

Bay Area Stormwater Management Agencies Association

FY 1998 – 1999 Regional Advertising Campaign

Final Report

Submitted by

O'Rorke Public Relations & Advertising

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EXECUTIVE SUMMARY

In fall 1998, O’Rorke Public Relations & Advertising (ORPR) was hired by the Bay Area Stormwater Management Agencies Association (BASMAA) to conduct a survey about various practices that can cause stormwater pollution.

That winter, ORPR, along with the Public Research Institute of San Francisco State University (PRI), designed and conducted a comprehensive survey of 600 Bay Area residents. The survey focused on three behaviors that could cause water pollution: automotive maintenance, gardening, and pest control. The survey showed that ants were a major problem for Bay Area residents and the BASMAA committee decided that the regional advertising campaign should focus on safer ways to control this particular pest.

In order to learn more about people’s feelings and reactions toward ants, a focus group comprised of residents from seven Bay Area counties was conducted in March 1999. Storyboards were shown and creative concepts were tested. The opinions of the focus group respondents were instrumental in designing the campaign.

Production of television and radio commercials was conducted with SP3D, a professional animation firm and production house. One animated television commercial and two radio spots were produced. Artwork from television spots was given to all local programs for optimal use in print or outdoor ads.

Additionally, Tanya Drlik of the Bio-Integral Resource Center in Berkeley wrote copy for a collateral piece to be sent to people who called the BAYWISE hotline for more information on controlling ants. Again, art from the television commercial was used on this piece to lend the campaign a unified look and theme.

In August 1999, the “When Ants Invade” campaign was launched on television and radio at the regional level. Media pitches about ants were also conducted at this time. In addition, over 1700 calls were made to the BAYWISE hotline during the “When Ants Invade” campaign.

In September 1999, PRI conducted a post-awareness survey of the campaign. The survey showed that 45% of those surveyed recalled at least one of the campaign’s three specific messages, and 41% of those would consider trying safer methods the next time they had ants.

In February 2000, the “When Ants Invade” television commercial won a Telly Award. Founded in 1980, the Telly Awards is a nation-wide competition for advertising placed on non-network and cable TV. Some past winners include Anheuser-Busch, American Airlines, Coca-Cola, General Motors, and creative

firms such as BBDO Chicago, Media Group, Knight Ridder Productions and Time Warner Communications.

Since the campaign tested very well in the post-awareness survey and the creative concepts were recognized for their outstanding quality by a national advertising organization, ORPR strongly recommends that the “When Ants Invade” campaign be run by BASMAA again. Achieving behavior change isn’t easy – thus, re-running the message would likely be very helpful in achieving the long-term goal of getting people to use less pesticides on a regular basis. It may be helpful to run the campaign again just prior to rainy season, since that is a high time of year for ant infestations in the region.

ADVERTISING CAMPAIGN OBJECTIVES

The following goals were established by the BASMAA committee:

- Achieve a 25% awareness of the ant campaign message.
- 10% of the respondents who have heard the message will try safer methods the next time they have ants.
- Reduce the number of respondents who say they used pesticides outside from 49% (as reported in the pre-awareness survey) to 44%.
- 10% increase in phone calls to 1-888-BAYWISE for ant collateral materials.

TARGET AUDIENCE DESCRIPTION

The target audience for this campaign was pesticide users in general, with emphasis on male outdoor users 35 years or older. Since 51% of respondents in the pre-awareness survey had had an ant problem in the past year, it was clear that this issue was relevant for many people.

While the pre-awareness survey showed that women tended to be more bothered by ant infestations than men (16% vs. 51%), the BASMAA committee felt that men tended to buy more toxic pesticides. Since reducing the use of more-toxic pesticides was one of the campaign’s goals, the media buy was conducted with these parameters in mind: the need to reach as great a number of households as possible with focus on media that skewed slightly male.

CREATIVE STRATEGIES

ORPR's strategy for the "When Ants Invade" campaign was based on BASMAA committee recommendations as well as findings from the survey conducted by PRI. The survey found that ants were the primary pest of concern and respondents used a variety of methods to get rid of ants, including spraying outdoors.

A follow-up focus group revealed that a key objective of participants was to kill ants quickly regardless of health, environmental or other concerns. Those who had a low tolerance for ants in particular were ready to buy products that would solve their ant problem fast.

With this information, these primary messages were developed:

- Don't spray pesticides outdoors
- Use safer methods
- Secondary messages focus on health of individuals/families/pets
- Health of the environment
- Get rid of ants now

Because pesticide and pest control companies like Orkin often use animation and funny characters to exaggerate a pest problem (and to avoid showing actual, unpleasant-looking bugs to the target audience), ORPR proposed the use of an animated television commercial to compete against this. Animation proved to be an excellent way to talk about several complicated messages in a fun way, as well as to show practical tips on what to do. (See Creative Materials for script in Appendix A.)

One of the radio commercials featured the same voice as the television commercial. A second radio spot used children talking about ants as a way to specifically target women, who are more bothered by ants.

Finally, original signature music was developed for use as the tag at the end of each spot to help build BASMAA's identity and also for campaign continuity

MEDIA PLANNING

Because the pre-awareness survey revealed the widespread nature of ant problems in the Bay Area, the primary goal of the media plan and buy was high reach. With the goal of this campaign of inducing Bay Area residents to change or modify behavior in some way, frequency was also an important goal. Frequency refers to the average number of times a member of the target audience will encounter the commercial. Studies have shown that three is the optimum frequency (the idea being that by the third encounter with the message, the target audience really understands it). However, for behavior change to occur, frequency should go above three if budget allows.

To that end, ORPR's media plan for BASMAA had a primary emphasis on television (both broadcast and cable) but also utilized radio as a supplemental method to keep frequency high and to allow for a longer, more detailed message to reach the target audience.

Please note: The BASMAA committee did not pursue print or outdoor advertising information at the regional level, since local programs would decide whether to augment the regional campaign on their own, using local funds.

A rundown of the media utilized for the "When Ants Invade" campaign with a rationale for each:

Broadcast Television	Far and away the method that offers the best reach – most homes have and watch television.
Cable Television	Relatively strong for reach and offers frequency that's as good as radio. Also offers the chance to target particular demographics very specifically.
Radio	Strong for frequency but weak in terms of reach. Radio allows for a more in-depth message through 60-second spots. This is important because of the complexity of the pest control message.

Schedule Specifics

Broadcast Television

After receiving proposals from all the broadcast stations, ORPR decided to move forward with KTVU-TV. The schedule ORPR devised with KTVU provided the best reach and the best cost-per-rating point.

The KTVU schedule included the highly rated “10 O’Clock News” as well as male-oriented programs such as “Home Improvement,” “The X-Files,” and “49ers Playbook.” Overall, 74 spots ran over a three-week period.

Cable Television

The cable schedule ran for six weeks beginning in mid August. One hundred eighty-five spots ran on the following networks: ESPN, Fox Sports Bay Area, A&E, and TNT. Additionally, spots ran on other cable networks as part of a negotiated promotion, which is discussed in detail on page 8.

Radio

KOIT-FM was chosen because of its reach as the highest rated music station in the Bay Area. Fifty spots aired over two weeks in morning and afternoon drive as well as in midday because of KOIT’s strong at-work listenership. ORPR also negotiated a promotion with KOIT, which is discussed on page 8.

MEDIA COVERAGE & TIMING

ORPR planned the media pitches during fall and winter, coinciding with the start of the rainy season, a high season for ant infestations in the Bay Area.

Press Release

A press release was sent out in September 1999 (See Appendix C). It discussed the results of the BASMAA pre-awareness survey, stating that half of Bay Area residents had experienced an ant problem. The release also included information on the campaign, giving special attention to the three main ant control methods that the campaign promoted. Included in the press release were the other key findings of the survey. This release and subsequent pitch calls to the media (mainly print, but also TV and radio) yielded excellent, high profile coverage. ORPR particularly targeted Home and Garden sections in daily newspapers.

Note: Initially, ORPR discussed the idea of offering to do a walk-through of a home to demonstrate solutions to reporters. However, because the committee changed the focus of the campaign from indoor ant problems to exclusively outdoor, this idea was abandoned by the group.

Print

The Vacaville Reporter

The Vacaville Reporter's story, "The Ants Come Marching" ran on November 20, 1999. The story was written by Sally Wyatt, and was on the front page of the Garden section (See Appendix C). The story used information from the press release and collateral mailing piece (See Appendix B), and used images from the popular animated movie "Ants."

San Jose Mercury News

The San Jose Mercury News ran the story, "Armed Against Ant Armies" by Joan Jackson, Home and Garden editor (See Appendix C). The story ran several times in different editions, between October and December 1999, in the local section of the paper. It was written in Q&A format and mentioned the 1-888-BAYWISE number. Following are the dates the story ran and the editions it ran in:

<u>Date</u>	<u>Edition</u>
10/28/99	Alameda
11/11/99	South County (Salinas – Hollister)
11/18/99	San Jose Valley
12/09/99	Peninsula

Radio

KITS-FM

Sharon Gosselin of the Alameda Countywide Clean Water Program was interviewed for a story that ran 10/24/99.

KLIV-AM

Geoff Brosseau of BASMAA was interviewed for a story that ran several times on 10/9 /99 – 10/10/99.

