

6.0 PUBLIC EDUCATION

6.1 Introduction

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.

6.2 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 First, Second, and Third Term Permits similarly specified that the Permittees continue to implement the public education efforts already underway, participate in joint outreach efforts to ensure that a consistent message on stormwater pollution prevention is brought to the public, encourage the public to report illegal dumping, and develop BMP guidance for the control of those potentially polluting activities not otherwise regulated by any agency.

In addition, the Third Term Permits have set a higher expectation for the performance of an effective public education component of the stormwater program by setting the following goals:

- Measurably increase the knowledge of target communities regarding the stormdrain system, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience.
- Measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment.
- Target 100% of the residents, including businesses, commercial, and industrial establishments. Through use of the local print, radio, and television, the Permittees must ensure that the public and business education program makes a minimum of 10 million impressions per year and that those impressions measurably increase the knowledge and measurably change the behavior of the targeted groups.

6.3 Program Development

During the First and Second Term Permits, the public education program mainly consisted of:

- The development and distribution of public service announcements, brochures and other related materials;
- Incorporation of storm water pollution prevention features into community outreach events such as the Orange County Fair;
- School demonstrations;
- Speaking engagements;
- Monitoring coordination with schools and universities;
- The development of a 24 hour bilingual water pollution problem reporting hotline; and
- The coordination with other agencies running public information programs such as water districts, sanitation districts, fire departments and community and environmental groups.

In late 1999, the Permittees developed a comprehensive long-term NPDES public and business education strategy (subsequently referred to as the Public Education Program) in order to effectively educate the public and targeted business groups about the effects of stormwater pollution and encourage their participation in the protection of surface waters. The Final Report entitled "Recommendations for Expanding the Orange County Stormwater Program's Public and Business Education Outreach Program" (**DAMP Exhibit 6.I**), includes a comprehensive planning approach and "tool box" of educational elements to be implemented based upon the desired direction of the program.

In March 2002, based on the above-mentioned strategy, the Permittees completed the final version of the Orange County Stormwater Public Education Plan entitled "*Orange County Stormwater Public Education Program Recommendations*" (**Exhibit 6.II**). The Plan recommends the key outreach campaign elements necessary to meet the Third Term Permit requirements for public education and provides a rationale for these recommendations in order to achieve the various public education goals. The Plan is designed not only to impact immediate awareness of stormwater pollution, but to lay a foundation that, over time, can help establish an environmental ethic in Orange County residents that will prevent stormwater pollution at its source.

By the end of the Second Permit Term, the Permittees identified and began implementation of the public and business education outreach campaign elements. The key elements completed include:

- The completion of a public awareness survey;
- Identification of general and specific goals of the program;
- Identification of the target audiences and key messages for those audiences;
- Development of the program strategies and plan overview/final report;
- Recommendation of the Project Pollution Prevention program "brand name";

SECTION 6, PUBLIC EDUCATION

- Development of a model watershed program; and
- Development of key website materials for distribution to cities.

In November 2002, the Permittees sought technical support to further assist with the implementation of the public and business outreach elements on a countywide programmatic level. A scope of work was developed and a consultant selected. The elements identified within the scope of work include:

- Audit, revision and development of public education materials;
- Translation of current countywide outreach materials into Spanish;
- Purchase of high potential, cost effective media and non-media;
- Identification of opportunities to reach out to regulatory agencies;
- Development and implementation of a school education outreach program;
- Implementation of model watershed education program - Aliso Creek Watershed;
- Development of a methodology for public awareness surveys;
- Development of a model public education/public participation chapter for localization at the Permittee level; and
- Development and implementation of a restaurant/food facilities outreach program

In early 2003, the Permittees completed the plans that comprise the “*Orange County Stormwater Program’s Public and Business Education Outreach Campaign Plans*” (**Exhibit 6.III**). They include the following Plans:

- **Materials Plan** – recommends a common look and theme for the public education materials, identifies the materials which need to be revised/created in order to communicate an effective overall pollution prevention message, and prioritizes their subsequent development during the permit term;
- **Media Outreach Plan** – identifies the various types of advertising media to be purchased and messages for delivery including the number of units, cost, schedule, target audience, and number of impressions for each media purchase. The plan also identifies the free media to be acquired and its approximate dollar value;
- **Non-Media Plan**– identifies the various types of outreach opportunities to be pursued, the implementation plan, the frequency of the outreach, the target audiences, messages for delivery including the number of units, cost, schedule, target audience, and the expected number of impressions for each event;
- **School Plan** - provides a prioritized list of recommended existing school education programs and school curriculum as well as an implementation plan and frequency of events/visits to the schools and the number and grade level of students reached; and

These plans will be updated on an annual basis to ensure the Public Education Program is effectively communicating the appropriate stormwater pollution prevention messages to the public.

