

Stormwater/Urban Runoff Public Education Program

**PILOT PROGRAM
YEAR I EVALUATION REPORT**

MARCH 2004



**COUNTY OF LOS ANGELES
Department of Public Works**

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EXECUTIVE SUMMARY

In February 2003 the County of Los Angeles Department of Public Works embarked on a Stormwater/Urban Runoff Public Education Program. Focused on reducing the amount of pollution flowing through the County storm drain system, the campaign implemented a strategic plan designed to both inform County residents about stormwater pollution and motivate them to change their polluting behaviors.

The campaign objectives per the NPDES Permit were:

- Measurably increase the knowledge of the target audiences regarding the storm drain system, the impacts of stormwater pollution on receiving waters, and potential solutions to mitigate the problems;
- Measurably change the waste disposal and runoff pollution generation behavior of target audiences by practice of appropriate solutions; and
- Involve and engage socio-economic groups and ethnic communities in the County to participate in mitigating the impacts of stormwater pollution.

To accomplish these objectives, a number of strategies were used including pilot community involvement projects in two inland communities to focus education efforts and evaluate results. The pilot programs were implemented in East Los Angeles (specifically the unincorporated community of Union Pacific) and Inglewood and were comprised of research, advertising, community task forces, and cleanup days.

Based on the evaluation methods that are commonly used for public outreach events, the pilot programs were very successful. More than 450 volunteers participated in the community cleanup days and collected more than 19,000 pounds of trash from neighborhood streets. Event volunteers were enthusiastic, many asking when the next clean-up event would be held and how they could receive additional information about pollution prevention. In addition to the positive community response, the event garnered 30 local media reports and hundreds of dollars in cash, goods and services from 32 sponsors.

Pilot program activities began in early August and concluded during the last week of October. In addition to the traditional evaluation methods, the pilot programs employed some new measurements intended to evaluate actual behavior change among residents in the program areas if possible. These additional methods included a telephone poll and trash measurement within the pilot program communities, and monitoring calls to the County's hotline.

While the evaluation results demonstrate some reductions in the amount of trash in the pilot areas, it should be noted that we are still perfecting methods that will allow us to definitively show a link between our campaign efforts and the public's behavior. Traditionally, public education campaigns focused on changing behavior require several years of consistent outreach and message continuity to make a significant impact. Therefore, the goal of the first year of the campaign was to learn more about the target audiences and/or region, test the receptivity of the community to various campaign messages and activities, and further refine data collection methodologies.

Even though the duration of Program Year I was relatively short, there were program successes. An encouraging number of County residents participated in the community events, recalled campaign messages and increased calls to the County's pollution prevention hotline. Additionally, trash measurement data indicates a slight change in polluting behaviors for both pilot program areas.

The following report details campaign measurement outcomes, highlighting successes as well as addressing challenges.

UNION PACIFIC PILOT AREA ANALYSIS*

East Los Angeles total land area:
7.4 square miles. Union Pacific is approximately a one-square-mile community in Unincorporated East Los Angeles.

Primary zoning descriptions and land uses:

Mixed residential, general industrial, and retail/commercial

Watershed: Los Angeles River

Target pollutants for outreach:

trash, nutrients (Nitrogen), indicator bacteria, metals, pesticides, PAHs.

Median resident age: 26.5 years

Median house value:
\$155,800 (year 2000)

Demographics:

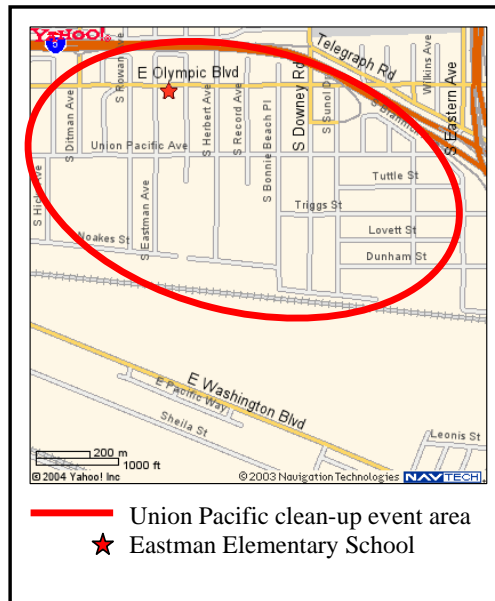
- Hispanic (96.8%)
- Other race (54.0%)
- Two or more races (4.2%)
- White Non-Hispanic (1.8%)
- American Indian (1.7%)

