6.0 PUBLIC EDUCATION

6.1 Introduction

In 2002, the Permittees created a public and business outreach strategy - "Orange County Stormwater Public Education Program Recommendations." This strategy, which was updated in 2004, established a long-term, cost-effective approach to educate the public and targeted business groups about the effects of stormwater pollution and encourages their participation in the protection of surface waters. Key aspects of the strategy included conducting a survey to define the level of general knowledge held by people in Orange County, utilizing the survey results to develop campaign goals, determining the key messages, defining specific community outreach activities and approaches, preparing a master timeline, and creating a "brand" name for the Orange County Stormwater Program ("Project Pollution Prevention").

6.2 Accomplishments

The primary elements of the Third Term Permits public education program were a series of "Plans" that guided the program implementation, specifically:

- A "Materials Plan" that prioritized the educational materials necessary for revision/development and defined the common look and theme;
- A "Media Plan" that identified advertisement purchases in major publications, on Orange County Transit Authority buses and shelters, in movie theaters, on radio, and on cable television;
- A "Non-media Plan" which included the develop of a tool box for local outreach
 and building relationships with businesses, trade associations, chambers of
 commerce, utilities, and organizations that provided key opportunities for
 outreach;
- A "School Education Plan" to reach K-12 students in Orange County with pollution prevention messages; and
- An outreach plan for the approximate 10,000 food service facilities in Orange County.

Additional elements of the program include:

- An initial and follow-up public opinion/education survey (completed in 2003 and late 2005 respectively);
- Assistance with governmental and regulatory agency relations;
- Translation of all materials into Spanish and the creation of a Spanish webpage;
- Translation of key materials into Vietnamese;
- A "tool box" of materials for Permittee program coordinators to conduct local outreach efforts, based upon a quarterly "Quad Approach" including press releases, newsletter articles, fact sheets and billing inserts; and
- An employee-training program ("Stormwater 101") to educate all municipal employees about general stormwater principals.

6.2.1 Countywide Public and Business Education Materials Plan

A Materials Plan was developed that prioritizes the outreach materials necessary for revision/development and defined a common look and theme. Pursuant to this plan, the following materials were produced:

- Forty-three brochures; 22 in English, 18 in Spanish and four in Vietnamese.
- Sixteen print advertisements; eight in English, seven in Spanish and one in Vietnamese.
- Ten radio public service announcements; five in English and five in Spanish.
- Four movie/cable PSAs; three in English and one in Spanish.
- Three bus advertisements.
- Six quad outreach kits including a newsletter, press release, billing insert and fact sheet.
- Outreach kit for food service establishments including a BMP poster, four stickers, a PowerPoint presentation, fact sheet and CD-ROM.
- Stormwater 101 training kit including a pre/post training evaluation, fact sheet, PowerPoint presentation and 7-½ minute video.
- A municipal vehicle magnet.
- A door hanger notice for residential pollution problem correction.

6.2.2 Media Outreach Plan

A strategic media relations campaign was developed and implemented that included advertisements in major publications, on Orange County Transit Authority buses and shelters, in movie theaters, on radio, on cable television and online. The Permittees collectively purchased the following media during 2002-06:

Newspaper advertisements generated 46.5 million impressions

- Seven full-color ads in the Sunday *Orange County Register*
- Three full-color ads in the Sunday Los Angeles Times (Orange County Edition)
- Twenty-two full-page ads in 17 of the *Register's* community papers
- Fourteen full-page ads in four of the *Register's* community papers
- Eleven ¾-page ads in the Los Angeles Times' three Orange County community papers: the Daily Pilot, Huntington Beach Independent and Laguna Beach Coastline Pilot
- Nine full-page ads in the *News-Enterprise*
- Fourteen full-page ads in *OC Metro*
- Eleven full-page ads in *OC Weekly*
- Seventeen full-page ads in Miniondas (Spanish language)
- Fifteen full-page ads in Excelsior (Spanish language)

Radio advertising generated 27.6 million impressions

- Twenty 60-second spots on KLAC AM 570. The spots generated more than 120,000 impressions.
- One hundred and twenty- 60-second spots ran on JACK FM 93.1 generating 25 million impressions.

• One hundred and sixty 60-second spots ran on Sonido (Spanish language radio station) generating 2.5 million impressions.