6.4 Program Focus

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:

a) Countywide Public Education Program

This element addresses the sources, pathways and impacts of stormwater pollution and provides common-sense BMPs that can be implemented to reduce the discharge of pollutants to the municipal storm drain system.

b) Focus on watershed specific water quality problems

This element enhances regional information to address specific urban water quality problems within a watershed such as bacteria levels within Aliso Creek and nutrients within the Newport Bay watershed.

c) Focus on particular constituents causing water quality problems countywide

This element addresses urban chemicals/materials of concern such as pesticides, fertilizers, automotive fluids, trash and debris, cleaners, solvents, paints, pool chemicals, household hazardous waste, sediment, etc. and provides BMP guidance for proper use, clean up and disposal.

d) Focus on business practices or activities causing water quality problems countywide

This element addresses targeted businesses of concern such as mobile businesses, gas stations, automotive service centers, restaurants, etc. and will provide BMP guidance for their related business activities.

6.5 Program Implementation – First and Second Term Permit

The Principal Permittee takes the lead in developing a regional awareness program and provides the Permittees with the developed educational materials for distribution to the public. The public education program consists of public, business and household hazardous waste elements. The Permittees have always been encouraged, but not required, to enhance the information provided with educational efforts more specific to local issues of importance related to water quality.

6.5.1 Countywide Public Education

In addition to those efforts conducted in the first permit term, during the second permit term the Public Education Program included the following efforts:

- Public Education Sub-Committee – The Permittees established a public education sub-

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 Principal Permittee participated in regional public education efforts such as the California Stormwater Quality Association Public Information/Public Participation (PI/PP) Work Group.
- Orange County Agency Efforts - Other Orange County agencies also provided information to the public that aids in controlling stormwater pollution. These efforts included the following:

The County of Orange Health Care Agency's Environmental Health Division

- Pollution Prevention Program - promotes the opportunities that are available to regulated businesses to reduce and eliminate the creation of hazardous waste. They assist businesses by providing workshops, educational literature and pollution prevention events. They also manage the county's used oil program that encourages the recycling of used motor oil and filters. These programs assist the Stormwater Program by reducing the amount of hazardous substances, pollutants or contaminants entering the storm drain system.
- Food Protection Program - focuses on the inspection of retail and wholesale food facilities such as restaurants, markets, bakeries, vending machines, food processing plants, food trucks, and food carts. The Registered Environmental Health Specialists (REHS) inspect over 9,000 food establishments throughout Orange County. During these inspections they provide the brochure entitled "Water Quality Guidelines for Exterior Restaurant Cleaning Operations" and the poster entitled "Good Cleaning Practices for the Food & Restaurant Industry" The materials provide employees, managers and owners with the best management practices that businesses should employ while performing various maintenance activities.
- Hazardous Waste -The Environmental Health Division implements the Hazardous Waste Inspection Program throughout Orange County. The purpose of this program is to ensure that all hazardous wastes generated by Orange County businesses are properly handled, recycled, treated, stored and disposed. Specialists in this program inspect facilities that generate hazardous waste, evaluate hazardous waste generating industries, investigate reports illegal hazardous waste disposal, and respond to emergency spills of hazardous chemicals. During inspections specialists routinely distribute the poster entitled "Good Gas Station Operating Practices" and "Good Operating Practices for the Auto Repair Industry".

- Animal Care Services – this is a division of the Regulatory Health Services that provide pet licensing and patrol services to 19 contract cities and all the unincorporated areas of the County. They routinely distribute the Stormwater brochure entitled “ *Water Quality Guidelines for Pet Care Activities* ” throughout their Orange County facilities and at all outreach events.

The County of Orange Integrated Waste Management District

The Integrated Waste Management District (IWMD) manages the household hazardous waste program and utilizes a variety of educational materials to recommend alternatives to hazardous products as well as proper disposal of household hazardous waste. There has been close coordination with IWMD to ensure that the Permittees promote the proper disposal of household hazardous wastes both within the printed materials as well as at outreach events.