(Total can be greater than 100% because Hispanics could be counted in other races)

Population over age five that is Spanish speaking in home: 86%

East Los Angeles compared to California state average:

- Median household income **below** state average.
- Unemployed percentage **above** state average.
- Black population percentage **significantly below** state average.
- Hispanic population percentage **significantly above** state average.
- Median age **significantly below** state average.
- Foreign-born population percentage **significantly above** state average.
- Renting percentage **above** state average.
- Number of rooms per house **significantly below** state average.
- Percentage of population with a bachelor's degree or higher **significantly below** state average.
- Population density **significantly above** state average.



CITY OF INGLEWOOD PILOT AREA ANALYSIS*

City of Inglewood total land area:
9.1 square miles

Primary zoning descriptions and land uses:

Mixed residential and retail/commercial

Watershed:

Dominguez Channel

Target Pollutants for Outreach:

Trash, indicator bacteria, PAHs

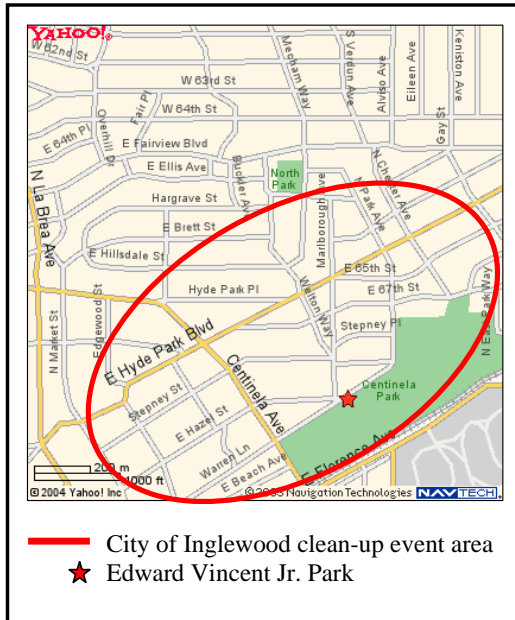
Median resident age: 29.6 years

Median house value:

\$175,000 (year 2000)

Demographics:

- Black (47.1%)
- Hispanic (46.0%)
- Other race (27.4%)
- Two or more races (4.2%)
- White Non-Hispanic (4.1%)
- American Indian (1.4%)



(Total can be greater than 100% because Hispanics could be counted in other races)

Inglewood compared to California state average:

- Median household income **below** state average.
- Unemployed percentage **above** state average.
- Black race population percentage **significantly above** state average.
- Hispanic race population percentage **significantly above** state average.
- Median age **below** state average.
- Foreign-born population percentage **significantly above** state average.
- Renting percentage **above** state average.
- Length of stay since moving in **below** state average.
- Number of rooms per house **significantly below** state average.
- Percentage of population with a bachelor's degree or higher **below** state average.