KPOO-FM

Geoff Brosseau was interviewed for a story that ran 10/7/99.

NEGOTIATED PROMOTIONS

ORPR negotiated for a very extensive promotional package on cable television. This included 112 bonus spots on the following networks: A&E, CNN, CNBC, FX, Lifetime, TBS, Comedy Central and ESPN. Additionally, 168 bonus spots aired on KRON's local news cable sister station, BAY-TV. These bonuses greatly increased the campaign's frequency on television.

ORPR negotiated with KOIT-FM for a free traffic sponsorship during the two weeks of BASMAA's schedule. This allowed for more frequency of BASMAA's message during the well-rated traffic reports in morning drive time.

LOCAL PROGRAM AUGMENTATION, DESCRIPTION & RESULTS

Some of the local programs chose to augment the campaign with use of local media. A grid detailing these efforts can be found in Appendix E.

Alameda and Santa Clara Counties had the most aggressive augmentation efforts, as detailed in Appendix E. Augmentation paid off. According to the post-awareness report, 77% of Alameda County residents who were aware of the campaign saw the information on television – more than any other county. Additionally, Alameda and Santa Clara County residents reported high rates of encountering information about ways to prevent water pollution (56% and 54%).

Although the overall volume of calls to 1-888-BAYWISE was lower than previous BASMAA campaigns, ORPR believes this is because “When Ants Invade” gave consumers all the information they needed up front. There really wasn't much need to call for further information; the three main tips were provided in the television and radio ads, as well as in the print ad. The outdoor ad that was designed for use at the local level put great emphasis on the phone number. However, none of the counties chose to use it.

EVALUATION

The results of the post-awareness survey show that the “When Ants Invade” campaign was both memorable and caused people to reconsider future use of pesticides. See PRI’s post-awareness report for full details (Appendix H). The campaign met all of its goals as set forth by the BASMAA committee. The results were as follows:

- An estimated 45% of residents had heard at least one of the campaign’s three main messages, according to the post-awareness survey.
- Forty-one percent of respondents who were aware of the campaign would consider trying safer methods (ant bait stakes and caulk) the next time they had ants.
- Use of pesticides outside – to be determined by PRI through call-backs.
- The BAYWISE hotline received an average of 171 calls per month from January – July 1999. During the two months that the “When Ants Invade” campaign was on the air, the BAYWISE line received a total of 1745 calls or an average of 872 per month. This far exceeds the 10% goal set by the committee.

The media buy also delivered in line with the goals set forth in the planning process and was very effective at reaching the target audiences, as detailed in Appendix D.

CONCLUSIONS AND RECOMMENDATIONS

ORPR believes the “When Ants Invade” campaign made strides in educating residents about how pesticides pollute the water, and that the campaign also offered compelling reasons to make a change in behavior. The creative was catchy and fun, while getting right to the point and offering practical tips. However, sustained behavior change can be a long road. For these reasons, ORPR recommends re-running the campaign, particularly during the summer and rainy season as these are high times for ant infestations.

A future media buy for “When Ants Invade” might also include a greater use of radio to test whether that medium alone captures people or if the exciting visuals in the animated spot are more compelling to the target audience.

In terms of logistics, ORPR believes the needs of the local programs could be better satisfied if messages could be agreed upon as early as possible in the process. Because there was a shift in focus in this campaign from “keeping ants out of the house” to “dealing with ants outside,” the timeline was

compressed. This often meant that decisions needed to be made very quickly in production of the commercials and design of the collateral mailer.

Appendix A Creative Materials

TV Script: “When Ants Invade”

When ants invade, have you been programmed to grab the most toxic pesticide you can find? Instead of spraying dangerous pesticides outside your home, pesticides that can pollute our waters, this year, keep ants away the safer way.

Move trash away from your home, plug up holes and bring out the bait stakes if you must. Keep ants away — without the spray. Find out how: Call 1-888-BAYWISE.

Radio Script: “Ants, not In-Laws!”

It’s about that time of year again. You know they’ll be coming soon and all you can think about is how you can get rid of them. No, not your in-laws—ANTS! Invading ants!

Are you going to grab the most toxic pesticide you can find? Think about NOT doing that this year. Instead of spraying dangerous pesticides outside your home — pesticides that can pollute our waters and harm your family—keep ants away, the safer way.

Move trash away from your home, plug up holes and cracks so ants cannot invade. Bring out the bait stakes if you must. This year, you can keep ants away without the spray. Find out how: call 1-888-BAYWISE

Radio Script: “Ant Kids”

“Hey Alex, now let’s go outside to play.”

“But we can’t go outside now; your dad is spraying the yard for ants.”

“So?”

“So, that spray is dangerous.”

“But my dad says it’s the only stuff that works.”

“Well my mom doesn’t use those sprays. She does other things that really work.”

“Other things that work? Like what?”

“Well, she keeps the trash away from the house—that helps keep ants away a lot.”

“Wow.”

“My mom plugged up all the holes where the ants come in. No more cracks, no more ants.”

“Your mom did that?”

“Uh huh — and she started using bait stakes in our garden. We haven’t had any ants around our house this year. “

“Gee, your mom is smart.”

“That’s why she called 1-888-BAYWISE. They’ve got lots of ideas that really work for getting rid of ants.”

“Wow! Let’s go tell my dad about 1-888-BAYWISE.”

Appendix B
Collateral Materials

“When Ants Invade” Collateral Mailing Piece

Appendix C

Press Release & Press Clippings

Press Release

San Jose Mercury News – Press Clipping

Vacaville Reporter – Press Clipping

Appendix D TV & Radio Schedule Ratings

Projected Cable Television Reach & Frequency (including promotion)

	Households	Men	Women
Reach	49.1%	44.5%	25.6%
Frequency	6	5.5	5.3%

Projected Broadcast Television Reach & Frequency

	Households	Men	Women
Reach	81.9%	70.2%	65.3%
Frequency	3.1	2.6	2.6

Projected Radio Reach & Frequency

	Adults (25+)	Men	Women
Reach	9.8%	9.1%	11.5%
Frequency	5	4.2	5.3

Note: Because of the nature of how the medium is measured, radio does not measure reach or frequency in terms of households. Therefore, household numbers cannot be provided here.

Note: 10% margin of error is what Nielsen allows in its ratings. That means that as long as the actual ratings information is within 10% of what was projected, the schedule is considered to have met its delivery goal. This is an industry-wide accepted practice.

Actual Cable Television Reach & Frequency (including promotion)

	Households	Men	Women
Reach	46%	41%	29%
Frequency	5.3	5.1	5%

Actual Broadcast Television Reach & Frequency

	Households	Men	Women
Reach	78.3%	63%	60%
Frequency	4	3	3%

Note: Radio is not measured in overnight ratings, so that data cannot be provided here.

Appendix E

Local Program Augmentation

<i>County</i>	<i>Additional Media</i>	<i>Results</i> *
Santa Clara	Television: KNTV Ch. 11 Radio: KFOX FM, KRTY Print: San Jose Mercury News	50 calls logged in response to the television placement; 25 responding calls to the radio spots; and 77 calls logged in response to the print ads
Alameda	Print: ANG Newspapers, San Francisco Chronicle (East Bay Friday and Sunday section) Television: TCI/Bay Cable Advertising	A combination of 1,000 phone calls and mail-in coupons requesting information.
Contra Costa County	None	None reported
Solano County	None	None reported
Marin County	Print: 2 ads in Commuter Times	12 calls logged in response to ant campaign; unclear whether calls were result of television, radio or print placement.
San Francisco County	None	None reported
San Mateo County	None	None reported

* Over 1700 calls were made to the 1-888-BAYWISE line during the “When Ants Invade” campaign.

Appendix F
Focus Group Report

Appendix G Budget

TASKS – O’RORKE

Task: O’Rorke PR advertising services. This includes development of creative concepts, overseeing the production of creative concepts, creative direction, working with designers, producers & other production subcontractors.

BUDGET: **\$40,000.00**
SPENT: **\$39,983.25**

Task: O’Rorke PR overall project coordination. This will entail all aspects of the campaign during the year, including developing the focus group screener & questions; facilitating the groups developing the survey instrument and working with the market research firm throughout the process of pre-testing and analysis; developing a strategy based on the results of the research; and meeting and coordinating with BASMAA.

BUDGET: **\$30,000.00**
SPENT: **\$29,862.50**

Task: O’Rorke PR media relations services (2 rounds). We will supplement advertising efforts with media relations. This will include pitching stories to the media as well as sending out & tracking the use of public service announcements and pursuing interviews on public affairs talk shows. All of our media relations efforts will tie in to the overall advertising strategy for a concerted message. We are also planning a second round of media relations near the end of the contract year, since that can be a high pest season.

BUDGET: **\$15,000.00**
SPENT: **\$4,950.00**

TASKS – SUBCONTRACTORS

Task: Media buying services. ORPR will plan and conduct a media buy based on target audience date. We will monitor the buy throughout the on-air run to make sure all spots are airing, that make-goods are delivered when necessary and also monitor overnight ratings for television to make sure the schedule has performed as well as we planned. We will also negotiate with media outlets for added value incentives such as bonus spots, etc.