The Orange County Public Libraries

The Orange County Public library network consists of 31 branches, which provide a variety of services to residents throughout the County. All 31 branches currently display and provide all the Stormwater program’s education materials to the public.

- Principal Permittee Efforts – The Principal Permittee conducts a number of countywide public education efforts on behalf of the Permittees. These efforts include:
 - The distribution of brochures, magnets, flyers and/or bookmarks to the public and private sector;
 - Participation in several public outreach events including Children's Groundwater Festival, Festival of the Whales/Ocean Awareness Day, Tierra Nativa the Orange County Fair and the Trails 4 All Inner Coastal and Watershed Clean Up Day;
 - Participation in the American Oceans Campaign stormwater resources web page;
 - Management of the countywide 24-hr bilingual water pollution reporting hotline number (714) 567-6363, which handles water pollution complaints as well as inquiries about stormwater and public education materials;
 - Participation in various workshops and seminars addressing stormwater management issues;
 - Development and distribution of model stormwater website materials to the Permittees;
 - Advertisement of the 24 hour water pollution hotline number and new web address (www.ocwatersheds.com) in all Pacific Bell Regional Phone Directories;
 - Coordination of the Public Education Program

6.5.2 Watershed Specific Public Education

During the First Term Permit, the watershed education program element mainly consisted of the development and distribution of public and business education materials. In order to provide a more strategic direction, as well as recommendations to the Permittees, including watershed groups and cities, during the Second Term permit, the watershed program was more formally developed as an element of the public education program.

The model watershed program will increase public awareness about the concept of watersheds, specific pollutants of concern (primarily bacteria and toxicity/pesticides), their sources and the solutions. The program will integrate all of the elements of the countywide program while focusing on the specific geography and water quality issues of the area and address the impacts of watershed residents on the local water quality and the benefits of implementing best management practices.

The watershed element relies on the countywide program to establish the umbrella look, theme and focus of the public education materials and then uses them to employ similar outreach strategies for local efforts that cities and watershed groups are best positioned to implement. An analogy that illustrates the recommended relationship and coordination between the countywide program and those of watershed groups and individual cities is that of an automobile manufacturer and its regional dealer groups. Manufacturers like Ford and Toyota establish an overall brand strategy, which determines the look, theme and focus of marketing and advertising materials. These are provided to dealer groups, so that their regional advertising augments and is consistent with the national campaign. The result is a consistent, coordinated effort that more effectively communicates the brand's identity and attributes to the target audience (see the "*Orange County Stormwater Public Education Program Recommendations*" **Exhibit 6.II**).

For Orange County's stormwater public education, the countywide program serves as the umbrella campaign, with watershed groups and individual cities augmenting and reinforcing the countywide effort with local and regional efforts.

6.5.3 Pollutant-Specific Public Education

During the First and Second Term Permits, the pollutant-specific education program element mainly consisted of the development and distribution of brochures. The pollutant-specific education efforts that have taken place include the following:

1. Pet Care Activities Brochure – A brochure was developed to inform the residents of Orange County of the water quality issues regarding pet care activities and recommends ways to prevent pet care activities from creating discharges that may enter the storm drain system and ultimately the ocean.
2. Horse and Livestock Activities Brochure – A brochure was developed to inform the residents of Orange County of the water quality issues regarding the discharges that can occur due to horse and livestock management activities and recommends ways to prevent these discharges from entering the storm drains and ultimately the ocean.

3. Car Wash Fundraiser Brochure – A brochure was developed to inform the residents of Orange County of the water quality issues regarding the discharge of car wash water and recommends ways to prevent these discharges from entering the storm drains and ultimately the ocean.
4. Sewage Spill Reference Guide – A brochure is being developed in association with the Health Care Agency of Orange County and the Orange County Sanitation District to inform residents, businesses, and homeowners about the causes of, prevention of, and proper response to sewage spills.