OCTA bus advertising generated 71.5 million impressions

- Fifty-seven bus sides
- Fifty bus backs
- Fifty outdoor bus shelters

Movie theater advertising generated 11 million impressions

- The 30-second public service announcement ran on screen and in lobby kiosks for twenty weeks at 22 Edwards/Regal Cinemas, San Clemente's Krikorian Theater, twelve weeks at the Long Beach Town Center Theater and twelve weeks at AMC theaters.
- The sad fish poster was displayed at all 24 Orange County theaters.

Cable television advertising generated 1.4 million impressions on four cable stations (Adelphia, AT&T/Comcast, Time Warner and Cox Communications)

On-line banner advertising generated 2.35 million impressions

- Banner display on <u>www.931jackfm.com</u> for three months.
- Banner display on <u>www.ocregister.com</u> for two months.

Headline Indicator – Number of Media Impressions: The public education program generated over 160,000,000 media impressions over the period 2002-06.

ROWD Commitment

- Continue to "fine tune" the multi-media approach.
- Re-evaluate audiences & key messages for targeted behaviors.
- Pursue opportunities for regional collaboration.

6.2.3 Non-Media Outreach Plan

A Non-Media Outreach Plan was developed and implemented to complement the paid advertising media campaign. The plan utilized existing resources and partnerships to produce free or low-cost exposure for the program.

Outreach to Permittees

The plan included the development of a "tool box" of materials to enable the Permittees to conduct local outreach both directly and indirectly through businesses, trade associations, chambers of commerce, utilities, restaurants and other organizations. Specifically, the "tool box" included:

- Outreach Materials Artwork was created for use on outdoor locations such as bus shelters, streetlight banners, mouse pads and beach towels.
- The Quad A series of newsletters, press releases, fact sheets and billing inserts
 were created that focused on seasonal stormwater themes. Six seasonal quads were
 created.
 - o Spring Into Cleaning Household Hazardous Waste
 - o What's Summer Without The Beach
 - o When It Rains It Pours Pollutants Into Our Storm drains
 - o A Pollution Fix for 2006
 - o Green Thumb Blue Ocean
 - o Keeping Your Car and the Environment Sparkling Clean
- An Events Listing Lists of upcoming utility, restaurant, city and organization sponsored events were developed where stormwater information could be provided to event participants.
- Employee Training Materials Stormwater training materials were developed to educate all municipal employees about general stormwater pollution prevention principles.

Outreach to Businesses

The plan's proposed implementation of programs is based on relationships and partnerships that had been developed with groups who may have been receptive to partnering with the program..

- A list of key Orange County businesses that the Stormwater Program could
 potentially foster relationships with was developed. The list included top
 businesses and major Orange County employers. These businesses were contacted
 and the following is a list of the business partnerships developed:
- Point of Purchase Partnerships with stores that sell auto supplies, hardware, pet supplies and gardening supplies were developed. The program has fostered relationships with:
 - o PetsMart Inc.
 - o Home Depot, Inc.,
 - Orchard Supply Hardware (OSH)
 - o Wal-Mart,

- o The Pet Pantry
- o Huntington Garden Center
- o Flowerdale
- o De Nault's Hardware
- A list of major Orange County events such as the Orange County Auto Show and Southern California Home & Garden Show was created. Event coordinators were contacted with a letter introducing the program and asking for the opportunity to participate and/or distribute Orange County Stormwater Program materials.

Outreach to Utilities

Major non-city utilities providing water, electricity, cable and refuse services were contacted and provided sample newsletters for use in their publications. Several utilities printed stormwater education materials in their newsletters and billing inserts and posted information on their websites including:

- o Rainbow Disposal
- o Waste Management
- o Southern California Edison
- o Sempra Energy/The Gas Company
- o Orange County Water District
- o Orange County Fire Authority

The four major refuse companies in Orange County agreed to place a 12" x 24" Stormwater magnet on their trucks. More than 500 refuse trucks displayed the magnet during the 2002-06 reporting period.

Outreach to Organizations

A list of key Orange County organizations that the Stormwater Program could foster relationships with was developed. The list included organizations such as chambers of commerce, rotary clubs, and environmental groups.

