

*Executive Summary of*  
*A Report on the*  
**CHICO URBAN STREAMS ALLIANCE**  
*CLEAN CREEKS PROJECT*  
**URBAN RUNOFF POLLUTION**  
**PUBLIC KNOWLEDGE SURVEY**

**Prepared for the Chico Urban Streams Alliance**

The City of Chico; Butte Environmental Council;  
Big Chico Creek Watershed Alliance; Kennedy/Jenks Consultants  
**Chico, California**

**Funded by the Proposition 13 Watershed Protection Grant Program  
and California Bay-Delta Program (CALFED)**

**Managed by the California Regional Water Quality Control Board**

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## **INTRODUCTION**

The Chico Urban Streams Alliance (Chico USA) is a coalition comprised of local environmental and professional groups: the City of Chico; the Butte Environmental Council (BEC); the Big Chico Creek Watershed Alliance (BCCWA); and Kennedy/Jenks Consultants. Funding for the Chico USA, *Clean Creeks Project*, is through the Proposition 13 Watershed Protection Grant Program and the California Bay-Delta Program (CALFED). The project is managed by the California Regional Water Quality Control Board (CRWQCB).

The Chico USA, *Clean Creeks Project*, is a project that evolved out of concern for the water quality of Chico's creeks and streams. The project is designed to address urban runoff pollution issues in the area of Chico, California through conducting a public awareness multi-media campaign and one-on-one outreach to potentially polluting businesses; establishing a volunteer monitoring program through which Chico citizens are trained in stream assessment; and an assessment of the performance of two types of Best Management Practices (BMPs) that will be used to update the City's criteria for facility siting, design and maintenance.

The Chico USA public knowledge survey is the first step of the public awareness campaign. The survey results dictate the target areas of the campaign.

## **OBJECTIVES**

Household and business-generated polluted runoff in the urban area of Chico is a significant contributor to the overall water pollution problem in Chico creeks and streams. Pollutants, such as nutrients from garden fertilizers, pesticides, herbicides and animal wastes – and behaviors, such as the improper disposal of motor oil, anti-freeze and other toxic chemicals – are negatively affecting the city's water quality.

In order to increase public awareness about the causes of and solutions to urban polluted runoff, the Chico Urban Streams Alliance (Chico USA) will implement a multi-media outreach campaign to residents and businesses in the Chico, Cohasset, and Forest Ranch areas based upon the results of this survey.

The telephone survey was conducted by the Butte Environmental Council (BEC) and was designed to judge public knowledge of urban runoff pollution issues. Based on input from the Chico USA partners and expert consultants, critical sources of polluted runoff in the Chico area were identified: pet waste, litter, lawn and garden chemicals, and automobile maintenance products. In addition, questions concerning where the public obtains information on environmental and home maintenance issues were included in the survey questionnaire. Public opinion questions were posed on the importance of environmental organizations and the public's willingness to pay for the protection of their local water quality.

At the conclusion of the project, a similar survey will be administered to measure the success of the outreach efforts and determine future courses of action. The survey was designed to answer three basic questions about the project's success:

- Has the Chico USA, *Clean Creeks Project*, increased awareness of what “urban runoff pollution” is?
- Has the project increased awareness of how polluted runoff enters local creeks and streams?
- Has the project increased awareness that individuals and businesses can prevent urban runoff pollution through changed behavior and “better management practices (BMPs).”

## **METHODOLOGY**

James Gregg, Professor Emeritus Political Science, California State University Chico supervised the survey, and assisted in designing the survey and writing the survey report. James E. Fletcher, Ph.D., Director of the Program for Applied Research and Evaluation, California State University Chico conducted the data analysis, refined the survey questionnaire and edited the final survey report. The CRWQCB, CALFED, and the Chico USA partners provided input during the survey questionnaire development phase. Barbara Vlamis, Executive Director of BEC was instrumental in establishing critical, local urban runoff pollutants and other survey questionnaire content.

Phil Midling, Survey Administrator, referred through the Program for Applied Research and Evaluation, California State University Chico, performed 10 Pre-test surveys, and made recommendations based upon his findings. After incorporating Mr. Midling’s feedback, Diane Schmidt’s public policy students, California State University, Chico, administered the survey, which was supervised by BEC and Mr. Midling, during the month of September, 2005 to 350 Chico, Cohasset and Forest Ranch residents.

## **MAJOR SURVEY RESULTS**

- Only one-third of the survey respondents knew that stormwater runs into local creeks and streams without being treated by conventional treatment methods. Although 82% of the survey respondents knew that urban runoff pollution is carried to local creeks and streams, they did not know how it happens.
- Only half of the survey respondents are aware that cigarette butts on the ground contribute to pollution of local creeks and streams.
- An overwhelming majority of survey respondents who wash their cars at home, do so in their driveways or in the street. Only 5% wash their cars on the lawn.
- One-fourth of survey respondents apply pesticides to their lawns and gardens.
- While many respondents knew that home lawn and garden fertilizers and pesticides are polluting creeks and streams, one-third of them did not associate pet waste with water contamination, and nearly half of the survey respondents are not aware that soil and green waste are harmful to local creeks and streams.

- From a list of fourteen options for the best way to receive information about both local environmental issues and home maintenance care, television was the top choice. The daily newspaper was the second choice for information on local environmental issues, followed by the radio as the third choice, the Internet as the fourth and the weekly newspaper as the fifth. Magazines, the Internet, books, and the daily newspaper are within the top five choices of information sources for home maintenance.
- Cross tabulations of survey data indicate that the best media sources through which to convey information to the following groups of people are as follows: Full-time employees (which make up nearly half of survey respondents) – Television and radio; Retired, Disabled, Unemployed, and Stay-at-home parents – Newspaper; Students – Internet.
- Just over one-fourth of respondents stated that they are not knowledgeable about local water issues, and over half of the respondents stated that they are only somewhat knowledgeable. Just over one-tenth of survey respondents think that they are knowledgeable about local water issues, and ONLY 5% think that they are very knowledgeable.
- Nearly three-fourths of survey respondents stated that they are willing to pay \$25 a year in a county tax to protect local water quality, and 40% are willing to pay \$50 a year.
- Over half of the respondents expressed the opinion that environmental advocacy organizations are very important, and another one-fourth stated that they are important.
- With an even higher emphasis on environmental education organizations, nearly 60% of respondents stated that such organizations are very important, and another one-fourth think that they are important.

## **CONCLUSION**

Significant numbers of Chico residents are unaware that stormwater is not treated by conventional treatment methods before entering local creeks and streams. Information about where and how stormwater enters our local creeks and streams is a pivotal message that must be relayed through the educational outreach efforts.

Since the majority of the public is unaware of their personal impact on the quality of the water in local creeks and streams through their household-generated urban runoff pollution, the individual's impact should be emphasized in the media campaign.

The media campaign should educate the public about the contribution of automobile products, and emphasize the harmful impact of yard and garden chemicals, cigarette litter, pet waste, soil and green waste runoff. Better management practices of car washing behaviors should also be emphasized. The campaign should educate the public about the importance of washing cars at a commercial car wash, or if at home, on the lawn.

Television, local newspapers, magazines, radio and the Internet were identified by respondents as the best sources for information about polluted runoff. While the Internet and radio are relatively inexpensive, the other choices are likely to be expensive methods for outreach. Resources will have to be carefully allocated and new resources found to take advantage of this finding. This study has revealed that 75% of the survey sample is willing to pay \$25 a year in a county tax for the protection of local water quality. This may be a future source of financial support with which to fund television and newspaper ads.