BUDGET:	\$155,000.00
SPENT: (for actual buys; O'Rorke services paid by agency commission)	\$155,055.53
*** AT&T Media Services (formerly Bay Cable):	\$47,255.53
*** KOIT:	\$18,060.00
*** KTVU/FOX:	\$89,740.00

Task: Production of radio, television, and print. This would include the hard costs of producing commercials, such as camera work, sound mixing, special effects, direction, editing, etc. As discussed in our proposal, we are recommending the use of both television & radio and will oversee all aspects of production. We will also develop print materials.

BUDGET:	\$6,000.00 – \$31,000.00
SPENT:	\$33,567.08
*** Sp3d:	\$30,400.00
*** Lewenhaupt Designs:	\$3,167.08

Task: Pre- and post-awareness survey will be conducted in order to steer our strategy for messages (pre-survey) and to assess the effectiveness of the campaign and inform future campaigns. (post-survey)

BUDGET:	\$40,000.00
SPENT:	\$39,684.00

Task: Focus group – one group of approximately 8-12 people from the participating counties will be conducted in order to assess what people are thinking about pest control and what methods they are currently using. Creative concepts may also be presented to the group.

BUDGET:	\$4,000.00
SPENT:	\$3,102.50

Task: Collaborate on projects with other agencies, such as potential joint efforts with CalTrans or the Bay Area Air Quality Management District, as deemed appropriate by BASMAA.

BUDGET:	\$50,000.00
SPENT:	\$0.00

TOTAL BUDGET:	\$365,000.00
TOTAL BUDGET SPENT:	\$306,204.86

		ORPR	ORPR	ORPR	Subcontractors	Subcontractors	Subcontractors	Subcontractors	Subcontractors
		Advertising Services	Project Coordination	Media Relations	Media Buys	Media Production	Surveys	Focus Groups	Collaboration
Budgeted		\$ 40,000.00	\$ 30,000.00	\$ 15,000.00	\$ 155,000.00	\$ 31,000.00	\$ 40,000.00	\$ 4,000.00	\$ 50,000.00
date of invoice	inv. #								
11/30/98	3261	6,037.00	6,347.50						
1/31/99	3279	2,100.00	2,855.00				14,178.00		
2/26/99	3291	2,012.50	2,480.00					840.00	
3/31/99	3301	3,150.00	3,830.00					2,262.50	
5/10/99	3312		1,725.00				7,088.00		
6/30/99	3339	9,315.00	1,625.00			16,400.00	6,139.00		
8/26/99	3347	17,368.75	8,812.50			14,000.00			
9/23/99	3357		2,187.50	1,662.50	60,137.86	3167.08			
10/29/99	3369			2,475.00	94,917.67		12,279.00		
12/1/99	3379			812.50					
billed thus far		\$ 39,983.25	\$ 29,862.50	\$ 4,950.00	\$ 155,055.53	\$ 33,567.08	\$ 39,684.00	\$ 3,102.50	\$ -
left in budget		\$ 16.75	\$ 137.50	\$ 10,050.00	\$ (55.53)	\$ (2,567.08)	\$ 316.00	\$ 897.50	\$ 50,000.00

Appendix H
Public Research Institute
Post-Awareness Report

**Public Research Institute
San Francisco State University**

BASMAA Water Pollution Post-Campaign Survey

Survey of Bay Area Households

April 2000

Pei-Ying Lin
Pamela Lu
William McAfee
Tatyana Pak
Jacqueline Pettersen
Silvia Williams

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BASMAA Water Pollution Post-Campaign Survey

1999

Executive Summary

This is a report of results obtained from a telephone survey of a random sample of 631 Bay Area households. The Public Research Institute (PRI) at San Francisco State University and O'Rorke Public Relations conducted the survey during September and October, 1999.

Purpose

This survey is the second of two surveys commissioned by the Bay Area Stormwater Management Agencies Association (BASMAA) designed to measure Bay Area residents' awareness of water-polluting activities. PRI/O'Rorke Public Relations carried out the first survey, the BASMAA Water Pollution Pre-Campaign Survey, in January 1999. It revealed the practices of Bay Area households with respect to car maintenance, household pests, and use of chemicals in the garden. The second, Post-Campaign Survey, reported here, measures the practices of Bay Area households with respect to ants in particular, as well as awareness and effectiveness of an educational campaign conducted by O'Rorke Public Relations for BASMAA.

The campaign, "When Ants Invade," was conducted Bay Area-wide from August 19 to September 26, 1999. BASMAA agencies in the counties supplemented the campaign with additional advertisements and media coverage. The content of the campaign was based on BASMAA committee recommendations and findings from the Pre-Campaign Survey. The campaign focused primarily on ants and the dangers of outdoor chemical pesticide use, with emphasis on the use of safer methods in the future.

Where applicable, the results of the Pre-Campaign Survey are compared in this report with the findings of the Post-Campaign Survey so that changes in awareness and behavior can be assessed. It is not possible to compare the two surveys on every topic in this report since the Post-Campaign Survey included questions designed to measure the effectiveness of a campaign that had not yet been created at the time of the Pre-Campaign Survey. Media outlets that were most effective in reaching Bay Area residents are also identified.

The success of BASMAA's campaign is measured in this report in terms of two of its four objectives: achieving resident awareness of the ant campaign messages and measuring how many respondents who have heard the campaign messages will try safer methods the next time they have ants. Data collection for the third objective—reducing the number of respondents who say they will use pesticides outside—is underway. Results will be included in an addendum or revision of this report. The fourth objective, a 10% increase in phone calls to 1-888-BAYWISE for ant collateral materials, cannot be measured by this survey. Readers should note that respondent self-selection and the widespread tendency to give socially desirable responses to questions about the environment may give an upward bias to reports of good environmental practices and intentions described in this survey. The tendency to answer questions in a way that conforms to

dominant belief patterns is a form of bias inherent in all surveys about the environment and is not a problem specific to this survey.

It should also be noted that environmental campaigns other than the BASMAA “When Ants Invade” campaign were taking place simultaneously. It is not possible to measure the direct impact of their efforts nor is it the intention of this study to do so. However, it is probable that other educational campaigns could have reached the same respondents to this study. If so, cumulative information may increase respondents’ awareness about the dangers of outdoor chemical pesticide use.

Survey Focus

The Post-Campaign Survey included questions on respondents’ lifestyle priorities, media usage, methods of household pest control, and awareness of the BASMAA campaign and its messages. The survey asked respondents about the products and methods they use to deal with ants, the reasons why they chose those products or methods, and how they dispose of them. Respondents were asked questions to gauge their awareness of the BASMAA Water Pollution Campaign and the messages specific to the campaign. If applicable, respondents were asked which media outlet had exposed them to the BASMAA campaign. The complete survey instrument with frequencies of responses for each item is given in Appendix A. Appendix B presents crosstabulations by county for every questionnaire item. Appendix C lists the responses to all open-ended questions.

Methodology

PRI used a random sample of 4,697 Bay Area listed and unlisted residential telephone numbers to obtain 631 interviews, stratified into seven counties with approximately equal numbers per county from Alameda, Contra Costa, Marin, Santa Clara, San Francisco, San Mateo, and Solano counties. The response rate for this survey was 37%. The margin of error for a sample of 631 is ± 4.5 percentage points at 95% confidence.

Even though the counties are unequal in population, equal numbers of respondents were selected from each county so that counties can estimate characteristics of their populations with equal precision. When we estimate characteristics of all Bay Area households from the survey data or examine breakdowns on characteristics other than county, we statistically weight the responses from each county according to actual county population. The weighted sample provides an appropriate representation of all Bay Area households.

Principal Findings

Lifestyle Priorities (Q1a-Q1d)

- When asked to rank the environment, money, leisure time, and personal health by level of importance, the majority of Bay Area residents rank personal health most important.
- These results are consistent with the findings of a March 1999 focus group conducted by BASMAA where health was also ranked first.

Pre-Campaign Versus Post-Campaign

- Lifestyle priorities of pre- and post-campaign respondents were essentially the same.

Media Usage (Q2-Q7)

- Over half of Bay Area residents read a daily newspaper.
- Over three-quarters of Bay Area residents watch cable television.
- Almost three-quarters of those surveyed have access to the Internet, with men more likely than women to have it.

Pre-Campaign Versus Post-Campaign

- Pre- and post-campaign respondents read a daily newspaper, read utility bill inserts, and watch cable television in about the same proportions. However, post-campaign respondents report having access to the Internet at slightly higher rates than pre-campaign respondents.

Pest Control Methods

Ants Inside Versus Ants Outside the House (Q8 & Q11):

- Ants *inside* and ants *outside* the home produce very different reactions among Bay Area residents. Almost everyone experiences ants *inside* the home and would do something about them. Almost half of Bay Area residents either would do nothing about ants *outside* the home or do not have the problem.
- An estimated one-third of all Bay Area residents would use an environmentally unsafe method for controlling ants for ants *outside* their home. Environmentally unsafe methods include spraying ants and using chemical pesticides.
- If ants were to come *inside* their home, over half of Bay Area residents would use an environmentally unsafe method of control.

- Among people who would do something about ants, rates of use of alternative methods of ant control are very similar for ants inside and ants outside the home—people tend to use the same method to control ants in both places.

