.com) for more information about Cleanup Day 2011 site listings and the importance of cleaning trash from our waterways. Attendees to these events were further encouraged to visit our website for more information about stormwater pollution prevention. The number of website “page views” for the public education portion of the website increased from 186 page views (August 29, 2011 – September 4, 2011) to 326 (September 12, 2011 – September 18, 2011) to 588 page views after the event (September 19, 2011 – September 25, 2011).

One of the commitments for 2011-12 was to analyze and evaluate the effectiveness of “click-through” online advertising. Based on the increase in page views to the website for Cleanup Day 2011, it appears that the website is a good forum for residents to find supplemental information. This commitment will be carried over to the 2012-13 reporting year to capitalize on community events taking place during fall 2012 and reported in the 2012-13 Unified Annual Report.

2012-13 Program Focus:

- Evaluate the effectiveness of “click-through” online advertising.

C-6.4.3 Program Modifications

While the 2005 and 2009 Surveys indicated incremental positive changes in behavior and awareness, the Principal Permittee and the Sub-Committee determined a programmatic shift could enhance further positive changes in behavior and awareness. By focusing on specific behaviors in small, community-based target groups, *Project Pollution Prevention* will

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utilize Community-Based Social Marketing (CBSM)⁵ techniques to document behavior change on a smaller, more frequent scale.

Community Based Social Marketing involves four basic steps:

1. Identifying barriers and motivators to an activity;
2. Developing a strategy that utilizes tools to leverage those barriers and motivators in order to affect behavior change;
3. Pilot the strategy; and
4. Evaluate the strategy and refine it for future implementation.

Research shows that CBSM works at the community level when the individual or organization interested in affecting behavior change is directly in contact with those people whose behavior requires change. The strategic planning process to incorporate CBSM will be detailed in the 2012-13 Unified Annual Report.

2012-13 Program Focus:

- Develop a community-based social marketing (CBSM) initiative to broaden *Project Pollution Prevention* messaging to promote onsite water retention and water use reduction.

C-6.5 Summary

Project Pollution Prevention successfully achieved and exceeded the goal of 12 million impressions (4 times the Orange County population) and met compliance with the Santa Ana Region requirement to achieve a minimum of 10 million impressions through media. Results from the 2012 Survey also indicate that overall knowledge of stormwater issues and willingness to participate in stormwater pollution preventative behaviors has increased in some key areas. *Project Pollution Prevention* will continue to implement the countywide effort and annually seek to robustly validate its success.

⁵ McKenzie-Mohr, Doug & Smith, William (1999). *Fostering sustainable behavior: An introduction to community-based social marketing*. Gabriola Island, B.C.: New Society. (www.CBSM.com)

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Table C-6.1: Countywide Educational Materials

Public Education Item	Pollutant(s) Addressed	Activities Addressed
Brochures		
"The Ocean Begins At Your Front Door" - English, Spanish, Vietnamese	Household hazardous waste, trash, motor oil, chlorine, overwatering, green waste, dirt, pesticides/fertilizer, pet waste	Household maintenance and activities (i.e. hosing driveway), automotive maintenance and washing, pool maintenance, landscape and gardening, trash disposal, pet care
Homeowners Guide for Sustainable Water Use Pamphlet	Household hazardous waste, trash, motor oil, chlorine, overwatering, green waste, dirt, pesticides/fertilizer, pet waste	Preventing urban runoff through low impact development in residential properties, water conservation, use of IPM techniques and California-friendly landscaping, general water pollution prevention methods
"Help Prevent Ocean Pollution: Your Local Used Oil Collection Center" (North, South & Central) - English, Spanish, Vietnamese	Motor Oil	Automotive Maintenance, Disposal of Used Motor Oil
"Help Prevent Ocean Pollution: Tips for Pool Maintenance" - English, Spanish	Chlorine, runoff	Pool Drainage/Maintenance
"Help Prevent Ocean Pollution: Tips for Landscape and Gardening" - English, Spanish	Fertilizer, pesticide, dirt, overwatering, green waste	Landscape maintenance, pesticide/fertilizer application, proper disposal of household hazardous waste and green waste
"Help Prevent Ocean Pollution: Tips for Pet Care" - English, Spanish	Surfactants, chemicals, pet waste	Proper disposal of pet waste, proper pet bathing techniques
"Help Prevent Ocean Pollution: Household Tips" - English, Spanish	Household hazardous waste, pet waste, pesticides/fertilizers, overwatering, green waste, surfactants, motor oil, trash	Household maintenance and activities (i.e. hosing driveway), automotive maintenance and washing, pool maintenance, landscape and gardening, trash disposal, pet care
"Help Prevent Ocean Pollution: Tips for Horse Care" - English, Spanish	Bacteria, sediment	Large animal care and maintenance
"Help Prevent Ocean Pollution: Proper Disposal of Household Hazardous Materials" - English, Spanish, Vietnamese	Household hazardous wastes	Proper identification and disposal of household hazardous wastes
"Help Prevent Ocean Pollution: Maintenance Practices for Your Business" - English, Spanish	Fertilizer, pesticides, green waste, overwatering, trash, toxic substances	Landscape maintenance, proper application of pesticides and fertilizers, trash management, proper storage of materials

