

**FOLLOW-UP SURVEY OF COLORADO RESIDENTS AWARENESS AND
UNDERSTANDING OF HOUSEHOLD-GENERATED POLLUTED RUNOFF
SURVEY RESULTS**

OBJECTIVES

Household-generated polluted runoff in urban and suburban areas is a significant contributor to the overall water pollution problem in Colorado. In order to increase public awareness about the causes of, and solutions to, urban and suburban polluted runoff, the League of Women Voters of Colorado Education Fund implemented a comprehensive media campaign and supporting activities. This campaign included basic information about polluted runoff, covering such topics as what behaviors lead to polluted runoff and how polluted runoff affects Colorado's water resources. Educational activities will continue with additional Environmental Protection Agency funding.

In order to properly develop the media campaign, a telephone survey was designed to judge the public's baseline awareness and understanding of household-generated polluted runoff. This survey also served as the basis for this follow-up survey to gauge the project's success in changing public awareness. Based on input from the project's Technical Advisory Committee, three sources of polluted runoff were identified as having the most significance in urban and suburban areas of Colorado: pet waste, lawn and garden chemicals and automobile maintenance products. The educational campaign focused on these topics.

This follow-up survey was administered to gauge the success of the project's educational efforts and determine future courses of action. The survey, in large part, followed the format of the pre-survey so that responses could be compared. It was designed to answer three basic questions about the project's success:

- Have we increased awareness of what household-generated polluted runoff is?
- Have we increased awareness of how polluted runoff enters local rivers, lakes and streams?
- Have we increased awareness that individuals can prevent some polluted runoff?

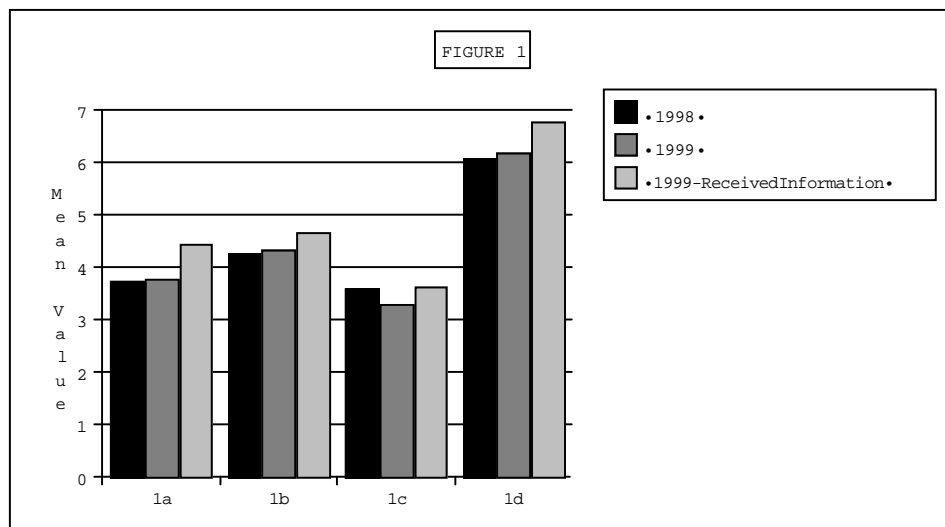
METHODOLOGY

Jim zumBrunnen at the Colorado State University Statistics Laboratory assisted in designing the survey and conducted the data analysis. The survey was developed with the assistance of Lorraine Schierer, of the Colorado Department of Public Health and Environment, Guy Long and Suzanne Snyder of the University of Denver, Karen Steeper at Corporate Communications Associates and Joe Conrad at Cactus Communications. Members of the Technical Advisory Committee provided guidance in developing the survey scope and focus.

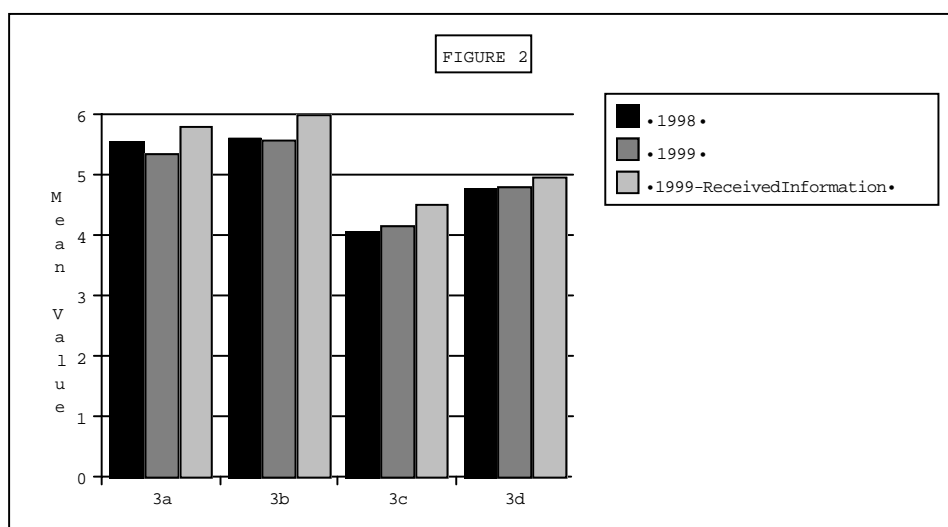
During the months of May and June 1999, volunteers from thirteen local Leagues administered the telephone survey to 612 residents throughout the state. The survey was translated and administered in Spanish to those respondents who spoke only Spanish.

