

6.0 PUBLIC EDUCATION

6.1 Program Summary

Public education is an essential part of a municipal stormwater program. Developing programs to increase the awareness of and involve the public can be an effective method for controlling non-point source pollution. Emphasizing the relevant impact of stormwater pollution to each particular target audience increases the likelihood that the messages will be noticed and that the audience will support and participate in program implementation. When a community has a clear idea where the pollution comes from, how it can affect them and what they can do to prevent those affects, it will be more willing to support and participate in program implementation.

6.1.1 Program Overview

Under their Local Implementation Programs, Permittees will continue to contribute to and participate in area-wide public education programs and conduct local programs to increase the awareness of and involve in controlling non-point source pollution. This section of the DAMP provides a Model Program that Permittees can use to formulate their local programs. The objectives of the Model Public Education Program are to provide the following:

- Increase awareness of all segments of the community of the importance of community involvement in controlling non-point source pollution
- Provide information on alternative behaviors and practices that can contribute to controlling non-point source pollution
- Track public awareness in the educational programs.

6.1.2 Program Commitments

The Public Education Program serves as an integral planning tool and presents an overall universal formula for developing and implementing various outreach campaigns. The formula can be applied to multi-year comprehensive outreach programs or short targeted outreach activities and will be utilized in the following areas in the upcoming years:

- Develop and create a materials plan to:
 - Prioritize revision and development of materials.
 - Define the common look and theme
 - Identify the additional materials necessary to communicate an effective overall pollution prevention message.
 - Translate all materials into Spanish and other languages as deemed necessary.
- Develop and implement a multi-media outreach plan and method to track impressions including:

- Print Advertising
- Radio Advertising
- OCTA Bus Advertising
- Movie Theatre Advertising
- Cable Television Advertising
- Internet Advertising
- Develop and implement a non-media outreach plan and method to track impressions including:
 - Outreach through Permittees
 - Outreach through Business Outreach
 - Outreach through Utilities Outreach
 - Outreach through Organizations
 - Outreach through Restaurants
 - Media Relations Campaign
- Conduct a school outreach program including:
 - Orange County Department of Education (OCDE)
 - Municipal Water District of Orange County (MWDOC)
 - Discovery Science Center
 - Ocean Institute
 - California Regional Environmental Educational Community (CREEC) Network

6.1.3 Regulatory Requirements

The federal regulations require, as part of the DAMP, a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials (Federal Register/Vol. 55, No. 222, p. 48071). In addition, the regulations also specify education programs for construction site operators and a program to facilitate public reporting of illicit discharges.

The Public Education Program was developed as a model for fulfilling the public education requirements of:

- Section XIII of the Santa Ana Regional Water Quality Control Board (RWQCB) Municipal NPDES Stormwater permit, Order No. R8-2002-0010; and
- Section F.4 of the San Diego RWQCB Municipal NPDES Stormwater permit, Order No. R9-2002-0001.

6.2 Model Public Education Program

Permittee efforts will be focused in the following key areas.

6.2.1 Develop and create a materials plan

The first goal of the campaign was to review the current countywide public and business education materials that had been developed and create a materials plan to identify and develop the additional materials necessary to communicate an effective overall pollution prevention message. Based on this review a prioritized list of materials was created. The prioritization was based significantly on the materials already produced and in meeting the requirements of the Third Term Permits. In addition, the plan made specific recommendation for logos, tag lines, fonts, titles, paper stock, white space, colors, terminology, and messages to use in order for the materials to contain a common look and theme and be recognizable as consistent stormwater education materials. At a minimum, all of the developed and revised program materials should:

- Explain the difference between the storm drain and sanitary sewer system, and describe how water in the storm drain does not receive treatment before entering our waterways;
- 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;
- Include the Project Pollution Prevention moniker.

In addition, the Permittees will explore partnership opportunities with religious institutions for ways to distribute prepared materials. They will also work with them to encourage good housekeeping practices around the campuses.

6.2.2 Develop and Implement a Multi-media Outreach Plan and a Method to Track Impressions

In order to support the countywide public and business education program, a strategic media relations campaign was developed and implemented to reach a majority of the selected target groups with sufficient frequency (three or more times) to measurably increase their knowledge and measurably change their behavior. A cost-efficient and strategic media plan for print, bus, theater, cable, and radio advertising was developed based on market research (**DAMP Exhibit 6.III**). The media plan included the following criteria:

- Use targeted ad placement. Place print ads in sections or features that have a high probability of being read by the target audience.