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Public Education Item	Pollutant(s) Addressed	Activities Addressed
"Help Prevent Ocean Pollution: Tips for Using Concrete and Mortar" - English, Spanish	Concrete and mortar, slurry	Proper preparation, use, clean up and disposal of concrete and mortar
"Sewage Spill Reference Guide"	Sewage spills from overflows, grease buildup, structure problems and/or infiltration and inflow	Proper prevention of and identification and response to sewage spills
"Responsible Pest Control"	Pesticides	Proper identification of pests, selection of least toxic chemical, proper pesticide application, spill prevention and proper storage and disposal of pesticides (use of Integrated Pest Management (IPM) techniques)
"Help Prevent Ocean Pollution: Residential Pool, Landscape and Hardscape Drains" - English, Spanish	Chlorine, chemicals, pet waste, green waste, overwatering, motor oil and vehicle fluids	Pool maintenance, spill prevention, proper disposal of household hazardous waste, proper disposal of pet waste, proper use of pesticides and fertilizers, proper vehicle maintenance
"Help Prevent Ocean Pollution: Proper Use and Disposal of Paint" - English, Spanish	Paint, chemicals	Proper use, storage and disposal of paint
"Help Prevent Ocean Pollution: Tips for Home Improvement Projects" - English, Spanish	Construction debris, concrete, paint, household hazardous waste, sediment	Proper storage of construction materials, recycling of construction materials, proper disposal of household hazardous waste, proper erosion and spill control
"Help Prevent Ocean Pollution: Children's Coloring & Activity Book"	Trash, pet waste, motor oil, green waste	Litter control, proper disposal of pet waste, proper spill clean up (e.g. use of cat litter)
"Help Prevent Ocean Pollution: Tips for Carwash Fundraisers"	Surfactants, metals, motor oil, toxic substances	Proper BMPs for carwashing activities (i.e. containment and encouragement of infiltration)
"Help Prevent Ocean Pollution: Tips for Maintaining a Septic Tank System"	Grease, trash, pesticides	Proper maintenance of septic tanks
"Help Prevent Ocean Pollution: Tips for the Automotive Industry" - English, Spanish	Motor oil, metals, surfactants, toxic substances, dirt	Proper maintenance and washing practices for automobiles, proper storage and disposal of automotive liquids and materials
"Help Prevent Ocean Pollution: Tips for the Automotive Industry"	Motor oil, metals, surfactants, toxic substances	Proper maintenance and washing practices for automobiles and automotive

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Public Education Item	Pollutant(s) Addressed	Activities Addressed
		detailing materials, proper storage and disposal of automotive liquids and materials
"Help Prevent Ocean Pollution: Tips for the Home Mechanic"	Motor oil, metals, surfactants, toxic substances	Proper maintenance and washing practices for automobiles and automotive detailing materials, proper storage and disposal of automotive liquids and materials, use of used oil collection centers
"Compliance Best Management Practices for Mobile Businesses"	Surfactants, toxic substances, dirt, metals	Mobile car washing and detailing, proper high pressure cleaning, proper storage and disposal of washwater from mobile automotive detailing, washing and carpet and fabric cleaning
"Educational Program Opportunities for Teachers and Students"	General	Programming available to Orange County teachers
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" - English, Spanish, Vietnamese	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal
"Help Prevent Ocean Pollution: A Guide to Prevent Overwatering" - English	General	Proper landscape irrigation techniques to prevent overwatering, potential for pollutant transport in runoff from properties; encourage the use of California-friendly plant palates to reduce water demand
Posters		
"Help Prevent Ocean Pollution: A Guide for Food Service Facilities" BMP Poster - English, Spanish	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal
Auto Repair BMP Poster - English, Spanish	Motor oil, metals, surfactants, toxic substances	Proper maintenance practices for automobiles and automotive detailing