TRASH COLLECTION PILOT STUDY

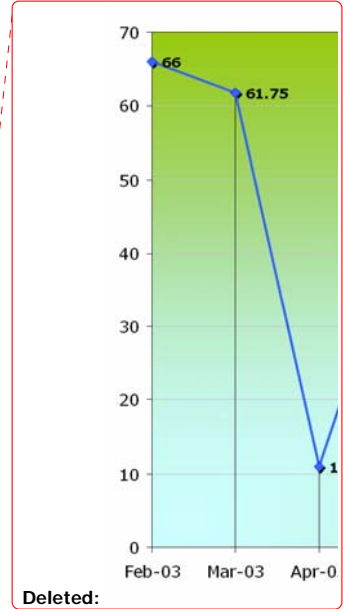
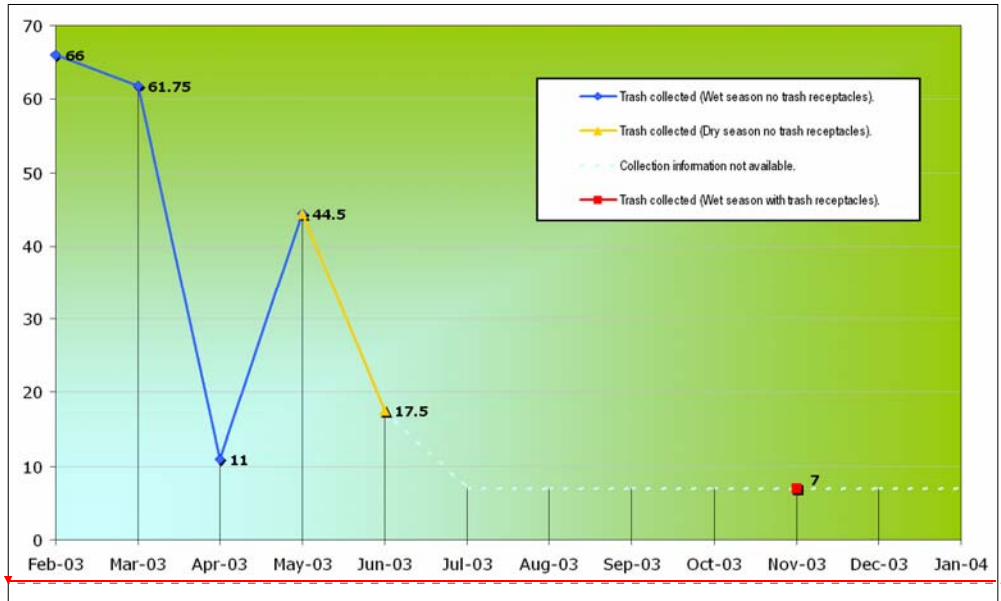
In an effort to determine the impact of campaign activities on the polluting behaviors of local residents, the County implemented a trash data collection pilot study within the neighborhood of Union Pacific. Launched in February 2003, the study included the compilation of data concerning the volume of trash collected from street sweeping and catch basins, both before and after the placement of 15 trash receptacles on streets within Union Pacific. Data reflects dried weight of municipal solid waste.

Fig. 1: Volume of Trash Collected from Union Pacific Street Sweeping (dry cubic yards)



*Street sweeping data not available for Dec-03 and Jan 04

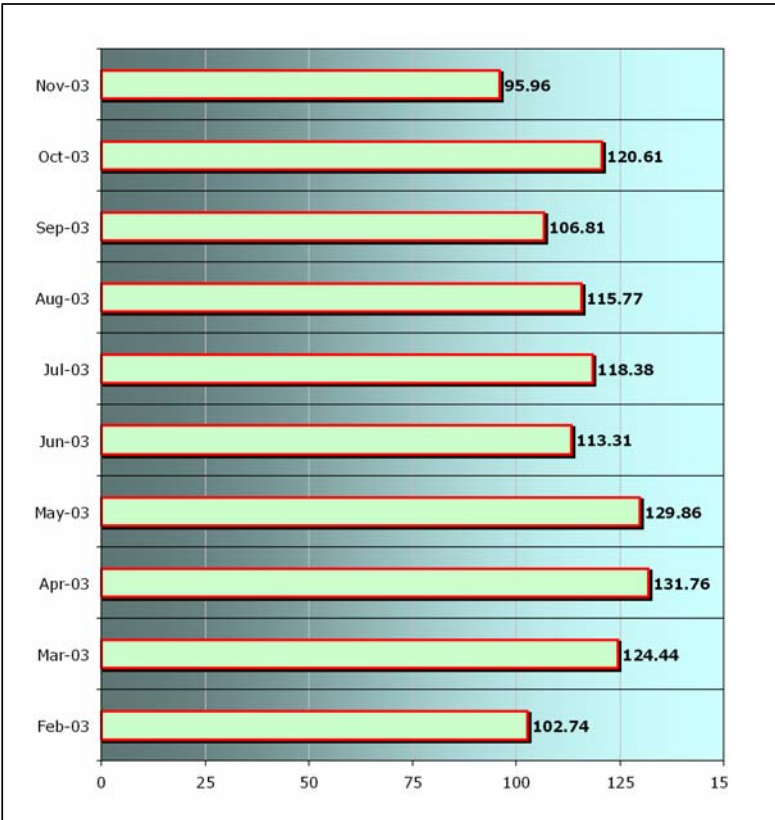
Fig. 2: Volume of Trash Collected from Union Pacific Catch Basins (dry cubic yards)