6.5.4 Business Specific Education

During the First and Second Term Permits, the business education program mainly consisted of the development and distribution of formal BMP guidance for certain potentially polluting business activities including mobile detailing, pool maintenance activities, automotive service center and restaurant cleaning operations; and outreach to business associations. The business specific education efforts that have taken place include:

1. Carpet Cleaning Brochure – A brochure was developed to address carpet cleaning activities that may pose a threat to water quality and recommends BMPs that can be implemented to reduce the impact on the environment.
2. BMP Posters –A series of three posters were developed to address activities associated with the automotive repair industry, gasoline stations, and the food/restaurant industry that may pose a threat to water quality and recommends BMPs that can be implemented to reduce the impact on the environment. The posters will be bilingual, color and resistant so that they may be posted in the workplace as a guide for employees.
3. General Business Practices Brochure – A brochure is being developed to address those general types of business activities that may pose a threat to water quality and recommends BMPs that can be implemented to reduce the impact on the environment.
4. Landscaping and Gardening Brochure – A brochure is being developed to address landscaping and gardening activities that may pose a threat to water quality and recommends BMPs that can be implemented to reduce the impact on the environment.
5. Fresh Concrete and Mortar Brochure – A brochure is being developed to address the water quality problems that may be caused by projects using fresh concrete and mortar and recommends BMPs that can be implemented to reduce the impact on the environment.

6. Food Facilities Inspection Program - The Orange County Permittees developed a restaurant inspection program. This program will involve inspections and the distribution of educational materials at the approximately 10,000 existing restaurants (the inventory will be updated annually) countywide.

The implementation of the restaurant inspection program involves the development and implementation of a focused public education outreach component for the various restaurants and food facilities that will be inspected by the County of Orange Health Care Agency (HCA) as a part of the Existing Development component of the Stormwater Program. During these inspections, the HCA inspectors will distribute focused educational flyers and posters, which addresses the following issues:

- Appropriate cleaning of dumpster and grease bin areas
- Replacement of leaking or dirty dumpsters
- Reducing liquid waste in trash and double bagging trash to prevent leaks
- Encouraging dry sweeping
- Using covers and berms to prevent wash water from entering the storm drain system
- Disposing of wash water to the sanitary sewer rather than the storm drain system
- Stopping spills at their source
- Proper maintenance of outdoor grease interceptors

In order to effectively complement the on-ground efforts of the HCA inspectors and reinforce the key messages, a mass distribution of outreach materials is necessary. The following outreach efforts will be implemented during the 2003/04 reporting period:

- Development and one (1) mass mailing of an outreach letter for corporate environmental managers of restaurants;
- One (1) mass mailing of the public education materials to the Orange County restaurants/food facilities;
- Identification of trade associations, meetings, major suppliers, etc. that can be targeted for future workshops, speakers, etc.

6.6 Program Implementation-Third Term Permit

Although the program elements developed within the first two permit terms will continue to be implemented, the Permittee efforts during the Third Term Permit period will be focused in the following key areas.

6.6.1 Revision/Development of Countywide Public and Business Education Materials

The current countywide public and business education materials that have been developed will be reviewed and additional materials that are needed in order to communicate an effective overall pollution prevention message identified. The materials to be developed may

include brochures, pollution prevention outreach kits, videos, radio spots, fact sheets, newspaper articles, bus shelter cards, give away items, etc.

These efforts may include:

- a) The development of a common look/theme for the materials so that they share common elements such as the Pollution Prevention moniker and are thematically recognizable as stormwater education materials.
- b) The identification of additional public and business education outreach materials that are needed in order to focus on any important target audiences that the countywide program does not currently reach. The prioritization for this effort will be based on the need for the Permittees to have:
 - Delivery of a minimum of 10 million impressions within the Santa Ana Region Board area for each annual period ending June 30 (and a program goal of a minimum of 2 million impressions within the San Diego Regional Board area).
 - An outreach letter for corporate environmental managers of food facilities, automotive service centers and gasoline service stations.
 - Food facility educational materials
 - Outreach for all municipal employees
 - Outreach materials for facilitating the disposal of used oil and toxic materials.
 - Outreach for portable toilet supply firms identifying appropriate BMPs for the industry
 - Outreach for commercial/industrial facilities focusing on the requirements of the specific business types and/or activities, the Statewide General Industrial Stormwater Permit, the main types of problems created by these facilities and BMPs that can be employed to reduce these problems
 - Outreach for residential areas and activities focusing on the main types of problems created by residential activities and the BMPs that can be employed to reduce those problems.
 - Outreach for CIA and Home Owners Associations (HOA) focusing on the main types of problems created by CIA and HOA activities and the BMPs that can be employed to reduce those problems.
 - Outreach for sewage spill prevention, response and reporting, and focus on the main types of problems created by sewer overflows and the BMPs that can be employed to reduce those problems.

- Outreach for fire fighting activities focusing on the main types of problems created by fire fighting activities and BMPs that can be employed to reduce those problems.
- c) The creation/revision of the countywide public education materials so that they all have a common look and theme and are recognizable as consistent stormwater education materials.