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Public Education Item	Pollutant(s) Addressed	Activities Addressed
		materials, proper storage and disposal of automotive liquids and materials
Gas Stations BMP Poster – English, Spanish	Motor oil, metals, gasoline, surfactants, toxic substances	Proper maintenance of gas stations and BMPs for washing of gas station areas, proper disposal of toxic substances
Other Materials		
“Help Prevent Ocean Pollution: A Guide for Food Service Facilities” CD-Rom	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup, proper maintenance of trash dumpsters, proper floor mat cleaning, proper wastewater disposal
“Help Prevent Ocean Pollution: A Guide for Food Service Facilities” Floor mat sticker	Grease, food waste, trash	Proper floor mat cleaning
“Help Prevent Ocean Pollution: A Guide for Food Service Facilities” Dumpster sticker	Grease, food waste, trash	Proper maintenance of trash dumpsters
“Help Prevent Ocean Pollution: A Guide for Food Service Facilities” Outdoor maintenance sticker	Grease, food waste, trash	Proper maintenance of trash dumpster, proper wastewater disposal
“Help Prevent Ocean Pollution: A Guide for Food Service Facilities” Oil & grease disposal sticker	Grease, food waste, trash	Proper food waste disposal, proper grease and oil disposal, proper procedures for spill cleanup

Note: Other materials not included in this table are available and distributed through Project Pollution Prevention. These materials are general outreach in nature and advertise the County website www.ocwatersheds.com. Most materials also include the 24-hr hotline reporting number as well.

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Table C-6.2: Print Advertising Impressions

News Outlet	Run Date(s)	Impressions
Aliso Viejo News	September 12 - September 17, 2011	65,173
Anaheim Bulletin		37,478
Anaheim Hills News		84,815
Canyon Life		32,298
Capistrano Valley News		27,040
Dana Point News		20,995
Fountain Valley View		32,303
Fullerton News Tribune		54,993
Irvine World News		135,000
Ladera Post		12,900
Laguna News Post		17,580
Laguna Woods World		23,988
Orange City News		67,938
Placentia News		26,990
Saddleback Valley News (Lake Forest)		59,758
Saddleback Valley News (Mission Viejo)		74,598
San Clemente Sun Post News		22,990
Brea-La Habra Star-Progress		32,298
The Current		108,170
Huntington Beach Wave		112,735
Tustin News		63,083
Yorba Linda Star		40,040
Miniondas		190,594
OC Weekly		172,713
Excelsior		143,980
News Enterprise		75,000
Sun Newspaper		34,295
Event News		58,750
The Independent		56,250
Orange County News		37,500
Westminster Journal		47,904
Huntington Beach Independent		53,618
Newport Beach Daily Pilot		85,738
Costa Mesa Daily Pilot	119,760	
OCPA Event Program	October 25, 2011	6,000
TOTAL		2,235,265*
<p>*Impressions are based on factors such as attendance numbers, readership, and newsstand numbers provided by the suppliers of advertising based on scientific market research. The newspaper industry standard for determining readership is generally 2.5 to 3.5 times circulation; based on the theory that more than one person reads an individual issue. When specific readership numbers are not provided, a conservative estimate of 2.5 times circulation has been used. Impressions for the OCPA event program did not include a multiplier as all family members were likely in attendance and would receive their own.</p>		

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Table C-6.3: Bus Shelter Advertising Impressions

Jurisdiction Location	Combined Number of Days	Total Impressions
Anaheim	449	9,029,757
Brea	82	1,601,583
Buena Park	131	2,887,125
Costa Mesa	41	988,387
Cypress	94	2,985,628
Fountain Valley	283	4,960,332
Fullerton	220	4,951,685
Garden Grove	133	2,766,848
Huntington Beach	210	3,285,208
Irvine	177	3,460,178
Laguna Niguel	64	1,523,328
Laguna Woods	42	987,924
Los Alamitos	191	7,122,282
Mission Viejo	43	1,390,878
Newport Beach	42	731,850
Orange	40	1,164,720
Santa Ana	304	7,274,827
Seal Beach	39	819,195
Westminster	57	887,148
TOTAL	2,642	58,818,683

Table C-6.4: Impressions Created by OC HCA Used Oil Bus Advertising

Advertisement Run Start Date	Type of Bus Advertisement (Location on Bus)	Impressions
September 26, 2011	Kong	1,493,203
	Bonus Kong	344,586
March 21, 2012	King	5,743,500
	Bonus King	2,297,400
	Bonus Headlight	1,148,700
	Bonus Kong	10,389,750
TOTAL		21,417,139

Table C-6.5: Impressions Created by OC HCA Billboard Advertising

Advertisement Run Dates	Language	Impressions
August 25, 2011 - September 5, 2011	English	2,820,000
September 5, 2011 - October 20, 2011	Spanish	2,820,000
February 13, 2012 - March 11, 2012	English	2,820,000
March 26, 2012 - April 22, 2012	English	2,820,000
April 23, 2012 - May 20, 2012	Spanish	2,820,000
April 13, 2012 - May 20, 2012	English	2,820,000
TOTAL		16,920,000