- Chambers of Commerce Several chambers provided Stormwater information to their members including the Brea Chamber of Commerce, Fountain Valley Chamber of Commerce, the Black Chamber of Commerce and the South Orange County Chambers of Commerce.
- Welcome Express Welcome Express provides welcome packets to new homeowners in various communities throughout Orange County. Welcome Express provides the Household Tips brochure within their new homeowner's packet.

Media Relations Campaign

The media relations campaign centered on fostering relationships with reporters. Local newspapers are considered one of the most credible sources of information for Orange County residents and reach a large audience. Therefore, media relations were an invaluable component of the public education campaign.

The media relations campaign utilized the seasonal stormwater press releases created as part of "the Quad" to contact the media on a quarterly basis. The program also updated its media distribution lists quarterly.

Indicator - Number of Non-Media Impressions: The public education program generated 25 million non- media impressions during 2002-06.

Outreach to Restaurants

A specific outreach plan for the approximate 10,000 food service facilities in Orange County was developed and implemented. The outreach plan included the following efforts:

- The inspection and distribution of educational materials to the approximately 10,000 existing food facilities (the inventory is updated annually) countywide. Over 36,000 inspections for NPDES stormwater related issues were conducted.
- A focused public education outreach component was developed and implemented.
 This effort included:
 - A mass mailing to all corporate and food service facilities within Orange County. Over 9,000 letters were mailed.
 - Distribution of focused educational brochures, posters, stickers and CD-ROMs were distributed during inspections.
 - Presentation was given to the Food Sanitation Advisory Council.

Indicator - Number of Food Facility Outreach Impressions: The public education program generated over 45,000 food facility outreach impressions during the 2002-06.

ROWD Commitment

Continue to foster new relationships and partnerships.

6.2.4 School Education Outreach Program

During the 2002-03, reporting period extensive meetings took place with representatives from

various educational programs and agencies throughout Orange County. A school education outreach plan was developed and implemented that included the following partnerships:

Orange County Department of Education (OCDE)

Inside the Outdoors is an environmental education program administered by the OCDE. There are three types of programs within *Inside the Outdoors* which are the:

- Outdoor Science School This program includes information on sources of water for southern California, pollution prevention, and watershed information. 14,000 students participated in this program.
- School Program A traveling scientist visits school sites providing the "Drip Drop" program - a 60-minute presentation about water quality. 3,000 students participated in this program.
- Field Program Fifth grade students move into the real world of science and social science. During the "Where Do I Flow" program students learn about water pollution and prevention. 12,803 students participated in this program.

Approximately 30,000 students participated in the *Inside the Outdoors* Science Programs.

Municipal Water District of Orange County (MWDOC)/Discovery Science Center (DSC)

The partnership with MWDOC/DSC is focused on the Elementary Water Science Education Program, a water education course for teachers, and a public program for general visitors.

- Elementary Water Science Education Program This program presents gradespecific science lessons, which incorporate water sources, water conservation, and water/trash pollution themes complementary to the science content standards.
 - 5th Grade Student Assemblies: This element of the program presents lessons to elementary school students in an assembly format. 17,200 fifth grade students and 500 fifth grade teachers participated in this program.
 - 5th Grade Students Attending the DSC Field Trip Program For 5th grade students attending the DSC, field trip instructors screen the Project Pollution Prevention video entitled "Go With the Flow" and distribute the Project Pollution Prevention water education-based booklet. 25,827 fifth grade students and 2,000 fifth grade teachers participated in this program.
- Water Education Course for Middle and High School Teachers The Water Education Course provides fifth through twelfth grade teachers Professional Development classes complete with curriculum and a kit of scientific equipment to conduct water-focused and pollution awareness activities in their classrooms. The Water Education Course was provided to 24 teachers reaching approximately 792

students.

 Public Program for General Visitors to the DSC - A demonstration and learning station for the general public visitors and students on field trips to the DSC was developed to further communicate the importance of water, water conservation, urban pollutants, and stormwater/urban runoff pollution. An estimated 76,000 visitors saw the station annually.

Project WET (Water Education for Teachers)

The Project WET (http://www.projectwet.org/index.html) is a water science and education program for teachers that provide classroom ready teaching aids including the Project WET Curriculum and Activity Guide. The guide is a collection of hands-on, innovative, interdisciplinary activities. Project WET developed curriculum specifically for the stormwater program.