The objectives of the revised program materials will be to:

- Focus on specific pollution-causing behaviors and address them directly, and individually whenever possible, to increase the likelihood of changing those behaviors and reducing pollution;
- Emphasize the relevant impact of stormwater pollution to each particular target audience;
- Include a specific call to action in each message which offers a positive alternative to pollution-causing behaviors;
- Tailor the personality, focus and depth of program messages appropriately for each audience and venue, rather than forcing a single message on all audiences and across all media;
- Facilitate a local and countywide stormwater theme and look;
- Be developed for direct incorporation into the appropriate delivery media (i.e. radio spots, video for cable shows, articles for newspapers, etc.);
- Be developed in English and Spanish; and
- Include the Project Pollution Prevention moniker.

6.6.2 Development of an Advertising Media Plan

In order to support the countywide public and business education program, the Permittees will develop and implement a strategic media relations campaign. The media relations efforts will be directed to media such as general and/or issue-specific radio shows (such as auto care/maintenance), transit/bus shelters and interior bus cards, special sections of widely distributed publications (such as the Orange County Register or Los Angeles Times gardening columns, and publications such as OC Weekly and OC Metro), community or college papers and specific ethnic press (such as Excelsior). Advertising opportunities may also include the placement of slides for movie theaters and may include public service announcements that can be shown at Orange County movie theaters and on cable television.

These efforts may include:

a) The Development of a Media Plan

Based on market research of media data, a cost efficient and effective media plan will be developed. The media plan will:

- 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; and
- Identify the expected number of impressions that may be achieved for each event.

b) Measurement of Advertising Media

- In order to be effective, the media outreach will make a certain number of impressions in order to measurably increase the knowledge and measurably change the behavior of the targeted groups. These impressions will be measured.

6.6.3 Purchase of Advertising Media

Advertising media will be purchased and employ cost-effective strategies to reach a majority of the selected target audiences with sufficient frequency to increase awareness of the causes, impact of, and solutions to stormwater pollution and motivate them to change their polluting behaviors.

6.6.4 Development of a Non-Media Outreach Media Plan and Track Impressions Made

A cost effective and strategic non-media outreach campaign will be developed and implemented in order to support the Orange County NPDES Stormwater Program's public and business education efforts and complement the advertising media outreach. As defined here, "non-media outreach" refers to activities that are not paid media advertisements. The non-media outreach efforts will be cost-effective and reach selected target audiences with sufficient frequency in order to increase their awareness and motivate them to change their polluting behaviors.

These efforts may include:

a) Survey of free media

The Permittees will assist in identifying what types of media outlets they may have available for the countywide public and business education campaign such as cable access channels or bus shelter advertising space and provide a summary of the survey results and its estimated value.

b) Development and Implementation of a Countywide Non-Media Outreach Plan

The key outreach opportunities that can be implemented countywide and the types of outreach materials that can be used for each opportunity will be identified. The non-media opportunities that the Permittees may employ include the following:

- Point of Purchase Campaign opportunities (home improvement and pet supply stores) and employee workshops that could be developed and implemented in subsequent years;
- Various trade associations, Chambers of Commerce and other civic and social organizations that could provide key opportunities for providing outreach to businesses or others;
- Suppliers and/or vendors that cater to targeted businesses (automotive shops, construction/development firms, commercial landscape services and mobile businesses such as carpet cleaners, pavement cutting services) that would provide an opportunity for outreach; and
- Companies that cater to the public such as movie theaters or amusements parks that could provide an opportunity for public outreach.

c) Local Outreach Materials

Various outreach opportunities that can be implemented on a local level and the types of materials that can be utilized to reach the target audience will be identified.

Opportunities may include:

- Local public outreach events
- Municipal staff outreach
- Animal shelter/animal licensing outreach
- City newsletters and Websites
- Utility Bill Inserts
- Trash collection and household hazardous waste events
- Permitting/licensing and public counter outreach
- Truck magnets

6.6.5 School Education Outreach Program

Since outreach to schoolchildren is the core to developing an environmental ethic in the next generation that can help prevent stormwater pollution, the objective of this task will be to identify a coordinated and comprehensive program that combines multiple elements—classroom or assembly presentations, teacher workshops and field events, and has the greatest potential to leave a lasting impression on school children.

