

# MEASUREMENT OF EFFECTIVENESS

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## ◆ OVERVIEW ◆

To assess the overall effectiveness of the Five-Year Public Education Plan, research will be conducted at the three-year mark and at the conclusion of the campaign in year five through quantitative studies in the General Public/Residents and Businesses (auto repair, restaurant and construction) audiences. This research will include a component to assess *why* and *how* the program is working so that the research will continue to help in the refinement and improvement of the program over the life of the Plan. In addition, other anecdotal, qualitative and quantitative measurements will be implemented periodically to assess the effectiveness of the program among specific audiences or in different media channels.

In order to accurately assess the effects of the program, it is necessary to:

- ◆ measure the impact among the appropriate targets and sub-targets; and,
- ◆ compare results to “benchmark” data.

Target groups will include Los Angeles County residents, plus business owners/managers from three high-risk industries -- automotive repair, construction and restaurants.

Benchmark comparison data will come from three sources:

- ◆ Los Angeles County Stormwater/Urban Runoff Quality Management Program, Initial Public Opinion Poll, The Sierra Group (February 1995)
- ◆ Los Angeles County Stormwater/Urban Runoff Five-Year Public Education Plan Residents Segmentation Study, Pelegrin Research Group (February 1997)
- ◆ Los Angeles County Stormwater/Urban Runoff Five-Year Public Education Plan Industry Survey, Pelegrin Research Group (March 1997)

To accurately assess the effects of the public education program, it is necessary to:

- ◆ measure the impact among the appropriate targets; and,
- ◆ compare results to “benchmark” data.

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## Methods of Measuring Effectiveness

- ◆ Year three general public/residents survey (Quantitative)
- ◆ Year five general public/residents and businesses survey (Quantitative)
- ◆ Questionnaires completed by teachers after presentation of school programs (Quantitative)
- ◆ Number of phone calls to 1-888-CLEAN-LA and local hotline numbers (Quantitative)
- ◆ Number and content of news clippings (Anecdotal)
- ◆ Promotional/PSA value (Anecdotal)
- ◆ Annual reports from non-public education Model Programs (Quantitative, Qualitative, and/or Anecdotal, depending on information provided)

## ◆ YEAR THREE SURVEY -- METHODOLOGY ◆

At the year three milestone, evaluation data from the General Public/Residents audience will be collected through a telephone survey. Telephone interviewing is the most cost-effective methodology and provides statistically reliable, projectable data.

### General Public/Residents Target Population of Qualified Respondents:

- ◆ Men and women
- ◆ 16+ years old
- ◆ Permanent residents of Los Angeles County for at least six months

General population interviews will be approximately 15 minutes in length and will be conducted in language of preference -- English, Spanish, Korean, Cantonese, Mandarin or Vietnamese.

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Sample Size:

- ◆ 600 Los Angeles residents (as identified under Target Population above)

This sample size is recommended because, in addition to providing highly reliable data -- error rate of " 4% -- the sample size will be large enough to conduct subgroup analysis for more detailed understanding of the program's effects.

What Will Be Measured?

- ◆ Perceived importance of stormwater pollution relative to other issues facing the community
- ◆ Reported presence of stormwater pollutants in respondents' neighborhoods
- ◆ Self-reported polluting behaviors
- ◆ Sources of information on pollution prevention
- ◆ Awareness of and response to the campaign
- ◆ Willingness to change behavior/get involved in prevention

## ◆ YEAR FIVE SURVEY -- METHODOLOGY ◆

The general public/residents survey previously described (page 127) in year three will be repeated at the conclusion of the program in year five, and an added survey element of the high-risk businesses will be implemented. The industry survey will provide a measure of the changes in awareness of stormwater-related issues as well as changes in the prevalence of work-related behaviors contributing to -- or preventing -- stormwater pollution among the high-risk business community. Additionally, the study will provide an understanding of the elements of the communications program that are having the most impact and those that are not.

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As with the General Public/Residents audience, a telephone survey methodology will be utilized to assess the effects of the program among business owners/managers. Interviews will be approximately 15 minutes.