Nearly two hundred teachers have participated in Stormwater Program sponsored workshops reaching 7,000 students per year.

California Regional Environmental Educational Community (CREEC) Network

The California Regional Environmental Education Community (CREEC) Network is an educational project whose mission is "to develop a communication network which provides educators with access to "high quality" environmental education resources to enhance the environmental literacy of California Students." It is an educational project supported by the California Department of Education, Environmental Education Program, in collaboration with state, regional and local partners. The CREEC Network provides information on all Orange County environmental school education outreach programs. To further publicize this information, links between the Permittees' website and CREEC were established.

Indicator - Number of School Outreach Impressions: The public education program generated 188,846 school outreach impressions during the 2002-06.

6.2.5 Other Countywide Initiatives

The Principal Permittee conducted a number of countywide public education initiatives on behalf of the Permittees. These initiatives included:

- Provision of brochures, magnets, bookmarks, manual, and posters to the Permittees, general public, businesses, schools, and other agencies. During 2002-06 over 450,000 educational materials were distributed.
- Management of the countywide 24-hr bilingual water pollution reporting hotline number, (714) 567-6363. During the 2002-06 the hotline received 927 water pollution calls. Water pollution complaints are also received through the County website.
- Advertisement of the 24-hour water pollution hotline number and web address, www.ocwatersheds.com, in all SBC Regional Phone Directories.
- Management of the County website, <u>www.ocwatersheds.com</u>. During 2002-06 the website received over 10,000,000 hits.

Indicator - Number of Other Countywide Initiative Impressions: The public education program generated 10,450,927 other impressions during the 2002-06.

Headline Indicator - Public Education Program Impressions: The public education program created over 195,684,773 impressions during the 2002-06 permit cycle. 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. Therefore, it can be deduced that every resident of Orange County received thousands of impressions during the reporting period. This achievement also far exceeds a Third Term Permit requirement to deliver a minimum of 10 million impressions per year within the Santa Ana Regional Board Area.

6.3 Assessment

In an effort to better understand the public's awareness regarding water quality issues, several surveys have been conducted. The surveys have incorporated a number of questions relating to pesticide, herbicide and fertilizer use, the sewer and storm drain system and the public's overall awareness of the County's public outreach campaign. Surveys conducted since the inception of the Orange County Stormwater Program include:

- 1994 Stormwater Pollution Prevention and Flood Awareness Survey
- 2000 County of Orange Fair Survey

- 2000 Orange County Sanitation District Fair Survey
- LA Times In Education Survey
- 2001 Public Awareness Survey
- 2003 Public Awareness Survey
- 2005 Public Awareness Survey

6.3.1 <u>Public Awareness Surveys</u>

In May 2003, the Permittees conducted a large sample (1,500 respondents) public awareness survey to measure the current level of knowledge held by residents of Orange County. In November 2005, after 30 months of the public education campaign, a follow-up to the baseline survey was conducted. The purpose of the second survey was to assess the extent to which public opinion and knowledge about urban runoff issues have changed and whether Orange County residents have made any behavioral changes as a result of the public education campaign.

The findings indicate that the public information campaign on stormwater and urban runoff has made initial inroads towards increasing awareness. In the majority of questions, awareness of the program and or its elements increased one to three percentage points.

Effectiveness of Educating on the Environmental Issue

Consistent with findings from 2003, education, traffic congestion, safety and employment continue to rank higher than pollution as top issues of concern with Orange County residents. In the last 30 months, residents concern regarding pollution of the ocean, rivers, creeks and bays increased 1%. When asked specifically about ocean, bay and harbor pollution, concern remained consistent with the baseline data with 85% to 87% concerned. However, the intensity of concern regarding pollution of creeks and rivers increased 6% (from 39% very concerned in 2003 to 45% in 2005).

During the 30-month stormwater outreach campaign, information never focused on the actual quality of Orange County water or the severity of the issues. Most elements of the program focused on particular activities that would "protect our creeks, rivers, bays and ocean." The result of the survey is consistent with the amount of prominence placed on this subject. If a greater emphasis was placed on this subject in the campaign, the numbers could have been higher.