These efforts may include:

a) Identification and Prioritization of School Curriculum and Programs

Identification and prioritization of the storm water school education program materials that could most effectively be incorporated into or used to support existing school educational efforts such as those currently conducted by agencies like the Municipal Water District of Orange County School Education Program or Project Wet.

6.6.6 Development of a Methodology for Public Awareness Surveys

The results and methodology of the 2002 Orange County Stormwater Public Awareness Survey and the Los Angeles County Segmentation Study will be reviewed. Based on this review an approach and methodology for public awareness surveys will be developed identifying the estimated cost, type of survey, frequency, sample size, questions and how they should be framed in order to produce data that is statistically valid and defensible.

6.6.7 Implementation of the Aliso Creek Watershed Education Program

Within the context of the countywide public and business education program, the model watershed educational program recommendations that were included in the 2002 Orange County Program Recommendations report in the Aliso Creek watershed may be implemented in order to increase the public awareness about the specific pollutants of concern (primarily bacteria and toxicity – pesticides), their sources and the solutions. The program would integrate all of the elements of the countywide program while focusing on the specific geography and water quality issues of the area and address the impacts of watershed residents on the local water quality and the benefits of implementing best management practices.

The Aliso Creek watershed educational program would rely on the countywide program to establish the umbrella look, theme and focus of public education materials and use them to employ similar outreach strategies for local efforts that the Watershed Permittees individually or watershed or collectively could implement.

6.6.8 Outreach to Food Service Facilities

A focused public education outreach component for the various food service facilities that will be inspected by the County of Orange Health Care Agency (HCA) as a part of the existing development component of the countywide stormwater program will be developed and implemented. The outreach will provide the initial intensive training for these facilities on protecting the storm drain system and this will subsequently be supplemented by follow-up materials distributed by the HCA inspectors during routine inspections.

These efforts may include:

a) Review/Revision of Current Countywide Outreach Materials

The current countywide restaurant/food facility public education outreach materials will be reviewed/ revised to ensure that they adequately address the following issues:

- Appropriate cleaning of dumpster and grease bin areas
- Replacement of leaking or dirty dumpsters
- Reducing liquid waste in trash and double bagging trash to prevent leaks
- Encouraging dry sweeping
- Using covers and berms to prevent wash water from entering the storm drain system
- Disposing of wash water to the sanitary sewer rather than the storm drain system
- Stopping spills at their source
- Proper maintenance of outdoor grease interceptors

b) Outreach to Food Service Facilities

In order to reach the approximately 9,500 restaurants and food facilities in Orange County and reinforce the key messages, mass distribution of outreach materials is necessary in order to effectively complement the on-ground efforts of the HCA inspectors. The outreach efforts may include the following:

- Mass mailing of an outreach letter for corporate environmental managers of restaurants;
- Mass mailing of the public education materials to the Orange County restaurants/food facilities;
- Identification of trade associations, meetings, major suppliers, etc. that can be targeted for future workshops, speakers, etc.

c) Pilot Education Program for Problem Facilities

A pilot education program may be developed for food service facilities that have recurring water quality problems. This may involve physical counseling in conjunction with Orange County Permittee follow-up actions.

6.7 Public Awareness Surveys

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 stormdrain system and the public's overall awareness of the County's public outreach campaign. The results may assist the stormwater program managers in determining what additional efforts need to be conducted and where focused efforts should take place.

6.7.1 1994 Stormwater Pollution Prevention and Flood Awareness Survey

In 1994 the University of California at Irvine (UCI) conducted a public education survey on behalf of the NPDES Stormwater Program as a part of the Orange County Annual Survey. This survey was co-directed by Mark Baldassare and Cheryl Katz of the University of California, Irvine. The Stormwater Pollution Prevention and Flood Awareness Survey comprised 10 questions on topics such as awareness and knowledge. The intent of the survey was to gather information on the public's perception regarding storm water.

For this telephone survey, random samples of 1,000 Orange County adults were interviewed over the period August 19-29, 1994. The sampling error was three percent for the total sample.

The key results of this survey were:

- Eighty-six percent say it is illegal to throw materials into the storm drain. However, nearly half of Orange county adults believe that the storm drain system and the sewer system are the same (44%) and that the water in storm drains is filtered and tested before it leaves the system (48%). Older Anglo, South County and higher socioeconomic status residents tend to know more about stormwater pollution.
- Thirty-three percent have seen public service announcements on television about dumping in storm drains, while 8 percent have seen brochures and 60 percent have noticed the "No Dumping" messages stenciled on curbs or storm drains. The study notes that, in general, exposure to announcements and warning signs on curbs lead to greater awareness of stormwater pollution prevention.