Table C-6.6: Impressions Created by Media Outreach

Advertising Type	Outlets/Programs	Estimated Number of Impressions
Print Advertising	Local Newspapers, OC Weekly	2,235,265
OC PCA	OC PCA Programs	6,000
Bus Shelter	Clear Channel	58,818,683
Billboards	Used Oil Program	16,920,000
Bus Advertisements		21,417,139
Total		99,397,087

Table C-6.7: Impressions Created by Automotive Repair Industry Outreach

City	Number of Auto Repair Facilities	Impressions
Aliso Viejo	4	40
Anaheim	8	80
Costa Mesa	8	80
Cypress	1	10
Dana Point	1	10
Fountain Valley	2	20
Fullerton	10	100
Garden Grove	7	70
Huntington Beach	6	60
Irvine	3	30
La Habra	1	10
Laguna Beach	1	10
Laguna Hills	1	10
Laguna Niguel	1	10
Lake Forest	7	70
Mission Viejo	5	50
Newport Beach	6	60
Orange	17	170
Rancho Santa Margarita	1	10
San Clemente	7	70
San Juan Capistrano	3	30
Santa Ana	14	140
Tustin	6	60
Westminster	3	30
Yorba Linda	1	10
TOTAL	126	1,260

Table C-6.8: Impressions Created by the Non-Media Outreach

Program	Type of Program	Estimated Number of Impressions
Utility Outreach	Waste Hauler Magnets	375,000
Community Outreach	Speakers Bureau	325
Business Outreach	Auto Repair Outreach	1,260
Project Pollution Prevention Events	Outreach Events	1,957
TOTAL		378,542

Table C-6.9: Impressions Created by School Outreach

Program	Type of Program	Estimated Number of Student Impressions
Discovery Science Center / Municipal Water District of Orange County Partnership	Student workbooks	11,000
Pacific Marine Mammal Center	Pinniped Pollution Prevention	490
Project WET	Teacher Curriculum	1,050
TOTAL		12,540

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Table C-6.10: Impressions Created by Each Permittee

Permittees	Estimated Number of Impressions
Aliso Viejo	149,460
Anaheim	475,000
Brea	239,500
Buena Park	168,000
Costa Mesa	7,800,000
Cypress	1,225,326
Dana Point	569,288
Fountain Valley	231,572
Fullerton	136,252
Garden Grove	9,255,316
Huntington Beach	1,191,204
Irvine	276,604
La Habra	247,105
La Palma	40,312,341
Laguna Beach	422,400
Laguna Hills	86,225
Laguna Niguel	128,600
Laguna Woods	38,941
Lake Forest	496,817
Los Alamitos	DNR
Mission Viejo	3,800,000
Newport Beach	1,329,000
Orange	26,066,000
Placentia	DNR
Rancho Santa Margarita	107,412
San Clemente	2,865,942
San Juan Capistrano	DNR
Santa Ana	404,788
Seal Beach	71,500
Stanton	40,000
Tustin	236,236
Villa Park	DNR
Westminster	90,000
Yorba Linda	DNR
County of Orange/OCFCD	96,000
Total	98,559,504

*DNR = Did Not Report; impressions included in jurisdictional PEAs

Table C-6.11: Total Impressions Created by Public Education Program

Impressions Created	Estimated Number of Impressions
Countywide Media Impressions	96,934,612
Non-Media Outreach	378,542
School Programs	12,540
Website Impressions	12,400
Total Permittee Impressions	98,559,504
Grand Total	195,897,598

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Table C-6.12: Current and Potential Outcome Levels (Public Education)

Public Education Program	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Document Stormwater Program Activities	Raise Awareness	Change Behavior	Load Reduction	Runoff Quality	Receiving Water Quality
Creating Impressions	✓ Number of impressions	✓ Surveys show change in knowledge of pollution preventative activities	✓ Surveys show change in willingness to participate in pollution preventative activities	✓ Household hazardous waste collected		
		✓ Number of website page views				
Public Participation	✓ Number of workshops	✓ Surveys show change in knowledge of pollution preventative activities	✓ Surveys show change in willingness to participate in pollution preventative activities			
	✓ Conduct Events	✓ Surveys show change in knowledge of pollution preventative activities	✓ Participation in events	✓ Trash and debris recovered		
<p>Key: ✓ = Currently Achieved Outcome Level P = Potentially Achievable Outcome Level</p>						

Figure C-6.1: Percentage of 2012 Survey Respondents Participating in “Stormwater Safe” Behaviors With and Without Kids