Pre-Campaign Versus Post-Campaign

- Almost half (49%) of Bay Area residents pre-campaign used an environmentally unsafe method *outdoors* for controlling ants *in the house*. Data collection is underway to determine the same statistic for Bay Area residents post-campaign. Results will be included in an addendum to this report.

Reasons For Using Environmentally Unsafe Methods (Q9):

- Of the respondents who state that they use unsafe methods for combating an ant problem outside their home, the most common reason was that they had used that method before and were satisfied with the results.
- Approximately one in seventeen respondents who use unsafe methods said that they chose their ant control method because they believed it to be environmentally safe.

Pre-Campaign Versus Post-Campaign

- Pre- and post-campaign respondents chose an unsafe pest control method for similar reasons—because they had used it before and it had worked, and because it was convenient.

Users of Environmentally Unsafe Methods (Q8 & Q11):

- College graduates are less likely to use environmentally unsafe ways of dealing with ants than people without a college degree are, especially for ants **outside** the home.
- Residents of Solano County are more likely to use unsafe methods on ants **outside** their homes than residents of Contra Costa, Santa Clara, Alameda, San Francisco, and San Mateo, and Marin counties.
- African Americans are most likely to use an environmentally unsafe method when dealing with ants **inside** the home, compared to whites, Hispanics, and Asians.

Pre-Campaign Versus Post-Campaign

- This comparison is not currently available. Additional data collection is planned.

Disposal of Environmentally Unsafe Products (Q10):

- The most common way to dispose of leftover ant control products that are environmentally unsafe is to put them in the trash, followed by taking leftover product to a hazardous waste facility, and storing it for future use.
- Overall, just over a quarter of those who indicated they would use an unsafe pest control product would dispose of the product in an environmentally unsafe manner.

- Women are more likely than men to use unsafe disposal methods.

Pre-Campaign Versus Post-Campaign

- No differences could be detected between Bay Area residents pre- and post-campaign in their ways they dispose of environmentally unsafe products.

Environmental Awareness and Behavior

General Awareness (Q20-Q23):

- Bay Area residents have a general understanding about environmentally safe alternatives to chemical pest control products.
- Nearly all Bay Area residents would disagree with the statement, “All products for sale are safe for the environment.”
- Almost two-thirds of Bay Area residents have bought a product because they thought it was less toxic.
- Nearly a quarter of all respondents said that when they buy pest control products they look for non-toxic, non-hazardous, or environmentally safe information on the label.
- When asked what makes them buy a particular product, only one in seventeen respondents indicate the environmental safety of the product as a reason for purchasing it.

Pre- Campaign Versus Post-Campaign

- Both pre- and post-campaign respondents disagree that “All products for sale are safe for the environment” at virtually the same percentages. Likewise, pre- and post-respondents purchase products because of the environmental safety of the product in similar proportions (61-62%).

Awareness About Water Pollution (Q24-Q30):

- Most Bay Area residents identify San Francisco Bay or the ocean as their favorite bodies of water.
- Most respondents are aware of the kinds of activities that contribute to water pollution. Nearly all agree that oil leaks from cars and using pesticides in the yard contribute to water pollution. Over half of respondents agree that using pesticides in the yard contributes to water pollution.

Pre-Campaign Versus Post-Campaign

- Pre- and post-campaign respondents differ little in their awareness of the kinds of activities that contribute to water pollution.
- Both pre-campaign and post-campaign respondents indicate the San Francisco Bay or the ocean as their favorite bodies of water, followed by lakes and reservoirs.

Indicators of Change in Environmental Awareness and Behavior (Q13-Q16):

- More than three-quarters of Bay Area residents who would use an environmentally unsafe method on ants outside their homes, would consider using ant bait stakes the next time they have ants. Slightly fewer said they would consider using caulk.
- Of these same users of unsafe methods, almost half consider ant bait stakes and caulk to be both safe and effective methods to controlling ants.
- Overall, nearly 1 in 3 respondents who use an environmentally unsafe product would consider using safer methods the next time they have ants.

Pre-Campaign Versus Post-Campaign

- The questions in this section measured intended behavior since the BASMAA Campaign and, therefore, were not included in the Pre-Campaign Survey. For this reason, results from the Pre- and Post-Campaign Survey cannot be compared here.

**It is not possible to compare Pre- and Post- Campaign Surveys
for the remaining topics.**

Awareness of the BASMAA Campaign and its Messages

Awareness of the BASMAA “When Ants Invade” Campaign (Q31-Q35):

- From the survey data, we estimate that nearly one-quarter of Bay Area residents have heard of BASMAA.
- In the last year, over half of Bay Area residents have heard news reports, advertisements, and other information about ways to prevent water pollution.
- Approximately one in seven respondents have recently encountered information about getting rid of ants without the use of pesticide or sprays. It is important to acknowledge that it is possible that respondents learned of this information from other campaign efforts.
- When given the name of the campaign and the media used to deliver its messages, approximately one in eleven respondents recalled seeing, hearing, or receiving information about the campaign.
- The previous two findings were combined to measure Bay Area residents’ awareness of the “When Ants Invade” Campaign. Almost one in five Bay Area residents had either recently encountered information about getting rid of ants without the use of pesticides or sprays, or were aware of the Campaign once given its name and the media used to deliver it messages. (Q33 & Q35).

Awareness of Campaign Messages (Q44-Q46):

- Over a quarter of Bay Area residents saw or heard information about using ant bait stakes and moving trash away from the house as safe and effective methods of dealing with ants.

- Almost one in five Bay Area residents saw or heard information about plugging holes in the house as a safe and effective method of dealing with ants.
- A quarter of Bay Area residents saw or heard information about moving trash away from the house as a safe and effective method of dealing with ants.
- Almost half of all respondents indicated that they were aware of at least one of the messages specific to the campaign (Q44, Q45, Q46). This percentage is generated from the number of respondents who remember seeing or hearing information about using ant bait stakes, plugging holes in the house, or moving trash away from the house as safe and effective methods of dealing with ants. Respondents need only be aware of one message to be considered aware of the campaign messages, and respondents who were aware of more than one message were counted only once.

Most Effective Methods of Reach (Q36-Q40)

- Over half of Bay Area residents who were aware of the “When Ants Invade” Campaign learned about it from a television advertisement.
- According to the survey data, the least effective method used to spread the campaign messages was radio advertisements.

BASMAA’s Measurable Campaign Objectives

- BASMAA had intended to achieve a 25% awareness of the ant campaign messages. **Forty-five percent** of Bay Area residents said they saw or heard information about at least one of the messages: moving trash away from the home, plugging holes in the house, and using ant bait stakes as safe and effective methods for dealing with ants. When analyzed separately, BASMAA achieved 25% awareness of the messages about using ant bait stakes and moving trash away from the house as safe and effective methods for dealing with ants. Nineteen percent of respondents were aware of the message about plugging holes in the house (Q44-Q46).
- BASMAA had anticipated that 10% of Bay Area residents who were aware of the campaign would consider safer methods. The survey responses lead to an estimate that **more than a third** of the Bay Area residents who were aware of the campaign indicated that they would consider using ant bait stakes and/or caulk or other materials the next time they have ants (Q13 & Q15).
- BASMAA’s goal was to reduce the number of people who would use pesticides outdoors from 49% to 44% following the campaign. Data collection is planned to measure pesticide use outdoors post-campaign.

BASMAA Water Pollution Post-Campaign Survey

1999

Introduction

This is a report of the results of a telephone survey of 631 Bay Area households conducted by the Public Research Institute (PRI) in September–October 1999. The survey was administered to residents of seven counties: Alameda, Contra Costa, Marin, Santa Clara, San Francisco, San Mateo, and Solano. Media usage, lifestyle priorities, methods of household pest control, and awareness of the BASMAA “When Ants Invade” Campaign and its messages were measured. Environmental awareness regarding sources of water pollution was also evaluated, as well as the media sources that were most effective in distributing the campaign messages.

The results of this survey will not only help BASMAA to evaluate the success of the “When Ants Invade” Campaign, but should also prove beneficial in the design of future campaigns. Results of this study may also suggest a need for additional education. Furthermore, this study may help to gauge whether or not the measurable campaign objectives were achieved, and it could prove helpful in determining future projections. Identifying the most effective methods of reach may help to focus future campaign strategies. However, readers should note that respondent self-selection and the widespread tendency to give socially desirable responses to questions about the environment may give an upward bias to the good environmental practices and intentions reported in this survey.

Sample Design and Survey Methodology

The questionnaire was developed by PRI in collaboration with O’Rorke Public Relations and BASMAA and programmed for Computer-Assisted Telephone Interviewing (CATI) using ACS-Query software. A team of interviewers and data collection supervisors received PRI’s general interviewer training, as well as specific training with the BASMAA Water Pollution Post-Campaign Survey.

A random-digit sample of 4,697 Bay Area listed and unlisted residential telephone numbers in the seven counties was employed to obtain 631 interviews; approximately equal numbers of interviews were obtained from each county. The sample was purchased from Genesys Sampling Systems, Inc. A random-digit sample provides a representative cross-section of listed and unlisted residential telephone numbers in the seven counties (approximately 70% of the residential telephones in California are unlisted). The questionnaire was programmed for Computer-Assisted Telephone Interviewing (CATI) using ACS-Query software.