High-Risk Business/Industry Target Population of Qualified Respondents:

- ◆ Restaurant
- ◆ Construction
- ◆ Automotive Repair

Sample Size:

- ◆ 100 Restaurant Owners/Managers
- ◆ 100 Construction Owners/Managers/Foremen
- ◆ 100 Automotive Repair Owners/Managers

What Will Be Measured?

- ◆ Perceived importance of stormwater pollution relative to other issues facing business
- ◆ Prevalence of pollution-reducing equipment
- ◆ Recycling practices
- ◆ Prevalence of stormwater pollution-producing behaviors on the job
- ◆ Perceived importance of proper waste disposal and clean-up activities
- ◆ Propensity to distribute/display prevention-related information
- ◆ Level of knowledge about pollution of ocean, rivers and lakes
- ◆ Awareness of stormwater messages

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## ◆ DATA ANALYSIS & EVALUATION ◆

In both the third and fifth year, the level of reported stormwater-polluting behavior will be examined in total and by subgroups (e.g., demographic groups). The segments identified as key target groups<sup>28</sup> will be monitored to assess the success of the program in changing awareness, attitudes and behavior among those identified as most important to the program's efforts. Key dimensions also will be analyzed against stated goals of the program as detailed in Section V -- Implementation By Target Audience.

The business/industry data will be reported separately from the general public/residents data and will assess changes in levels of awareness, attitudes and behaviors related to stormwater pollution among owners/managers in the three target industry groups.

### Overall Program Goals

Increase <i>awareness</i> of messages about pollution of the ocean, rivers and lakes to 83% in five years.	Segmentation Survey Q.7b, c*
What messages are most likely to draw attention, be understood and resonate with the general population?	SQ.14b
What messages carry a sense of importance and urgency?	SQ.14b
What information delivery medium will produce the greatest influence?	SQ.7c, 10a, b; SQ11a, b; 12
What combination of messages and information will effect the greatest change?	Segmentation Survey in total

\* Please see Appendices for baseline Segmentation Study Questionnaire (SQ) and Industry Survey Questionnaire (IQ).

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<sup>28</sup>See Section IV, Segmenting the Target Audiences for profiles of the targeted audience groups.

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## General Public/Residents Goals

<p>Increase the general public's <i>concern</i> about pollution of ocean, rivers and lakes to 64%.</p>	<p>SQ.13*</p>
<p>Increase the number of residents who feel <i>knowledgeable</i> about what causes pollution of ocean, rivers and lakes to 88%.</p>	<p>SQ.7a</p>
<p>Increase the percentage of residents who would definitely change their behavior to 64%.</p>	<p>SQ.7d; IQ.4</p>
<p>Increase percentage of general public/residents incorporating and practicing the following activities as part of their normal everyday routines by the end of five years (NPDES Permit, Page 58, Section C.i.b.aa):</p>	
<p><i>Recycling and Source Reduction:</i></p>	
<ul style="list-style-type: none"> <li>➤ recycle glass, aluminum, plastic and newspapers in curbside programs or at redemption centers</li> </ul>	
<p><i>Household Hazardous Waste Utilization and Disposal Options:</i></p>	<p>SQ.6; IQ.4</p>
<ul style="list-style-type: none"> <li>➤ dispose of household and other hazardous waste; e.g., used motor oil and antifreeze, car and household batteries (increase to 23%), paint and related materials (to 28%), toxic household cleaning materials (to 31%); at a recycling center or specialized collection site</li> </ul>	<p>SQ.3a, d, e; SQ.14a</p>
<ul style="list-style-type: none"> <li>➤ begin incorporating non-toxic cleaning materials and garden chemicals into the household</li> </ul>	<p>SQ.3e; IQ.4</p>
<ul style="list-style-type: none"> <li>➤ decrease used motor oil dumping in storm drains or gutters to 2%. Decrease other improper used motor oil dumping to 12%</li> </ul>	<p>SQ.3f</p>
<ul style="list-style-type: none"> <li>➤ decrease radiator fluid being drained into the street to 18%</li> </ul>	
<p><i>Good Housekeeping Practices:</i></p>	<p>SQ.4b</p>
<ul style="list-style-type: none"> <li>➤ decrease cars being washed on the pavement to 27%</li> <li>➤ decrease littering to 10%</li> <li>➤ decrease hosing leaves and dirt to 9%</li> <li>➤ decrease dumping directly into the storm drains to 2%</li> <li>➤ decrease dropping cigarettes butts on ground to 12%</li> <li>➤ decrease leaving dog droppings on the ground to 1%</li> </ul>	

\* Please see Appendices for baseline Segmentation Study Questionnaire (SQ) and Industry Survey Questionnaire (IQ).