The main finding of the survey was that the public assumed that storm water was being treated. As a result of that finding, an effort was made to stencil storm water inlets with a uniform message throughout the county that informs the public that storm water drains directly to the ocean.

6.7.2 2000 County of Orange Fair Survey

In July 2000, during the annual County Fair, the Principal Permittee conducted an informal urban runoff awareness survey. The survey incorporated six questions that were generally focused around basic awareness issues such as the difference between the storm drain and the sanitary sewer system and perceptions of current environmental problems. The questions were selected based on the public education Final Report that was completed in 2000. Two hundred and thirty-seven people completed the survey.

The key results of the survey were:

- Sixty-four percent of the respondents understood that the storm drain and sanitary sewer systems were not part of the same underground drain system;
- Seventy-four percent of the respondents understood that the water that flows into the storm drain system is not tested and filtered to remove wastes before they flow to the ocean;
- Nearly all of the respondents understood that the water that flows into the storm drain system ends up at the ocean;
- Eighty-nine percent of those surveyed had observed that the storm drains are stenciled with a "No Dumping – Drains to Ocean"; and
- All respondents believed that there is a pollution problem in Orange County.

6.7.3 Los Angeles Times In Education Survey

In 1999, in coordination with *The Los Angeles Times*'s Time in Education program, the Principal Permittee contributed to a pesticide/herbicide watershed based survey of secondary school students of Orange County. The survey was created to help the County understand how, when and where the general public is using pesticides and herbicides within its borders. Countywide data was tabulated and compared to two County watersheds, San Diego Creek (SDC) and Newport Bay (NB). Surveys were ultimately returned from eight watersheds.

The most central topics presented to those surveyed were form of pesticide, time of application, disposal, frequency of application and area of application.

The key results of the survey were:

- Eighty-six percent of the pesticides/herbicides listed by those surveyed were a liquid state pest (ants, fleas, weeds, moths, flies, insects, et cetera) control. The liquid form pest control (pesticides/herbicides) is more readily available to be "picked-up" by rain, irrigation or runoff, contributing to toxicity in waterbodies (streams, rivers, lakes, estuaries, and/or harbors).
- Nearly twelve percent of those surveyed in "All Other" watersheds coincide pesticide/herbicide application with precipitation or irrigation. Nearly 18 percent of those surveyed within the San Diego Creek (SDC) and Newport Bay (NB) watersheds coincide pesticide/herbicide application with precipitation or irrigation.
- Only 4.8 percent (All Other watersheds) and 4.4 percent (SDC + NB) of those surveyed dispose of unused pesticides/herbicides directly into a catch basin or storm drain.
- Forty percent (All Other watersheds) and 47.8 percent (SDC + NB) of those surveyed dispose of unused pesticides/herbicides in areas that are exposed to precipitation and/or wind.

The main finding of the survey was that the public, overwhelming uses liquid based pesticides and herbicides. The survey also revealed that the public has increased its knowledge about urban runoff issues and their awareness of the connectivity between the ocean and storm drain system from the 1994 phone survey.

6.7.4 2001 Public Awareness Survey

In October 2001 a public awareness survey was conducted in Orange County. The two primary objectives were:

- Provide a baseline measure of residents' awareness, attitudes, practices and habits related to stormwater pollution, against which future outreach efforts can be measured; and
- Provide an additional program development tool for identifying target audiences and key messages, developing strategies and confirming underlying assumptions. The survey results were presented in January 2002.

The key results of the survey were:

- Among Orange County residents, there is a reasonably strong foundation of public concern about water pollution, some knowledge of pollution related issues and a willingness to change behaviors, all of which are positive starting points from which to build a successful social change campaign.
- Orange County residents appear to have benefited from the Los Angeles County stormwater public education campaign, with messages breaking through to them at fairly high levels.
- Water polluting behaviors among Orange County residents are nearly identical in their patterns to those of Los Angeles County residents.
- Residents are more concerned about water pollution than litter or trash, which may make it difficult for anti-litter messages to capture their interest, unless the messages include compelling information that gives residents a reason to feel concerned.
- An opportunity appears to exist to positively impact residents' understanding of the relationship between their behavior, runoff and ecological damage.

The survey results were utilized within the Final Recommendations Report and assisted the Permittees in focusing their efforts and resources. It is expected that at least one more public awareness survey will be completed during the third term permit period so that the Permittees can re-focus their efforts and resources as needed.