Equal numbers of respondents were drawn from each county in order to ensure that we would have sufficient numbers of cases from each county for reliable comparisons of counties. Equal-size subsamples are optimal for cross-county comparisons. Because the counties are unequal in size, equal-size county subsamples involve sampling disproportionately from the counties; that is, sampling at different rates in each county. To make certain which county respondents resided in, they were asked to provide their zip codes.

When we combine the seven county subsamples to estimate characteristics of the population of Bay Area households, we must take the disproportionate sampling by county into account by weighting the data. Prior to weighting the data, all counties comprise 14-15% of the surveyed households. To account for the actual differences in size between counties and to permit accurate estimates of characteristics of Bay Area households from the sample, the county subsamples are weighted according to county populations.

Except when we compare the counties, all percentages reported here are based on appropriately weighted data so that the views and practices of the Bay Area population are accurately estimated.

Appendix A reports the sample counts and the estimated population percentages obtained for each question asked in the survey, along with the complete text of the questionnaire itself. Appendix B contains tables of responses for every question on the survey by county. Appendix C lists the verbatim responses to open-ended questions and “other”-response specifications.

Following a pre-test of the instrument and final revisions, interviewing took place September 21 to October 13, 1999, at the Public Research Institute’s survey research center at San Francisco State University. Interviews were conducted weekdays 4:00-9:00 p.m. and Sundays 2:00-7:00 p.m. The interviews were conducted in English and Spanish and averaged ten minutes in duration. A total of 23 interviews were conducted in Spanish. To increase the response rate, up to six attempts were made to contact each household in the sample on different days and at different times.

Survey Response Rate

The calculated response rate for this survey is 37%. Conceptually, the response rate is the number of completed interviews as a proportion of all eligible potential respondents contacted. This is calculated by dividing the number of completed interviews by the total number of contacted eligible respondents (completes plus refusals; for this survey, $631/(631+1074)=.37$). Since people who refuse to participate in the survey include some who would not be eligible in any case, the true response rate for this survey may be slightly higher than the 37% rate calculated from the response data.

Margin of Error

The idea of “margin of error” in sample surveys is a way of assessing possible effects of sampling error on estimates of population characteristics from sample data. For the whole sample of 631 respondents, the margin of error for a sample percentage employed to estimate the corresponding population percentage is ± 4.5 percentage points at the 95% confidence level. This means that we can say with 95% confidence that the corresponding percentage of the population of households will fall in the interval defined by the sample percent plus and minus 4.5%. If we were to draw repeated random samples of 631 respondents from this population, the margins of error obtained from them would include the corresponding percentage of the population 95% of the time.

Margins of error for sample subgroups are larger. The margin of error for population estimates for the counties is ± 10 -11%.

“Margin of error” refers to possible error in estimation from random sampling only. Non-sampling errors that might result from poor question wording, non-response bias, and the like, were minimized by pre-testing the questionnaire instrument, numerous retries and callbacks, and quality control supervision.

Statistics Used in This Report

It is often useful to know if certain groups of people respond to a survey item or question differently than other groups. For instance, we may want to know if the level of awareness that an activity contributes to water pollution is different in different counties. A bivariate frequency table of the sample data can show that the percentage of respondents in one county who believe an activity contributes to water pollution is greater than the percentage of respondents in another county who believe it contributes to water pollution.

The further question is, are the *populations* of the counties different? How many more respondents from the first county than respondents from the second county have to believe the activity contributes to water pollution for us to conclude that the *populations* of the counties are different in awareness of this contribution to pollution?

This question can be answered using statistical inference. Statistical inference enables us to determine whether the responses on one variable (in this case, awareness of water-polluting activities) are contingent on another variable (county of residence). Employing a standard equivalent to the widely used “margin of error” in sample surveys, we may conclude through statistical inference that awareness of water-polluting activities *is* contingent on county of residence and not just a result of sampling error. We call this a “statistically significant” difference. We call a relationship or difference statistically significant if the probability that it could have arisen by sampling error alone is less than 1 in 20 ($p \leq .05$). In this report, all group differences reported are statistically significant unless otherwise noted.

Survey Sample Characteristics

Fifty-seven percent of the respondents are women, compared to 50% of the population of the Bay Area. This can be expected given the tendency of women to participate in surveys more often than men. The racial makeup of the sample is compared in Table 1 to the racial distribution of the Bay Area population. Given that the sample contains only adults while the population data include children, and given different age distributions of racial groups, the racial makeup of the population estimated from the sample is reasonably close to the actual makeup of the Bay Area population in the 1990 Census.

Table 1. Sample and Population Estimates of Sex and Race

	Sample frequency (adults)	Actual sample percent	Estimated population percent*	Bay Area** (whole population)
Sex				
Female	379	60%	57%	50%
Male	252	40%	43%	50%
Race				
White	410	65%	63%	58%
Asian	71	11%	12%	14%
Hispanic	61	10%	10%	14%
African American	45	7%	8%	8%
Other	24	4%	5%	6%
Native American	3	0.5%	0.5%	1%
Refused to state	17	3%	2%	N/A

* Weighted to account for size of county.

** Source: US Census 1990

Level of Education

In the weighted sample, a majority of (59%) have at least a college degree. Including attendance as well as graduation, the proportion of adults exposed to higher education increases to 78%.

Income Level

While an estimated 10% of households report their annual income as \$25,000 or less, just over one-fourth (27%) report an annual household income between \$25,000 and \$59,999, with 43% reporting an annual household income of \$60,000 or more. Almost a quarter of all respondents either refused to state their household income or stated that they did not know it (11% and 10%, respectively).

Age

Estimates from the county-size-adjusted data imply 35% between the ages of 35 and 49 and one-quarter between the ages of 24 and 34. One-fifth are between 50 and 59 (18%), with one-seventh over 60 (14%). One-tenth fall into the 18 to 23 range (9%).

Counties

Respondents reside in seven Bay Area counties: Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Solano. The counties were sampled about equally to ensure sufficient numbers of cases for analysis from each county. The counties were then weighted according to their actual size in the population of the Bay Area so that we could accurately estimate characteristics of all Bay Area households from the sample.

Pre-Campaign Versus Post-Campaign

There are virtually no statistically significant differences in sample characteristics between the pre- and post-campaign respondents, except for minor differences with respect to reported household income. Pre-campaign respondents were more likely to respond that they did not know their income (16%) than post-campaign respondents were (10%). Sample estimates indicate that post-campaign respondents were more likely than pre-campaign respondents (16% and 10%, respectively) to report annual household income between \$100,000 and \$149,999. These differences do not represent a pattern of serious bias in the two samples. The close similarity of the pre-campaign and post-campaign respondents bolsters our confidence in the representativeness of both samples.

Lifestyle Priorities

In March 1999, BASMAA conducted a focus group about ants. In order to learn about the lifestyle priorities of Bay Area residents, participants were asked to prioritize five topics from most to least important. When averaging the group's responses, health was ranked first, followed by cleanliness, the environment, money and convenience.

The Pre-Campaign Survey asked similar questions to determine survey respondents' lifestyle priorities so that an effective educational campaign could be designed. Under the premise that most people are motivated to behave in ways that are consistent with their beliefs, it was necessary to determine the lifestyle priorities of Bay Area residents. From these findings, the "When Ants Invade" Campaign was designed to make residents aware of how their behaviors may go against their beliefs, with the expectation that changes in behavior would follow.

The Post-Campaign Survey is designed to measure whether the expected changes in behavior did, in fact, occur. So that we may once again compare residents' beliefs to their behavior, the same lifestyle priorities were measured as in the Pre-Campaign Survey. Not only are we able to determine consistency of behavior with belief systems, but also we can now compare the priorities of Bay Area residents before and after the campaign.

Respondents were asked to rate the importance of "saving money," "saving time" "the environment," and "personal health" on a scale of 1 to 10, with 1 being not at all important, and 10 being extremely important.

Averaging the respondents' ratings, we find that all of these factors remain important to Bay Area residents with "personal health" receiving the highest ratings with an average of 9.4. The "environment" received a mean rating of 8.7, "saving money" was rated at 8.3, and "saving time" received a rating of 7.6 out of 10. As indicated in the pre-campaign report, although time and money are somewhat less important than health and the environment in the population as a whole, they are still potentially powerful motivators for behavior for substantial numbers of people.

Pre-Campaign Versus Post-Campaign

Post-campaign respondents ranked lifestyle priorities the same as pre-campaign respondents (Table 2). Again, the similarity in the results of the two surveys—in the area of broad personal values, where we do not expect significant change over a 9-10 month period—increases our confidence in the representativeness and fundamental similarity of both samples.

Table 2. Importance of the Environment, Personal Health, Saving Money, and Saving Time—Pre-Campaign vs. Post-Campaign

On a scale from 1 to 10, how important is ...	Mean Ratings	
	Pre-Campaign	Post-Campaign
Personal health	9.4	9.4
Environment	8.7	8.7
Saving money	8.2	8.3
Saving time	7.5	7.6

Note: 1="Not at all important," 10="Extremely important"

Media Usage

Media Preferences of Respondents

To determine preferred media outlets, respondents were asked whether they read a daily newspaper, read inserts included in their utility bills, watch cable television, and have access to the Internet.