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## Business/Industry Goals

Increase the number of construction businesses' owners/managers that feel they are *very knowledgeable* about the causes of ocean, river and lakes pollution to 38% by the end of five years.

Construction 10a, b, 11b

Increase the number of auto repair businesses' owners/managers that feel they are *very knowledgeable* about the causes of ocean, river and lakes pollution to 43% by the end of five years.

Automotive Repair 10a, b, 11b

Increase the number of restaurant businesses' owners/managers that feel they are *very knowledgeable* about the causes of ocean, river and lakes pollution to 30% by the end of five years.

Restaurant 10a, b; 11b

Increase recall of messages that specifically address how the construction industry may contribute to pollution of ocean, rivers and lakes to 44%.

Construction 10b, c

Increase recall of messages that specifically address how the auto repair industry may contribute to pollution of ocean, rivers and lakes to 65%.

Automotive Repair 10b, c

Increase recall of messages that specifically address how the restaurant industry may contribute to pollution of ocean, rivers and lakes to 35%.

Restaurant 10b, c

Increase the propensity of construction owners/managers to train/educate their employees about proper waste disposal and clean-up practices, including holding company meetings (increase to 80%); conducting one-on-one training (to 62%); and displaying posters at the work site (to 48%).

Construction 8, 9

Increase the propensity of auto repair owners/managers to train/educate their employees about proper waste disposal and clean-up practices, including holding company meetings (increase to 88%); conducting one-on-one training (to 62%); and displaying posters at the work site (to 83%).

Automotive Repair 8, 9

Increase the propensity of restaurant owners/managers to train/educate their employees about proper waste disposal and clean-up practices, including holding company meetings (increase to 86%); conducting one-on-one training (to 90%); and displaying posters at the work site (to 64%).

Restaurant 8, 9

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Decrease the number of construction business owners/managers who feel that waste disposal and clean-up activities are less important than other priorities to 0%.

Construction 5\*

Decrease the number of auto repair business owners/managers who feel that waste disposal and clean-up activities are less important than other priorities to 0%.

Automotive Repair 5

Decrease the number of restaurant business owners/managers who feel that waste disposal and clean-up activities are less important than other priorities to 0%.

Restaurant 5

\* Please See Appendices for baseline Segmentation Study Questionnaire (SQ) and Industry Survey Questionnaires (IQ = Construction, Automotive Repair, Restaurant).

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### ◆ OTHER MEASUREMENTS: ANECDOTAL, QUALITATIVE & QUANTITATIVE ◆

The following measurement efforts will be used to support the statistical, quantitative surveys in years three and five. While not all of these measurement tools are statistically valid, they provide valuable insight, information and feedback in an anecdotal manner. They also will provide a more well-rounded picture of the effects and results of the Five-Year Public Education Plan.

#### Teacher Questionnaires/Student Forums/Staff Audits (Qualitative, Anecdotal)

On-going evaluations of the elementary and secondary school education programs will include:

- ◆ Teacher surveys. Teacher participants will be provided a concise, simple-to-fill-out evaluation form and a self-addressed envelope. Past experience through TreePeople's *Canopy* program shows a 40% return on evaluation forms.
- ◆ County and TreePeople staff audits. Management staff will routinely monitor all programs for quality and impact. Staff will review the live program, watch children's and teacher's responses and interview selected children and teachers.
- ◆ Secondary student focus groups. Representative students will participate in discussions about the impact of the program and provide insight into activities that will reflect current trends and interests of teenagers.