- Take advantage of seasonal behaviors and activities. Schedule paid media and non-media activities to coincide with the seasonal nature of certain behaviors and activities associated with stormwater pollution.
- Use geographic targeting. Focus paid 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 and non-media activities to maximize their impact and effectiveness
- Identify the expected number of impressions that may be achieved for each event

6.2.2.1 Print Advertising

Orange County is served by two major daily newspapers, the *Los Angeles Times* and *Orange County Register*. In addition to these daily newspapers, numerous weekly papers cater to varied segments of Orange County's population. The Register has 23 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, Laguna Woods, Lake Forest, Mission Viejo, San Clemente, and unincorporated areas. The Times has weekly community papers that serve Huntington Beach and Laguna Beach, as well as a daily paper that serves Newport Beach and Costa Mesa. Advertisements were also placed in the OC Weekly and OC Metro, two popular weekly papers, Excelsior and Miniondas, the County's best read Spanish language newspapers, and News-Enterprise, to reach areas not served by the Times and Register community papers. To receive the most effective impact, the print advertising campaign will continue to focus mainly on weekly newspapers with some advertising in the Register and Times.

The six print ads have been developed:

- Pet waste - encourages pet owners to protect the environment by picking up after their pets;
- Used oil recycling - encourages residents to protect the environment by properly disposing of used oil;
- Fertilizer - encourages residents to protect the environment by properly using fertilizers;
- Residential car washing - encourage residents to protect the environment by using commercial washes;
- Earth Day - celebrates Earth Day by reminding people that the Ocean begins at their front door; and
- Cigarette - emphasizes the fact that cigarettes belong in the trash not the ocean.

The above ads with the exception of the Earth Day have been translated into Spanish. Additional, ads will be developed to address countywide water quality issues and constituents of concern.

6.2.2.2 Radio Advertising

Radio is an extremely effective means of communicating with the public. Although people are listening while they are driving, messages are still very well absorbed. Radio advertising has included advertising on the following radio stations:

- KLAC 570 AM
- 93.1 JACK FM
- Sonido 96.7 FM (Spanish)

Ten radio PSAs have been created, five in English and five in Spanish. Four are pollutant specific and focus on pet waste, used oil recycling, fertilizer and residential car washing. The fifth provides an overview of several pollutants. The program will continue to explore advertising opportunities on radio.

6.2.2.3 OCTA Bus Advertising

Orange County residents rely heavily on their cars, which makes advertising opportunities on streets very valuable. OCTA bus advertisements are largely seen by an urban demographic: people driving, commuters taking the bus and people walking along the street. OCTA bus advertising has included advertising on bus backs, bus sides and bus shelters. The artwork used illustrates the connection between our everyday activities and ocean pollution. The program will continue to explore advertising opportunities with OCTA.

6.2.2.4 Movie Theater Advertising

Movie theaters provide a highly effective advertising opportunity because the audience is captive to what is on the screen. Unlike newspapers, in which pages or sections can be discarded, or television, in which channels can be changed during commercials, theater audiences have no choice but to watch what is run on the screen.

Permission was obtained from the City of San Diego to use and edit their 30-second "rubber duck" public service announcement (PSA). The 30-second PSA shows trash turning into rubber ducks and flowing to the ocean, which is consistent with the theme of storm drains. Two additional PSAs have been developed for the program, one focuses on trash while the other provides an overview of several pollutants.

The program has advertised primarily with Edwards/Regal Cinema Theaters since they provide broad coverage of the county, offer a special pre-movie advertising/news segment and allowed economies of scale. Additional movie theater advertising includes: selected AMC Theaters in Orange County, San Clemente Kirkorkian and the Long Beach Town Center. The program will continue to explore movie theater advertising opportunities.

6.2.2.5 Cable Television Advertising

Running advertisements on cable television has the potential to reach a very large audience in a cost-efficient and strategic manner. Cable systems offer discounts, matching spots or free airtime for public service announcements. Four cable systems service Orange County: Adelphia, Comcast, Cox, and Time Warner. The cable advertising has used the 30-second "rubber duck" PSA as well as the English and Spanish versions of the general pollutant PSA. The program will continue to explore cable television advertising opportunities.