From the survey data, we estimate that more than half of Bay Area adults read a daily newspaper (55%), with those over the age of 50 more likely (66%) to read a daily newspaper than respondents under 50 (50%). People with at least a college degree are more likely (62%) than those who did not graduate from college (46%) to read a daily newspaper. People with household income of \$150,000 or more (73%) are more likely to regularly read a daily newspaper than people with a household income of less than \$25,000 (44%).

An estimated twenty percent of Bay Area residents read newspapers in languages other than English. Of that 20%, 56% read Spanish language newspapers, and 9% read Cantonese and Mandarin newspapers. Of those who read newspapers in languages other than English, 28% earn less than \$24,999 annually, compared to 7% who earn \$100,000-\$149,999 and 4% who earn more than \$150,000.

The majority of Bay Area residents (79%) watch cable television, with African Americans (91%) and whites (82%) more likely than Asians (63%) to watch cable television. Residents of Contra Costa County (93%) are more likely to watch cable television than residents of Solano (86%), Marin (84%), Santa Clara (77%), San Mateo (76%), San Francisco (74%), and Alameda (73%) counties.

An estimated 27% of Bay Area residents always read the inserts in their utility bills, and 26% read them sometimes. Twenty-three percent say that they read utility bill inserts rarely, and another 23% indicate that they never do. Older people are more likely to read utility bill inserts, with 42% of people over the age of 60 always reading utility bill inserts, compared to 15% of those between 18 and 23 years old who do so. Hispanics (49%) and African Americans (36%) are more likely than Asians (25%) and whites (22%) to always read utility bill mailings.

An estimated 71% of Bay Area residents say that they have access to the Internet, with Asians more likely than other groups to have access (87%). Over three-quarters of whites (77%) and just over half of Hispanics (51%) have access to the Internet. African Americans are least likely to have access to the Internet (47%). More men (78%) than women (70%) have access to the Internet.

Income is also an indicator of access to the Internet. Ninety-six percent of people in households with income of at least \$150,000, and 94% of those in households with \$100,000 to \$149,999, have access to the Internet. However, fewer than half of all residents in households with income less than \$25,000 have access to the Internet (44%).

People with at least a college degree are more likely (84%) than those without a college degree (58%) to have access to the Internet, and people under the age of 50 are more likely (79%) than those over the age of 50 (60%). Residents of Santa Clara County (85%) are more

likely to have access to the Internet than residents of San Mateo (63%), Solano (64%), Alameda (69%), San Francisco (69%), Marin (71%), and Contra Costa (74%) counties.

Pre-Campaign Versus Post-Campaign

Pre- and post-campaign, the survey data indicate that Bay Area residents read a daily newspaper, read utility bill inserts, and watch cable television in about the same proportions. Post-campaign, Bay Area residents have access to the Internet at a somewhat higher rate than pre-campaign (73% compared to 60%), a statistically significant difference that probably reflects a real increase.

Pest Control Methods

The Pre-Campaign Survey found that ants were the most common household pest problem in the Bay Area, and that the typical methods of dealing with ants were also those that are most environmentally harmful. Because the “When Ants Invade” Campaign emphasized future behavior toward ants, respondents were asked to specify which pest control methods they *would* use to deal with ants if ants were to become a problem for them. This measures *intentions* of Bay Area residents with respect to pest control practices since the campaign—we measure change in intention because people may not have had an ant problem since encountering the campaign messages.

Indoor Versus Outdoor Methods

The campaign focused on *outdoor* polluting activities. Responses to both *indoor* and *outdoor* ant problems were measured. Sixty percent of Bay Area residents would do something about ants outside the house, while 97% would do something about ants inside the house. Twenty-three percent would use spray to deal with ants outside the house, compared to 37% with ants inside. People are more troubled by ants inside than outside their homes and use more aggressive and more hazardous methods to deal with them, which supports the findings of the pre-campaign follow-up focus group. Table 3 shows the pest control methods Bay Area residents would use on ants inside and outside the home.

Table 3. What Will You Do If You Have Ants Outside Your House? Inside Your House?

Pest Control Method Chosen	Percentage	
	Outside	Inside
Nothing	40%	3%
Spray them	23%	37%
Get exterminator to spray	6%	10%
Use ant bait stakes	6%	8%
Will never have this problem	5%	3%
Buy chemical pesticide	5%	8%
Use boric acid ant bait stakes	1%	3%
Use less toxic products	1%	5%
Clean up outside house	1%	3%
Fill cracks with caulk/plug holes	0.5%	3%
Other	11%	17%

Unsafe methods include getting an exterminator to spray , or using a chemical pesticide or spray to deal with ants. Safe methods include using ant bait stakes or boric acid ant bait stakes, filling cracks in the home with caulk, cleaning up the outside of the house (including “use soap and water”), or using less toxic products (including vinegar or hot chili sauce).

Overall, an estimated 64% of Bay Area residents will use an environmentally unsafe method in response to ants inside and/or outside their houses. However, we find a sizable difference in the rate of use unsafe methods in response to inside and outside ant problems. One-third (33%) of Bay Area residents would use an environmentally unsafe method on ants *outside* the home, but when asked what they would do with ants *inside*, more than half (54%) would use an environmentally unsafe method. Figure 1 shows the difference in rates of unsafe use outdoors and indoors.

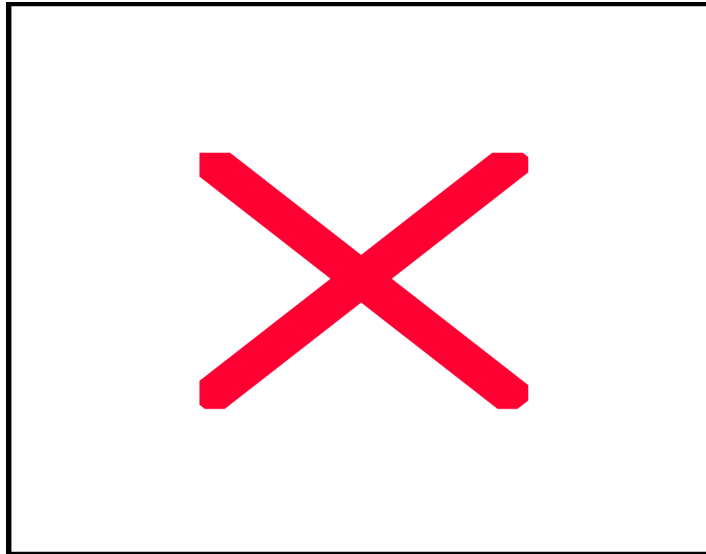


Figure 1. What Will You Do If You Have Ants Outside Your House? Inside Your House?

Pre-Campaign Versus Post-Campaign

According to the results of the Pre-Campaign Survey, 49% of Bay Area residents would use chemical pesticides outdoors. It is not possible to measure changes in outdoor chemical pesticide use at this time.

Reasons for Using Environmentally Unsafe Methods

When people who indicate that they would use an “unsafe” method to deal with ants outside the home are asked why they chose this method, 43% said that they had used it before and were satisfied with the results. Twenty-one percent of respondents chose their pest control method because they said it was convenient. Six percent of Bay Area residents have chosen an unsafe ant control method because they believe it to be environmentally safe, which suggests that these respondents are misinformed about environmentally safe pest control methods. The remaining respondents chose unsafe pest control methods for no particular reason (6%), because of a price or sale (3%), advertisements (1%), and because someone had told them it was good (1%). A large percentage of respondents (18%) chose reasons other than those specified.

Pre-Campaign Versus Post-Campaign

Respondents to the Pre- and Post-Campaign Surveys chose particular unsafe methods of ant control for somewhat similar reasons. Both pre-campaign and post-campaign respondents who indicated they would use an unsafe method to deal with ants were most likely to choose a product either because they had used it before and it had worked, or because they considered it convenient (Figure 2). Pre-campaign respondents chose ant control products

“for no particular reason” more frequently (13%) than post-campaign respondents (6%), and post-campaign respondents gave reasons other than those listed more frequently (18%) than pre-campaign respondents (3%). These differences, shown in Figure 2, do not add up to a clear pattern of difference between pre- and post-campaign respondents in their reasons for choosing environmentally unsafe methods to deal with ants outside their houses.