**Catch basin collection not available for Jul-03, Aug-03, Sep-03, Oct-03, Dec-03 and Jan-04.

The Union Pacific street sweeping data demonstrates a constant fluctuation of the volume of trash littered in the streets, both with and without the new trash receptacles. During peak campaign months (August – October), the amount of litter fluctuated between 21 and 18 tons of trash, a notable fact considering both the level of campaign activity and new trash receptacles. Litter deposited by commuters traveling through the area may also be a factor. While the Union Pacific catch basin data indicates a distinct decline in the amount of trash collected in the catch basins the months before and after campaign activities, the information is non-conclusive, as data for campaign months is irretrievable.

Fig. 3: Trash Collected from City of Inglewood Street Sweeping (dry tons)



Street sweeping data for the City of Inglewood provided by Waste Management, Inc.

The Inglewood data shows consistencies between the two pilot program areas in the amount of fluctuating street trash. In both communities, the volume of trash in the street decreased in September, swelled in October and dropped again in November. While we believe campaign activities played a role in the volume numbers, weather, the presence of trash receptacles and wet/dry seasons were also key factors.

Measuring pre and post campaign months alone (July and November), litter collected by the street sweeper in Union Pacific increased by six tons (41 %); in Inglewood the litter decreased by 22.42 tons (19 %). Again, a lack of historical data as well as a number of as-yet uncontrolled factors makes it difficult to draw a direct correlation between the impact of campaign activity and typical seasonal variance.

Deleted:

PHONE POLL

Pelegrin Research Group was commissioned by the County to conduct pre and post campaign surveys in the two pilot program areas to measure overall awareness about the stormwater pollution issue and the effect of campaign activities.

A total of 601 telephone interviews were conducted in two waves—300 prior to the pilot program communications (pre-wave) and 301 following exposure to the communications (post wave). Interviews were conducted between August 27 and September 4, 2003 (pre-wave) and October 29 and November 11, 2003 (post-wave).

Participants were drawn from a representative sample of households for the pilot test areas of Inglewood (zip codes 90301 and 90303) and East Los Angeles (zip code 90022). Quotas were established for gender and ethnicity based on census data to ensure that the final sample matched the demographic characteristics of the pilot test areas.

Participants were screened to meet the following criteria:

- 16 years of age or older.
- Permanent resident of Los Angeles County.
- Resident of Los Angeles County for six months or more.

Interviews were conducted in English and Spanish based on the preference of the participant. Each interview lasted approximately 16 minutes. All data reported are unweighted.

Statistical testing was performed on the data to identify meaningful differences between pre and post wave measurements and between groups within the pilot test sample. Differences that are statistically significant at the 95% confidence interval are indicated in this report by an asterisk(*). Confidence intervals are an estimate of the amount of error involved in the data, in this case +/- 5%. The most pertinent findings of the pre and post campaign evaluation study conducted by Pelegrin Research include the following:

	Pre Survey	Post Survey	% Change
Willingness to change polluting behavior.	61%	71%	10% ↑
Concern for neighborhood pollution.*	41%	49%	8% ↑
Recall of messages about pollution making neighborhoods ugly or dirty.*	7%	13%	6% ↑