6.2.2.6 Internet Advertising

The internet has become a heavily relied upon source of information for the public therefore during the third permit term the program began advertising on the Orange County Registers on-line information website as well as JACK FM's website. The website as a whole gets 14 million hits per month. The program will continue to investigate on-line advertising as a means of providing Orange County residents with information.

6.2.3 Develop and Implement a Non-Media Outreach Plan and a Method to Track Impressions

A cost effective and strategic non-media outreach plan was developed and implemented in order to support the Orange County NPDES Stormwater Program's public and business education efforts and compliment the advertising media outreach (**DAMP Exhibit 6.III**). These implementation efforts will utilize existing resources and partnerships for free and low-cost exposure of the Orange County Stormwater Program. Combined with paid advertising, these approaches will help to enhance messages by increasing their frequency and the number of ways in which people receive them.

6.2.3.1 Outreach to Permittees

Included in this plan was 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 focused on seasonal stormwater themes. Four seasonal quads were created.
- An Events Listing - Lists of upcoming utility sponsored events were developed where stormwater information could be provided to event participants.
- Employee Training Materials - Municipal stormwater training materials were developed to educate all Permittee employees about general stormwater pollution prevention principles.

Outreach to Businesses

This plan proposed implementation of programs based on relationships and partnerships that had been developed with groups receptive to public service requests.

- A list of key Orange County businesses that the Stormwater Program could foster relationships with was developed. The list included top businesses and major Orange County employers.
- 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.

6.2.3.2 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.

6.2.3.3 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.

6.2.3.4 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 main objective is to educate the approximately 10,000 existing food facilities (the inventory is updated annually) countywide.

6.2.3.5 Media Relations Campaign

A media relations campaign centers on creating relationships with the media. The media is capable of getting your key messages to your target audiences. Public relations coverage often has greater credibility with target audiences than advertising, so when used consistently, media relations can be an invaluable component of public education campaign.

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

6.2.4 Conduct a School Education Outreach Program

Educating school children about stormwater and urban runoff pollution is critical to the long-term success of the Orange County Stormwater Program. Today's children are tomorrow's adults, and the earlier they learn about protecting the environment, the less likely they will be as adults to engage in pollution causing behaviors. Children can also share information they learn in school with their 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.

6.2.4.1 Orange County Department of Education (OCDE)

"Inside the Outdoors" is an environmental education program administered by the Orange County Department of Education (OCDE). The mission of Inside the Outdoors is to empower students, teachers, parents and the community to explore natural areas and expand their knowledge. There are three types of programs within Inside the Outdoors: Outdoor Science School, School Programs and Field Programs. The following is a summary of the programs implemented:

a) Outdoor Science School

Since 1974, OCDE has administered the Outdoor Science School. It currently operates at several sites in the San Bernardino Mountains where fifth and sixth grade students and their teachers participate in a weeklong science adventure. During the week, the students hike academic trails to cover the core curriculum. Students also go on an adventure hike, attend a science session and perform a skit. Students and teachers develop an awareness and appreciation of the environment and realize they affect its quality. Students are immersed in a natural environment during their Outdoor Science School experience. The curriculum is aligned with the California Science Content Standards and the California Science Framework.

In partnership with the Orange County Stormwater Program, OCDE included a science session on water pollution. This session includes information on sources of water for Southern California, pollution prevention, and watershed information. A two-page Project Pollution Prevention checklist on water and trash pollution is distributed. Once the checklist is completed, a discussion is facilitated by the teacher.

b) School Program

Another division of Inside the Outdoors is the school program whereby a Traveling Scientist (an actual science teacher) visits school sites providing the new "Drip Drop" program. During the 60-minute presentation, students become familiar with how their actions affect water quality, describe ways that water bodies become polluted, demonstrate at least one data collection technique scientists use to assess water quality, become familiar with water quality terms, regulations and monitoring methods, and develop a small project to improve water quality in their neighborhoods.

c) Field Program

The third division of Inside the Outdoors is the field program whereby fifth grade students move out of the classroom and into the real world of science and social science. In specially selected parks and preserved areas (Shiplely Nature Center, Casper Park, Modjeska Canyon, Irvine Regional Park, Rancho Sonado, Dana point and Crystal Cove) students learn about the natural history of the area. The program "Where Do I Flow" is a hands-on station where students pretend to become water droplets moving through the water cycle. As droplets they travel through cities, people's homes, farms, wetlands and oceans. In the process, the students learn where water becomes polluted, cleaned and filtered.