#### Phone calls to 1-888-CLEAN-LA and local hotline numbers (Quantitative)

The number of incoming 1-888-CLEAN-LA phone calls will be tracked monthly and correlated to (1) advertising and promotional campaigns that were implemented during specific timeframes, and (2) the season. Co-permittees are encouraged, but not required, to keep 1-800/888 tracking logs for their respective hotlines.

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### News Clippings (Anecdotal)

In order to monitor media coverage, print and electronic coverage will be tracked and catalogued by the News Bureau. Annually, this coverage will be analyzed for content, origin and dollar value.

### Promotional/PSA Value (Anecdotal)

The dollar value of free print and electronic public service announcements will be calculated on an annual basis using a standardized advertising formula to evaluate the dollar amount leveraged and budget augmentation.

### Annual Reports from Co-permittees (Qualitative, Quantitative and/or Anecdotal)

As per the Permit (page 15, I. Program Management, B. Responsibilities of the Permittees, 4. and 7.), each Co-permittee is responsible for submitting an annual report to the County on its implementation of the Stormwater Management Program (SWMP) and Countywide Stormwater Management Plan (CSWMP) as well as submitting a report to the Executive Officer on recommendations for conflict resolution between other agencies.

### Annual reports from Watershed Management Committees (Qualitative, Quantitative and/or Anecdotal)

As per the Permit (page 16, I. Program Management, C. Responsibilities of the WMCs, f.), each WMC is responsible for coordinating and facilitating the submittal of completed reporting forms to the County and to assist in the preparation of Annual Reports by the County on activities within the WMA for submittal to the Executive Officer.

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Reports from Non-Public Education Model Programs (Quantitative, Qualitative, and/or Anecdotal)

- ◆ Illicit Discharges (page 27, II. Illicit Connections and Illicit Discharges, B. Illicit Discharges, e.)
- ◆ Public Agency Programs (page 44, IV. Public Agency Activities, C. Program Requirements, 2. Public Construction Activities Management, v. and 4. Landscape and Recreational Facilities Management, iv. and 5. Storm Drain Operation and Management, a. iii., iv. and 8. Public Industrial Activities, a.v. )

## ◆ COUNTY RESPONSIBILITIES ◆

- ◆ Development of survey questionnaire
- ◆ Implementation of countywide survey
- ◆ Analysis and evaluation of data (quantitative, anecdotal and qualitative)
- ◆ Final report to all Co-permittees
- ◆ Adjustments to Five-Year Plan based on evaluation of data from year three survey and anecdotal information

## ◆ CO-PERMITTEE RESPONSIBILITIES ◆

- ◆ Adaptation of County program adjustments based on year three survey results
- ◆ Anecdotal reports from 1-800/888 phone numbers
- ◆ Co-permittee and WMC annual reports

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## ◆ FREQUENCY / TIMING ◆

Year Three Survey -- General Public/Residents Only

- ◆ Timeframe: Spring 1999
- ◆ General Public/Residents Survey Development Process:

Questionnaire development and approval	3 weeks
Data collection	3 weeks
Data tabulation	2 weeks
Data analysis and report	4 weeks
Total process time:	approx. 12 weeks

## ◆ FREQUENCY / TIMING ◆

Year Five Survey -- General Public/Residents and Business/Industry

- ◆ Timeframe: Spring 2001
- ◆ Business/Industry Survey Process:

Questionnaire development and approval	3 weeks
Data collection	3 weeks
Data tabulation	2 weeks
Data analysis and report	4 weeks
Total process time:	approx. 12 weeks
- ◆ General Public/Residents Process (running on parallel track with Business/Industry)

Questionnaire refinement from year three	2 weeks
Data collection	3 weeks
Data tabulation	2 weeks
Data analysis and report	4 weeks
Total process time:	approx. 11 weeks

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## ◆ FREQUENCY / TIMING ◆

- ◆ Teacher questionnaires after each program,  
annual compilation report
- ◆ 1-888-CLEAN-LA monthly  
annual analysis
- ◆ News clippings on-going  
annual analysis
- ◆ Promotional/PSA value by campaign/promotion
- ◆ Co-permittee, WMC reports annually
- ◆ Non-education model programs annually