Effectiveness of Educating on the Storm Drain System

Knowledge about urban runoff and storm drains has increased. In fact, 90% of residents know that water flowing in the street enters a storm drain and goes directly to a waterway. This is up six percentage points from 2003. However, there still is a lack of understanding regarding the storm drain system. When asked if water in the storm drains is tested and filtered, 4% more answered the question correctly in 2005, however, it was still less than half (46%) of the respondents. Similarly, when asked if sewer water and storm drain water

enter the same system, 3% more answered the question correctly, however, it was still less than half (44%) of the respondents.

During the education campaign, nearly all materials created mentioned that objects in the street flow through storm drains directly to the nearest waterway. However, only the brochures, fact sheets and newsletter articles went into depth regarding the difference between the sewer and storm drain system. The use of this information in all the materials shows in the increased level of awareness. Had the differences between the sewer system and storm drain system been illustrated in every piece, these numbers may have been higher.

Also, men tend to be very knowledgeable regarding the storm drain system while women were less knowledgeable according to the 2005 survey; therefore, materials targeted at women may be considered.

Effectiveness of Educating on Key Pollutants

The survey asked respondents if the following items contributed to polluting urban runoff: oil, toxic waste, Styrofoam cups, gardening products, cigarette butts, paint, dirty water/detergent, cleaning products, trash, pet waste, water from hoses, lawn clippings/dirt/leaves and pool water. In every case, respondents were very likely to say these items contributed to polluted runoff with nine of them increasing beyond the margin of error (oil, Styrofoam cups, cigarette butts, paint, cleaning products, trash, pet waste, lawn clippings/dirt/leaves and pool water).

The increased knowledge held regarding these 13 pollutants shows a strong upward trend and indicates that education materials are reaching the residents. For all but two pollutants (toxic waste and Styrofoam cups) a brochure has been created to educate the public. Also, seven of the pollutants (oil, gardening products, cigarette butts, dirty water/detergent, pet waste, hose water and lawn clippings/dirt/leaves) were covered in the print advertising campaign. The fact that public knowledge has increased regarding all 13 pollutants demonstrates that the education campaign is effective.

Effectiveness of Educating on Key Behaviors

Consistent with the first survey, roughly two thirds say that changing their personal behaviors would make a difference in cleaning up pollution (65%). This represents an increase of 2%. The survey revealed the following: 97% of people were either willing or did dispose of chemicals properly, 89% were willing to or did use fertilizers properly, 92% were either willing to or did keep yard clippings out of the street, 90% were willing to or currently adjust sprinklers to avoid overwatering; 79% were willing to or did pick up after their pet, 90% were willing to or currently use a broom to clean driveways, and 73% were willing to or eliminated washing cars at home.

When comparing seven actions that residents were already participating in, they were 4% more likely to dispose of chemicals properly and 3% more likely to pick up after a pet in 2005. However, less respondents were keeping yard clippings out of the street (-5%),

adjusting sprinklers (-1%), using a broom instead of a hose (-5%), properly using fertilizer (-1%) and eliminating car washing (-9%). Although participation in some of the seven actions decreased, roughly half of Orange County residents report taking part in all seven of the activities – making a significant increase over the 30 months (+37%) of the campaign (**Figure 6.1**).

During the course of the education campaign, the materials focused on what can be done to prevent urban runoff. All seven activities mentioned in the survey were addressed in brochures, newsletter articles, fact sheets, press releases and billing inserts. The survey results indicate that the education campaign has penetrated the residents of Orange County and caused significant awareness of the activities that can reduce urban runoff. In all cases (except home car washing) at least eight in ten residents were either participating, or willing to participate in, activities that limit runoff. Despite a successful start to the campaign, residents appear to be obstinate when it comes to one behavior — eliminating home car washing.

Effectiveness of the School Outreach Program

A significant portion of parents of children under 19, roughly 25%, report that their children learned about urban runoff issues in school and came home and talked about it. It is safe to assume that the number of students who received the information, but did not share it with their parents is even higher.

Based on the significant number of students who have reported to a parent about having heard urban runoff prevention messages, it appears that the school outreach program has been effective.