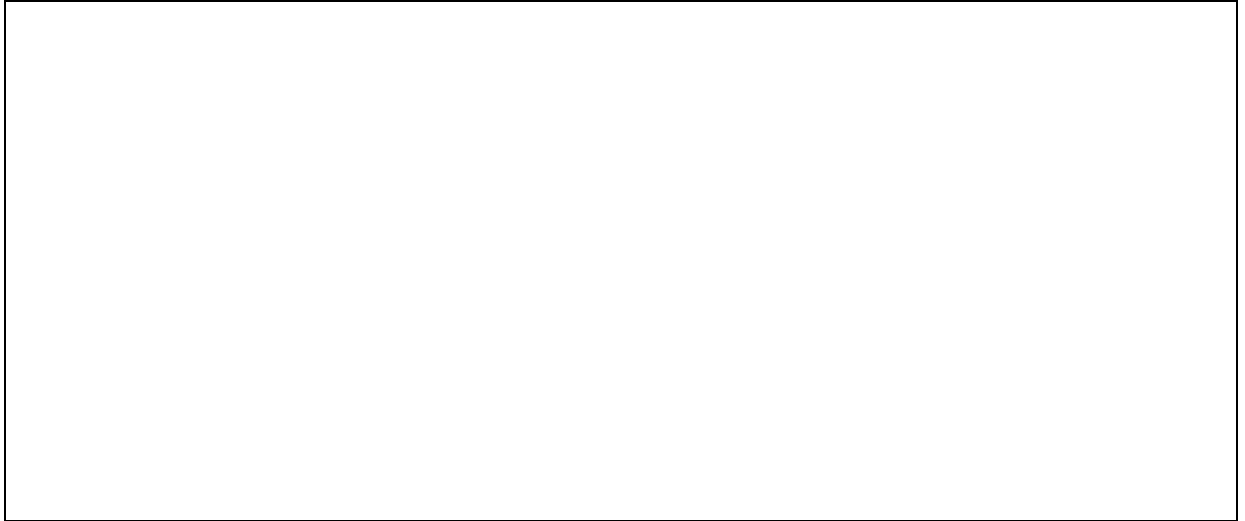


Figure 2. Why People Choose Environmentally Unsafe Products for Ants Outside the House. Question: Why Would You Choose This Method or React This Way?

Users of Environmentally Unsafe Methods

People without a college degree (38%) are more likely to use an unsafe method when dealing with ants *outside* the house than those with a college degree (29%). Residents of Solano County are considerably more likely (54%) to use unsafe methods on ants *outside* their homes than residents of Contra Costa (37%), Santa Clara (33%), Alameda (31%), San Francisco and San Mateo (29%), and Marin (28%).

Differences in rate of unsafe use are much smaller when residents deal with ants *inside* the home. Bay Area residents who do not have a college degree are somewhat more likely to use an environmentally unsafe method to deal with ants *inside* the home (59%) than people with a college degree (50%). African Americans are most likely to use an environmentally unsafe method when dealing with ants *inside* the home (85%), compared to whites (48%), Hispanics (51%), and Asians (65%).

Pre-Campaign Versus Post-Campaign

This comparison is not currently available. Data collection is underway, and results will be included in an addendum to this report.

Disposal of Environmentally Unsafe Products

Respondents who indicated that they would use a pest control method that would require disposal if they had leftovers were asked how they would dispose of the excess product. Respondents who said they would hire an exterminator or do nothing, or who never have a problem with ants, are not included in this analysis. The majority of Bay Area residents who use a pest control method that requires disposal would put the excess product in the trash

(64%). The second most common method of disposal was taking the leftover product to a hazardous waste facility (14%), followed by storing it for future use (8%).

Environmentally unsafe disposal methods include putting excess environmentally harmful products in the trash, pouring them down a street drain or on the ground. Overall, 26% of those who indicated they would use an unsafe pest control product would dispose of these products in an environmentally unsafe manner.

Women are somewhat more likely (25%) than men (19%) to use unsafe disposal methods. No other characteristics were found to differentiate residents who use safe or unsafe disposal methods.

Pre-Campaign Versus Post-Campaign

No differences between Pre- and Post-Campaign respondents could be detected in regard to the disposal of environmentally unsafe products.

Change in Environmental Awareness and Behavior

A primary objective of the campaign was to inform Bay Area residents about the dangers of outdoor pesticide use with the goal that this awareness would motivate residents to change environmentally unsafe practices. To measure changes in awareness and behavior, respondents were asked questions to assess their general environmental awareness as well as to gauge their awareness about specific water-polluting activities. To determine whether the campaign influenced respondents to change their behavior towards ant control, respondents were asked whether they would consider using the ant control methods that were addressed by the campaign.

General Awareness

When asked in which season they usually have a problem with ants, 32% of Bay Area residents think summer is the main season for ants, while 22% indicate winter. Eighteen percent indicate they had their main problem with ants in the fall, while 7% specify spring.

Because the survey indicates that 90% of Bay Area residents disagree with the statement, “All products for sale are safe for the environment,” and 62% have bought a product because it was less toxic, it appears that Bay Area residents have a general understanding about the variety of choices available to deal with household pests. Bay Area residents appear to be fairly knowledgeable about and willing to purchase environmentally safe alternatives to chemical pest control products. However, when asked what makes them buy a particular product, only 6% indicate the environmental safety of the product as a reason for purchasing it. Adding people who buy a product because they think it is safer for their family, which is an environmental consideration, we still reach only 11%. Table 4 gives a complete list of the reasons why Bay Area residents buy particular products.

Table 4. What Makes You Buy a Particular Product?

Reasons to Buy a Product	Percent
I used it before and it works	29%
Other reasons	17%
Price or sale	12%
I saw an advertisement	11%
Someone told me it was good	9%
I think it's "environmentally sound"	6%
It's convenient	6%
I think it is safer for my family	5%
No particular reason	5%
Total	100%
Number of respondents	(595)

Pre-Campaign Versus Post-Campaign

The Pre-Campaign Survey revealed slightly different results from the Post-Campaign Survey, with winter being reported as the main season for ants. Figure 3 shows difference between the pre- and post-campaign results. Note that the Pre-Campaign Survey was administered in winter, while the Post-Campaign Survey was administered at the end of summer. Therefore shifts in the reported main season for ants may have been produced by the time of year of the two surveys—people with a current problem are likely to identify that season as the problem season.



Figure 3. In What Season Do You Usually Have a Problem with Ants?

Pre- and post-campaign respondents disagreed that “All products for sale are safe for the environment” at virtually the same percentages. Likewise, pre- and post-respondents purchase products because of the environmental safety of the product at similar proportions.

Awareness About Water Pollution

When asked which body of water is most important to them, 38% indicated the Bay, with 31% specifying the ocean. Lakes (10%), reservoirs (7%), the Delta (4%), rivers (3%), and creeks (2%) follow in order of importance. The remaining 2% of respondents chose other types of bodies of water.

So that respondents’ awareness of water pollution could be measured, they were asked to specify how clean they believed their favorite body of water to be. From the survey data we estimate that of Bay Area residents who chose the Bay as their favorite body of water, 52% believe the water to be “moderately dirty”, and 21% say “very dirty.” Those who chose reservoirs are the most optimistic, with 37% indicating that the water is “very clean” and 59% stating it is “moderately clean.” See Figure 4 for details.

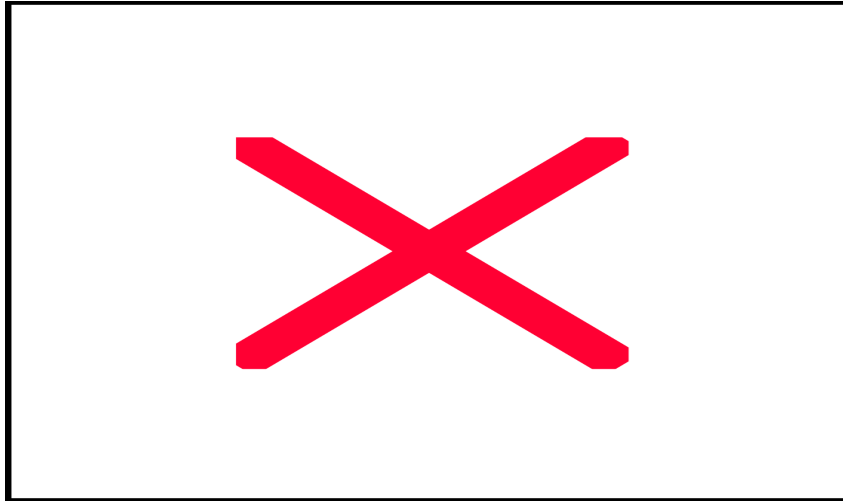


Figure 4. Would You Say That Body of Water Is Clean, Moderately Clean or Dirty?

To gauge residents' awareness of water-polluting activities, respondents were asked whether they would agree or disagree if someone told them that certain activities contributed to water pollution. When asked whether they would agree or disagree that using pesticides in a yard contributes to water pollution, 89% agree while 11% disagree. Fifty-seven percent agree that using chemical pest control products inside a house contributes to water pollution, compared to 43% who disagree. Ninety-three percent of Bay Area residents agree that oil leaks from cars contribute to water pollution, and 86% agree that emissions from cars contribute to water pollution. Sixty-nine percent of respondents agree that driving a well-tuned car prevents water pollution.

Residents of Santa Clara County (47%) are less likely than residents of Alameda (67%), San Francisco (65%), and Marin (63%) counties to agree that using chemical pest control products inside a house contribute to water pollution. People with a college degree (94%) are more likely than people without (83%) to agree that pesticides in the yard contribute to water pollution. Whites (91%) are more likely than African Americans (80%) and Hispanics (79%) to agree that using pesticides in the yard contributes to water pollution. Hispanics (84%) are less likely than Asians (98%) and whites (93%) to agree that oil leaks from cars contribute to water pollution.

Pre-Campaign Versus Post-Campaign

Pre-campaign and post-campaign, Bay Area residents differ little in their awareness of the kinds of activities that contribute to water pollution. Table 5 details these findings.