MAJOR SURVEY RESULTS

Data from the post-survey were analyzed by separating the responses into two groups. The first was all valid responses to the questions, and the second was the subset of respondents who answered Yes to question 4 Have you seen or heard any information about polluted runoff or the way Colorado residents can prevent it through changes in their household activities? For the first group, there was little change in awareness from 1998 to 1999. However, for the group of respondents who remembered receiving information about polluted runoff, there was a trend of increased awareness across all survey questions. (See figures 1 and 2.)



- 1a How much of a problem do you think polluted runoff is in your community?
 1b How much do you think household activities contribute to polluted runoff?
 1c How much do you think household-generated polluted runoff reduces your quality of life?
 1d How much do you think individuals can prevent household-generated polluted runoff?



- 3a How much are lawn and garden fertilizers a cause of water pollution?
 3b How much are lawn and garden pesticides a cause of water pollution?
 3c How much is pet waste a cause of water pollution?
 3d How much are automobile products a cause of water pollution?

Note: All mean values reported are based on a scale of 1 to 10.

Slightly more than twenty percent of the respondents reported that they had seen or heard information about polluted runoff or the way Colorado residents can prevent it through changes in their household activities.

Of those who remembered receiving information about polluted runoff, respondents reported receiving information from television (55%), newspapers (52%), utility bills (25%) and radio (20%). Of those who remembered receiving information about polluted runoff, more than one-half reported receiving that information from two or more sources.

Statewide, 82.8% answered yes to the question, Does your community have storm drains or a system of gutters and grated inlets to drain water runoff from streets?, as compared to 79.8% from the 1998 pre-project survey.

Statewide, 46.4% of respondents correctly answered that it runs into local streams, rivers, lakes and reservoirs without being treated as compared to 44% from the 1998 pre-project survey.

When asked how much of a problem polluted runoff is in their community, the mean for the subset of respondents who remembered receiving project information was 4.5 as compared to 3.75 for the 1998 pre-project survey. This is a significant increase in awareness.

When asked about how much household activities contribute to polluted runoff, the mean value was 4.35. This is not statistically different from the mean value reported in the pre-survey.

When asked about how much polluted runoff reduces quality of life, the mean value was 3.3. This is not statistically different from the mean value reported in the pre-survey.

When asked how much individuals can prevent household-generated polluted runoff in their community, the mean for the subset of respondents who remembered receiving project information was 7.76 as compared to 6.06 for the 1998 pre-survey. This is a significant increase in awareness.

When asked to indicate how much each of the following is a cause of water pollution with 1 being not a cause and 10 being a major cause, the mean values were as follows, none of which showed a statistically significant increase in awareness:

- a) Home lawn and garden fertilizers running off yards (5.36)
- b) Home lawn and garden pesticides running off yards (5.57)
- c) Pet waste (4.16)
- d) Automobile maintenance products, such as oil and antifreeze (4.80)

CONCLUSIONS

The projects media campaign and associated activities were successful in several regards. Given the projects limited budget, the number of individuals who reported seeing or hearing information about polluted runoff or the way Colorado residents can prevent it through changes in their household activities was substantial.

The project achieved two of its three goals:

Project activities increased awareness about what household-generated polluted runoff is among those who remembered receiving information about polluted runoff. It was not practical, within the survey format, to ask respondents to define polluted runoff directly. However, the increase in awareness of those who identified polluted runoff, as defined in the survey, as a problem in their community indicates that there was an increase in understanding of polluted runoff as a water quality problem. In addition, the trend toward increased awareness across all survey questions indicates an increase in understanding of the concept of household-generated polluted runoff .

Among those who remembered receiving information about polluted runoff, there was a significant increase in awareness that individuals can prevent some household-generated polluted runoff .

The project was less successful in reaching its third goal, which was to increase awareness of how polluted runoff enters local rivers, lakes and streams.

Taken as a whole, the data indicate that for awareness to be increased through media campaigns and public relations efforts, members of the target audience must remember receiving the pertinent information. It appears from the survey that receiving information from more than one source is an effective way of developing such message awareness. Also, the target audience must be exposed to a message frequently and consistently over time.

In addition to continuing the successful messages of the media campaign and associated activities, in future project planning the League should also aim to:

Increase awareness of how polluted runoff enters local rivers, lakes and streams.

Increase awareness of the contribution of household activities to polluted runoff.

Increase awareness that lawn and garden chemicals, pet waste and automotive products are significant contributors to polluted runoff.

Increase awareness of the impact of polluted runoff on the the quality of life for Colorado residents.