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

In the fall of 2002, the Principal Permittee met with MWDOC staff to discuss the goals and objectives of the Public Education Program. As a result, MWDOC agreed to distribute a low-cost, leave-behind, interactive, student-friendly booklet through their Elementary Water Science Education Program. The booklets are distributed to all fifth grade students attending the grade-specific, science lesson assemblies. In addition, instructors screen the Project Pollution Prevention video entitled "Go with the Flow." The video is seven minutes in length and features teenage actors explaining the water cycle, the everyday activities that cause pollution and the difference between sewers and storm drains.

In the fall of 2004 MWDOC formed a new partnership with the DSC that allowed both organizations to reach more Orange County students. The following is an overview of the programs implemented through this partnership:

a) MWDOC/DSC Assembly-style Program

Through MWDOC/DSC's Elementary Water Science Education Program, instructors regularly present grade-specific science lessons to elementary school students in an assembly format. Themes of water sources, water conservation, and water and trash pollution complement the science content standards.

b) 5th Grade Students Attending the DSC Field Trip Program

Through MWDOC/DSC's Elementary Water Science Education Program, instructors regularly present grade-specific science lessons to elementary school students who visit the DSC. For fifth grade students attending the DSC field trip instructors screen the Project Pollution Prevention video entitled "Go with the Flow" and distributed the Project Pollution Prevention water education-based booklet.

c) Project WET

Project WET is an international, interdisciplinary water science and education program for formal and non-formal educators of K-12 students. Each state has a coordinating agency, and in California, the Water Education Foundation (WEF) organizes the network of educators who use the program as part of their professional responsibilities. 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 "Amazing Water," "Macro invertebrate Mayhem," "A Rainy Day Hike," and "Sum of the Parts." Based on the goals and objectives of the Orange County Stormwater Program, Project WET has developed curriculum specific to stormwater pollution. WEF uses the "train the trainer" model of education to magnify outreach efforts. WEF can assist Permittees in organizing educator workshops, which will be run by a Project WET facilitator.

6.2.4.3 Discovery Science Center

a) Water Education 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 Professional Development classes increase the teachers' knowledge of and comfort with teaching the subject, while the kits enable the students to conduct chemical tests on water (such as determining the pH and phosphate levels) and simulated biological surveys (such as the pollution tolerance and diversity indices).

b) Public Program for General Visitors to the DSC

The DSC, in partnership with the Orange County Stormwater Program, developed a Project Pollution Prevention demonstration and learning station for the general public visitors and students on field trips to the DSC. Annually, more than 270,000 people visit the DSC. Designed for visitors of all ages but primarily students (and their chaperones, parents, teachers), Project Pollution Prevention demonstration's overarching messages are:

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

6.2.4.4 California Regional Environmental Educational Community (CREEC) Network

The CREEC Network is a program of the California Department of Education, specifically the Office of Environmental Education. It was established to compile all environmental educational programs in one location and to make links between providers of environmental programs and the teachers who use them. The ultimate goal of the CREEC Network is to enhance the environmental literacy of students.

Regional coordinators gather and evaluate the environmental education opportunities in their local region and make this information available to teachers in a variety of ways. As "conduits of information" these coordinators link teachers to the most effective workshops, speakers, curriculum, outings, etc. Teachers with questions regarding environmental education and local resources get a personal response from their CREEC Network Coordinators. The regional

CREEC website (www.creec.org) guides teachers to a directory of resources in each region. The CREEC Network is available free of charge. In addition, e-mail updates are available by clicking the "join now" button on the site.

In addition to these efforts, the Public Education Program includes the following:

- Public Education Committee - The Permittees continued the Public Education Committee to provide regional consistency and oversight for the stormwater public education efforts.
- Regional Efforts - To assist in the implementation of the Public Education Program, promote regional consistency and coordinate the multiple educational efforts underway, the Permittees participated in regional public education efforts such as the California Stormwater Quality Task Association Public Information/Public Participation (PI/PP) Work Group.