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	Pre-Survey	Post-Survey	% Change
Recall of messages about community clean-up events.	39%	60%	21% ↑
Willing to change specific behaviors: i.e. pick-up after their dog.*	82%	90%	8% ↑
Willing to dispose of cigarette butts in an ashtray or trash can rather than on the ground.*	88%	94%	6% ↑
Recall of messages about pollution of neighborhoods, rivers and beaches—primarily on radio.	8%	20%	12% ↑
Knowledge of water pollution causes among those who recall hearing about community clean-up events.	39%	60%	21% ↑
Willing to change behavior related to proper disposal of yard waste.*	17%	29%	12% ↑
Recall of pollution messages on television.	83 %	80%	3% ↓

While the phone poll findings reflect many slight changes in awareness and behavior change relating to stormwater pollution prevention, the overall results indicate that residents in the two pilot program areas were not distinctly affected by the campaign. It should be noted that the pre survey polling was conducted in late August/early September, when people may be more cognizant of behaviors that impact their ability to enjoy the ocean or other outdoor recreational activities. Conversely, the post survey was conducted late October/early November, amidst the media frenzy that surrounded the gubernatorial recall election.

Findings from the phone poll will dictate recommendations and proposed activities for the Year II program. Specifically, we will include additional information about picking up after pets and proper disposal of cigarette butts and yard waste.

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1 (888) CLEAN LA HOTLINE

The County's toll-free pollution prevention hotline was promoted in the pilot areas via numerous campaign activities, including advertisements (print, radio, television and billboard ads), clean-up event fliers & giveaway items, media outreach and the monthly campaign newsletter. LA County residents were encouraged to call the hotline to "talk trash," receive information about community clean-up events, and learn more about how to help prevent stormwater pollution.

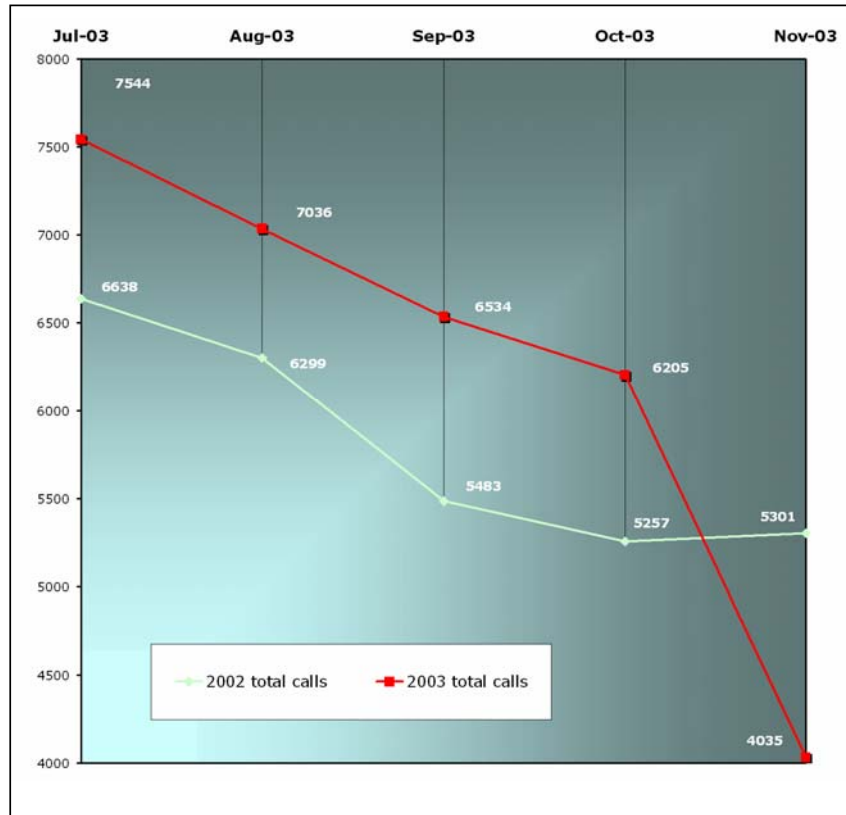
Total calls to the hotline for the past six months were as follows:

1 (888) CLEAN LA Hotline Calls – 2003			
	Los Angeles	Inglewood	TOTAL
July	963	99	7544
August	933	117	7036
September	881	79	6534
October	837	118	6205
November	597	70	4035

As reflected in incoming telephone records, calls to the hotline reflected a steady stream of calls from the two pilot program areas. During the campaign months (August through October), calls from the two pilot program areas made up 15 % of the total inquiries to the hotline.