6.7.5 Survey Conclusions

Although the results from the informal surveys conducted in 2000 are very similar, when compared to the 1994 UCI survey, some general conclusions can be made:

- Between 1994 and 2000, an additional 8% of those surveyed understood that the storm drain and sewer systems were not part of the same underground drain system;
- Between 1994 and 2000, an additional 22% of those surveyed understood that the water that flows into the storm drain system is not tested and filtered to remove wastes before they flow to the ocean; and
- Between 1994 and 2000, an additional 29% of those surveyed had observed that the storm drains are stenciled with a “No Dumping – Drains to Ocean message.

This apparent increase in public awareness may be a result of effective current and past large-scale multi-agency, multi-city and County Stormwater education programs promoting the connection, and disconnection, between storm drains, the sewer system and water quality.

6.7.6 2003 Public Awareness Survey

In May 2003, the Orange County Permittees conducted a public awareness survey to measure the current level of knowledge held by residents of Orange County (**Exhibit 6.IV**). The survey interviewed 1500 respondents (300 per County Supervisor district). Although the number of respondents from some cities is too small to be statistically valid on its own, the overall survey results are pertinent to each city and area and therefore represent the entire county. The primary objectives were:

- Build upon the previous Public Awareness Survey
- Use an adequate sample size to provide a baseline measure of residents’ awareness, attitudes, practices and habits related to stormwater pollution, against which future outreach efforts can be measured; and
- Provide an additional program development tool for identifying target audiences and key messages, developing strategies and confirming underlying assumptions.

The major findings of the survey include:

- Environmental issues are a concern in Orange County, but less so than other issues such as education, crime, traffic and jobs.
- Pollution of beaches and waterways is the top environmental concern in the county, regardless of whether the respondent resides near the coast or inland.
- There is a lack of basic knowledge about facts regarding urban runoff pollution: respondents are evenly confused about the differences between sanitary sewer wastewater and stormwater.

- Respondents are focused on chemicals and toxic wastes as the sources of urban runoff pollution, and they minimize the contributions of everyday home and garden activities.
- Respondents are concerned about beach closures and other harmful effects on the environment from stormwater pollution and urban runoff.
- There is a perception that everyone can make a difference in reducing runoff pollution, and most are willing to do so if they have the information about what they can do to reduce pollution from urban runoff.
- Scientists, biologists and other experts are seen as most credible on issues regarding the causes, and effects and reduction of stormwater pollution.
- The Orange County Register is the top source of urban runoff pollution information.
- Orange County survey respondents enjoy the beach and other outdoor activities.

The survey results indicate that the need for an information campaign is clearly warranted to dispel the many misconceptions surrounding urban runoff and its relationship to water quality impairment. For example, many respondents understand the link between pollution and beach closures, but few make the link between urban runoff and beach closures.

Furthermore, some believe that urban runoff flows into sanitary sewer systems, and not necessarily down storm drains that lead into natural channels or the beach. The findings also indicate that the public believes the blame for urban runoff pollution is widespread. Their focus seems to be more on chemicals and oil than on their everyday activities such as sweeping, gardening activities, or car washing, as major contributors to urban runoff pollution.

Based on the findings of the 2003 survey, public education efforts will have the following areas of emphasis:

- Explanation of the link between urban runoff, stream pollution and beach closures.
- Explanation of the separate functions of the storm drain and sanitary sewer systems.
- Identification of the principal causes of stream and ocean pollution.
- Explanation of the potential link between urban runoff and the environment.
- Explanation that all residents affect water quality through their actions.
- Explanation of the value of carefully selecting and applying fertilizer and pesticides.
- Explanation of the importance of pet waste clean up.
- Expansion of the range of “message sources” from storm drains stenciling and newspaper articles to other types of media.

6.8 Program Effectiveness Assessment

In addition to the public awareness surveys, the overall Program Effectiveness Assessment (PEA) serves as the foundation for the submittal of the annual progress report that is submitted each year to the Principal Permittee and subsequently to the Regional Boards and serves as the basis for evaluating each municipality's individual public education efforts (See **DAMP Appendix C**).

By completing the effectiveness assessment, the Permittees will each have a baseline by which they can compare subsequent evaluations and identify trends. This information can then be used to determine where modifications within the program may be necessary and ensures that the iterative evaluation and improvement process is applied to the program component and used as an effective management tool.