Effectiveness of the Media Outreach Program

According to the 2005 survey, the most effective (most recognized by residents) form of advertising are the "No dumping, drains to ocean" stencils (81%) and newspaper articles (65%). Although part of the overall stormwater program, stencils were not an integral element of the education campaign. Their success can be attributed to a couple of factors. First, the stencils are on a large percentage of storm drains throughout the County. Nearly every resident has a stencil in his or her neighborhood. Also, the stencil program has been active in Orange County for many years. While other education programs were introduced in the last 30 months, residents have seen the stencils for more than a decade. The other very effective program has been newspaper articles. Similar to the stencils, articles on water pollution have been available to the public for decades and have had time to resonate.

Other effective aspects of the program (recognized by residents) were the PSAs on radio (39%), PSAs on cable (38%), newspaper advertising (35%), brochures (28%) and community events (20%). All five of these programs were initiated 30 months ago through the outreach campaign and have significantly resonated with residents. While most of these campaign elements were specific to Orange County, a few had the additional assistance from other regional campaigns such as "Don't Trash California" and the "Used

Oil" program.

Less effective aspects of the program (least recognized by residents) were movie theater advertising (14%), workplace information (14%), bus advertising (13%) door hangers (12%), and Spanish radio PSAs (6%). While Spanish radio was the least recognized program by all respondents to the survey, among Spanish speaking respondents it was substantially higher (18%). All of these specific campaign elements were created and implemented during the 30-month outreach campaign (**Figure 6.2**).

When determining whether an element should be eliminated from the campaign, it is important to evaluate the number of sources people received information from. According to the 2005 survey, 29% of people received stormwater information from one or two sources. If the majority of these people received information from a source that is eliminated, the campaign would be less effective. However, in this circumstance, only 2% of people who received information from one or two sources received information from theater ads or bus backs. In regarding to theater advertising, it is possible that residents confused cable PSAs with theater advertising because both played the same spot. Since cable advertising was highly recognized by residents, the campaign could have been less effective if it were removed. In the case of bus back advertising, the program would still have been effective without this element.

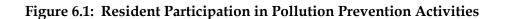
Another aspect of the program that was evaluated was the print advertising. While, 35% of people recalled seeing print advertising, it is important to note what papers residents are reading. While the largest percentage of advertising was in the Orange County Register, the program did advertise in the Los Angeles Times a half dozen times a year. According to the survey, the percentage of people who get most of their information on urban run-off from the Times dropped from 12% to 9% (Orange County Register is 28%). Also, only 5% of people who received information from one or two sources received the information from print advertising. Therefore, advertising in the Times could likely have been less frequent without affecting the effectiveness of the campaign (**Figure 6.3** Effectiveness of Print Advertising).

According to the 2005 survey, the percentage of voters saying there is enough information has increased (+1% and +5% from a split question). However, residents continue to believe that there is not enough information provided about how to stop urban runoff and ocean pollution in Orange County. So while some of the elements of the campaign could have been eliminated, the survey demonstrated that people need to receive information from a variety of sources. The Internet appears to be an emerging source of information, increasing 6% to 10% (third highest source of information).

6.4 Summary

Since the inception of the Orange County Stormwater Program outreach campaign, information on stormwater and urban runoff has made initial inroads in increasing awareness. This increase is seen in nearly every element of the program and demonstrates a great beginning to a program that was implemented in a short period of time.

Although all of the elements of the program contributed to the success of the campaign, the program could have considered eliminating bus back advertising. Print ads in the Los Angeles Times could have been reduced and ads in the full-run Orange County Register could have been increased. Another element that could have been added is online marketing. Overall the program demonstrated an effective start to the education campaign.



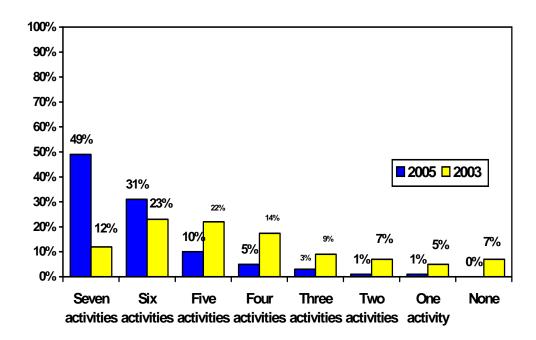


Figure 6.2: Effectiveness of Media Outreach Program