While the 2003 hotline totals indicate a downward trend in the number of calls from the summer to winter months, the monthly totals represent a considerable increase over 2002 during the same period.

Fig. 4: 1 (888) CLEAN LA Hotline Calls – 2002/2003 Comparison



During the 2003 campaign period, the hotline received 16% more calls than the year prior (2,700). As the campaign concluded in November 2003, calls dropped considerably, both in comparison to the month and year prior, indicating a correlation between campaign outreach and calls to the toll-free number. This also demonstrates the importance of continuous outreach in raising public awareness about the availability of the hotline.

1 (888) CLEAN LA Hotline Calls – 2002/2003 Comparison			
	2002 Total Calls	2003 Total Calls	Change
July	6638	7544	13.65% ↑
August	6299	7036	11.70% ↑
September	5483	6534	19.17% ↑
October	5257	6205	18.03% ↑
November	5301	4035	31.37% ↓

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CAMPAIGN ACTIVITIES

Additional campaign successes are worth noting, including community participation in local events, corporate donations to the campaign, stakeholder and copermittee support and advertising outreach/impressions.

- More than 450 volunteers participated in the two half-day community clean-up events held in East Los Angeles and Inglewood in October 2003. The enthusiastic volunteers collected over 19,000 pounds of trash from neighborhood streets – nearly the equivalent amount of trash collected *monthly* by the County street sweeper in the Union Pacific community.
- The two community clean-up events garnered 30 local media reports, generating more than 5 million “free” media impressions.
- Thirty-two local businesses, corporations and organizations supported the two community clean-up events, donating hundreds of dollars in goods and services.
- The campaign advertising buys placed with 27 different ad mediums (including various television, radio, print and billboard outlets) yielded more than 100 million total audience impressions.

RECOMMENDATIONS

Data Collection:

1. **Continue data collection.** Lack of historical data impedes our ability to establish clear cause-and-effect relationships. Pilot study results from Union Pacific, the City of Inglewood and future pilot study areas will be used to constitute baselines to validate future activities. Data collection and survey methods will continue to be refined.
2. **Develop data collection module.** A uniform process for compiling data should be established for all trash collection and street sweeping agencies involved in the pilot programs. Outreach for street sweeping and trash collection technicians should be established, emphasizing Best Management Practices for proper collection of data.

Collaboration:

1. **Enlist cities and others in additional projects.** A framework should be established and tool kit developed to support community task forces in their efforts to implement additional projects.
2. **Continue grassroots activity and collaboration.** Outreach to community-based organizations, schools and faith-based organizations proved highly effective in mobilizing residents for clean-up events, especially in unincorporated Union Pacific community.

Media Mix:

1. **Message frequency and repetition essential to penetration of target demographics.** Campaign should focus on increasing the frequency of impressions in specific communities through increased use of local print, radio and outdoor advertising (bus shelters, billboards, etc.). Additional sources of funding to increase advertising should be investigated.
2. **Focus on messages that emphasize personal accountability to neighborhoods, children and the future.** Virtually all respondents to phone poll indicate that they are willing to change certain polluting behaviors if these behaviors are shown to have a negative impact on their immediate community and youth.
3. **Focus on simple messages that address particular polluting behaviors.** Research shows a positive predisposition towards changing certain polluting behaviors (i.e. proper disposal of yard waste, proper disposal of cigarette butts, and picking-up after pets.) Campaign messages should encourage adoption of these non-polluting behaviors.
4. **Utilize point-of-purchase advertising opportunities.** Message placement at point-of-purchase in pet stores, veterinarian's offices, home do-it-yourself centers and nurseries to reach target should be used to promote the appropriate non-polluting behaviors among target audiences.