Table 5. Do You Agree or Disagree as to Whether These Activities Contribute to Water Pollution?

If someone said that ... contribute(s) to water pollution, would you—	Agree		Disagree		Don't know	
	Pre	Post	Pre	Post	Pre	Post
Oil leaks from cars	89%	90%	8%	6%	3%	3%
Using pesticides in a yard	85%	85%	10%	10%	5%	5%
Emissions from cars	78%	80%	15%	13%	7%	6%
Using chemical pesticides inside a house	58%	53%	35%	40%	7%	7%
Driving a well-tuned car prevents water pollution	70%	62%	21%	28%	8%	9%

Both pre-campaign and post-campaign respondents indicate that the San Francisco Bay or the ocean as their favorite bodies of water, followed by lakes and reservoirs.

Indicators of Change in Environmental Awareness and Behavior

Respondents who had indicated that they would use an environmentally unsafe product to deal with ants outdoors were asked whether they would consider using products that are considered environmentally safe the next time they had ants. Asking this question allows us to determine change in behavior and awareness, even if respondents have not yet had a problem with ants since the campaign. From these data, we estimate that 76% of the 33% of Bay Area residents who use environmentally unsafe products on ants outdoors would consider using ant bait stakes, and 70% would consider using caulk instead of the product or method that they typically use.

Do users of environmentally unsafe methods consider ant bait stakes and caulk safe and/or effective? From the survey data we estimate that 22% of this group consider ant bait stakes a safe method, 17% consider them effective, 46% consider them both safe and effective, while 14% consider them neither safe nor effective (Figure 5. Do You Think Ant Bait Stakes and Caulk Are Safe...Effective?). When we combine the percentage of respondents who consider ant bait stakes safe with those who consider them both safe and effective, we find that 67% of respondents who use unsafe pest control methods consider ant bait stakes safe. Combining those who consider ant bait stakes effective with those who consider them safe and effective, we find that 63% of these respondents judge them effective. Thirty-two percent of the environmentally unsafe users consider caulk a safe method, 7% consider it an effective method, 51% consider it both safe and effective, and 11% consider it neither safe nor effective. Combining, 83% consider caulk safe; 58% consider it effective¹.

These results are interesting because even though these people said they would use an environmentally unsafe pest control method to deal with ants outdoors, when queried, almost half believe ant bait stakes and caulk to be both safe and effective methods. Overall, 40% of the 33% of residents who use an environmentally unsafe product to deal with ants outdoors would consider using safer methods the next time they have ants.

¹ Respondents were given the opportunity to choose to only one response option. Therefore, no respondents were counted more than once when these percentages were combined.



Figure 5. Do You Think Ant Bait Stakes and Caulk Are Safe...Effective?

Question (asked users of environmentally unsafe products only): "Do You Think Ant Bait Stakes and Caulk Are Safe, Effective, Both Safe and Effective, or Neither Safe nor Effective Methods to Control Ants?"

Women (26%) who are environmentally unsafe users are more likely than men (6%) to believe that ant bait stakes are an effective method to control ants. Unsafe users who reside in Santa Clara county (91%) are more likely than unsafe users in Contra Costa (43%), San Mateo (64%), Solano (69%), San Francisco (71%), Marin (80%), and Alameda (81%) counties to consider using ant bait stakes instead of the product or method that they typically use.

Pre-Campaign Versus Post-Campaign

The questions in this section were not in the Pre-Campaign Survey. Results of the Pre- and Post-Campaign Surveys cannot be compared on these items.

Awareness of the BASMAA Campaign and Its Messages

In order to gauge general awareness of the campaign, respondents were asked if, in the past year, they had heard or seen news reports, advertising, or other information about ways to prevent water pollution. According to the survey data, over half of Bay Area residents (53%) had done so. An estimated 24% of Bay Area residents had heard of BASMAA.

It is common for survey questions of this kind to elicit some over-reporting of the behavior in question. Respondents try to please the interviewer and to provide what they think is the correct answer, in this case the environmentally correct answer or the answer an informed citizen should give. To measure specific awareness of the campaign, two questions were asked of all respondents. The first question, "Specifically, have you recently encountered any information about getting rid of ants without the use of pesticides or sprays?" was designed to capture those respondents who, without being prompted, were aware of the content of the campaign. An estimated 14% of the population of the Bay Area had recently encountered information about getting rid of ants without pesticides or sprays.

The second question is more detailed and provided respondents with the name of the campaign as well as the media outlets that delivered the messages. This question was designed to capture those respondents who may have been unaware of the existence of a campaign, but who, upon prompting, recalled the name of the campaign, the advertisements, and/or the messages of the campaign. Eleven percent of respondents indicated that they recalled seeing, hearing or receiving information about the campaign. The findings of these two questions combined indicate that 19% of the Bay Area population were aware of the campaign.

Another way to gauge awareness of the campaign is to directly ask respondents if they recall seeing or hearing the messages specific to the campaign. An estimated one-fourth of all Bay Area residents could remember seeing or hearing messages about using ant bait stakes and moving trash away from the house (28% and 26%, respectively). Likewise, almost one in five residents (19%) remembered seeing or hearing messages about plugging holes in the house as a safe and effective method for controlling ants. Overall, an estimated 45% of all Bay Area residents were aware of at least one of these campaign messages.

Most Effective Methods of Reach

So that the most effective method of reach could be determined, respondents who said that they were aware of the "When Ants Invade" Campaign were asked through which media outlet they had heard the campaign messages. Overall, television advertisements were the most effective method of reach. Of the 19% of Bay Area residents who were aware of the campaign, 58% learned about it from a television advertisement. Table 6 shows the most effective media used in the campaign. Please note that these percentages are proportions of the 19% of respondents aware of the campaign.

Table 6. Media Methods That Reached Those Aware of the "When Ants Invade" Campaign

Media Used in Campaign	Percentage
Saw television advertisements	58%
Read/heard news story	38%
Read newspaper advertisement	32%
Saw billboard or bus advertisement	31%
Heard radio advertisement	28%

The verbatim responses are also of interest. One respondent recalled information about "how to kill ants without polluting the environment." Another respondent said, "I think the campaign was particularly talking about how to combat the ant problem. I am very much aware of it. It was a good campaign and it benefits everyone and the environment." Another respondent could only remember a big picture of an ant. For all the comments that respondents gave, see Appendix C.

BASMAA's Measurable Campaign Objectives

BASMAA had measurable campaign objectives so that the effectiveness of the campaign could be determined. Overall, the BASMAA campaign surpassed the objectives measured by this survey.

BASMAA had hoped to achieve a 25% awareness of the ant campaign messages. As described in the previous section, to gauge resident awareness of the messages, respondents were asked whether they remembered seeing or hearing information about items specific to the campaign. Awareness of individual messages ranged from 19% to 27%. An estimated 25% of Bay Area residents remember seeing or hearing information about moving trash away from the house, and 19% remember seeing or hearing information about plugging holes in their house. Twenty-seven percent remember seeing or hearing information about ant bait stakes. The responses to these three questions were combined to measure overall awareness of the campaign messages. People who said they remembered two or three of the messages were counted only once. **By this measure, an estimated 45% of residents have heard of at least one of these three campaign messages.** Because of the tendency of some respondents to say what they think the interviewer wants to hear or to give the socially desirable response, the real percentage of Bay Area residents who would remember seeing or hearing information about one or more of these items is probably less than 45%. Even allowing for some inflation of this kind, however, it is clear that the campaign met its 25% awareness objective.

BASMAA had also hoped that 10% of people who were aware of the campaign would consider using safer methods the next time they had ants. To determine this, respondents who indicated that they were aware of the campaign were queried to see whether they said they would consider using ant bait stakes and caulk the next time they had ants, instead of the method they typically use. Of the 19% of **respondents who were aware of the campaign, 41% would consider trying safer methods (ant bait stakes and caulk) the next time they have ants.** The reader should note that intentions do not necessarily predict actual behavior when people are faced with ants in the future. However, because residents may not have had an ant problem since encountering the campaign, intended behavior rather than actual behavior was measured.

Finally, BASMAA hoped that the campaign messages would reduce the number of respondents who said they would use pesticides from the 49% determined in the Pre-Campaign Survey down to 44%. This comparison is not currently available. Additional data collection is underway.

While the results of the survey indicate that BASMAA has exceeded its measurable campaign goals, not all comparisons of the pre-campaign and post-campaign data indicate change among Bay Area residents. For example, pre-campaign and post-campaign respondents do not differ in terms of why they chose a particular method of dealing with ants (Figure 2), suggesting that post-campaign respondents may not have been influenced by the campaign to purchase products because they are environmentally safe. Likewise, pre-campaign and post-campaign respondents differ little with respect to their understanding of water-polluting activities, with similar percentages agreeing about the activities that contribute to water pollution (Table 5).

Although every comparison of the pre-campaign and post-campaign respondents does not demonstrate change in awareness, the Post-Campaign Survey does indicate that residents would consider safer alternatives to chemical pesticides (Figure 5). The success of the measurable campaign objectives also indicate that Bay Area residents did learn from the Campaign and as a result, may consider changing their behavior toward ants and the use of chemical pesticides in the future.