ANDERSON ADVERTISING, INC.

EDWARDS UNDERGROUND WATER DISTRICT

Water Conservation Benchmark Study

Conducted by Anderson Advertising

Report Presented

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EDWARDS UNDERGROUND WATER DISTRICT

Water Conservation Benchmark Study

Research Objectives

The Edwards Underground Water District requested a benchmark survey of consumers in the five county area to ascertain the level of awareness and implementation of household water conservation techniques. Specific objectives included the investigation of:

* extent of knowledge about the source of water supply in the five-county region,
* attitudes toward and knowledge of water usage,
* perceptions of the current source meeting the water needs of this region,
* current water conservation techniques employed at the household level,
* perceptions about the effectiveness of various measures and media to encourage water conservation, and
* recall of conservation messages disseminated by the Edwards Underground Water District and other groups

In addition to the primary questions, respondents were asked about their opinions about legislative action and taxes or fines as they might impact compliance with water conservation.

Methodology

Telephone surveys were administered to randomly selected, publicly listed telephone numbers in proportion to the population by each county. Calls were made in the evenings and on weekend days to ensure a greater number of residents would be available to participate. The sample was purchased from an outside organization to preserve the integrity of the sample and ensure a representative random sample of the region. The respondents were given an opportunity to be asked and answer in Spanish, however very few requested Spanish language.

The questionnaire was fielded by marketing research students at U.T.S.A. in October, 1990, after a late summer/early fall of high media visibility for the water issue and a public relations campaign targeted to homeowners in the five-county area.

Purpose and Impact of the Research

This research will serve as a benchmark for future studies of the awareness of the water conservation issue and individual actions taken to conserve water at the household level. Long term, this research may assist the Edwards Underground Water District in understanding the conceptions of the organization by consumers and assist in future planning for efforts to communicate the importance of the water issue to the general population.

An additional benefit derived from this research was the capturing the names and addresses of 280 residents who wish to receive water conservation kits who had not already ordered them. Although more limited in scope than the public relations campaign launched in the summer months, this research served to sensitize the respondents to the issue of water usage and supply and perhaps will motivate them to take actions to conserve this precious resource.

Sample

A total of 416 respondents completed the survey. The breakdown by county was in line with the population parameters provided. The table below shows the percent of the total five-county region's population and the corresponding number and percentage in the research sample:

County	Population in District	% of Pop.	Number of Respondents	% of Sample
Bexar	1,169,911	87%	356	85.6%
Comal	47,879	4%	15	3.6%
Hays	70,000	5%	26	6.3%
Medina	26,100	2%	8	1.9%
Uvalde	26,222	2%	11	2.6%

Due to the proportionately large number of Bexar County residents in the district and the small total sample of the survey, the variances in responses among the respondents in the four smaller counties will not be significant. However, future research should be conducted against these populations to uncover variances from the Bexar county residents' responses.

Other relevant demographics collected from the 416 respondents included sex, ethnic background, years of education, age of respondent, number of years of residence in the community, respondent's voting habits, household income, number of persons in the household, type of dwelling, whether one receives a water bill and approximate amount from the previous month. These variables were obtained to determine if they appear to influence attitudes toward water conservation, knowledge of the issues, or reported conservation behavior.

Regarding the sex of the respondents in the sample, there was a slightly larger number of females (57.1%) than males (42.9%) which is expected when surveying random households. Regarding ethnic background, 67.8% of the respondents identified themselves as white/Anglo, 22.8% Hispanic/Mexican-American, 5.1% Black, 2.4% other, and 1.9% refused to answer. The higher proportion of Anglo respondents is expected given the demographics of residents with active telephone numbers.

The formal education for respondents ranged from none to graduate degrees which translated to 20 or more years of formal education. The table below shows the percentages by educational categories:

Formal Education Completed		
Less than 8 years	6.3%	26
Some high school	3.4%	14
High school graduate	29.1%	121
Some college	28.0%	117
College graduate	18.0%	75
Post-college graduate	14.0%	58
Refused/no answer	1.2%	5

Regrouped into slightly broader categories, of those who answered the question (411), high school graduates or fewer years of education constituted 39.2% of the sample, college graduate or some college 46.7%, and post-college 14.1%.

Of the 410 respondents who reported their ages, there was representation across the age spectrum. Specifically, the tables below show respondents by ten year age breakdowns and one in broader age brackets.

Age of Respondents		
Under 25 years	10.5%	43
25 - 34 years	23.7%	97
35 - 44 years	24.1%	99
45 - 54 years	16.6%	68
55 - 64 years	10.2%	42
65 - 74 years	8.3%	34
75 or older	6.6%	27

Under 35 years	34.2%	140
35 - 54 years	40.7%	167
55 or older	25.1%	103

When asked to provide the number of years one had lived in the community, a wide spectrum of years was provided from less than one year to 83 years. The tables below show two groupings of respondents by number of years lived in the community:

Number of Years Lived in the Community		
5 years or less	23.7%	98
6 to 10 years	16.7%	69
11 to 15 years	8.9%	37
16 - 25 years	19.1%	79
26 - 35 years	15.2%	63
More than 35 years	16.4%	68
10 years or less	40.4%	167
11 to 25 years	28.0%	116
More than 25 years	31.6%	131

Respondents were asked about their pattern of voting in political elections. The table below shows the array of responses for the 413 respondents who answered the question:

Reported Voting Habits		
Never vote	13.3%	55
Sometimes vote	26.4%	109
Vote regularly	59.6%	246
Always vote	.7%	3

Household income categories reported by respondents are shown in the table below:

Household Income		
Less than $20,000	19.2%	80
$20,000 to $40,000	38.5%	160
$40,000 to $60,000	19.7%	82
More than $60,000	13.2%	55
Refused/no answer	9.4%	39

Regarding household size, of the 414 who provided such information, 18.1% were living alone, 33.8% were living with another person, 48.5% were living in households of 3 to 5, and 5.6% were living in household sizes of 6 or more.

Most respondents lived in houses or duplexes (79.5%). However, 17.1% lived in apartments (with limited responsibility for grounds and ability to impact the extent of water conservation in the complex). The remaining 3.4% lived

in mobile homes or townhouses which are perceived to have less property around them to maintain.

Nearly 75% of the respondents (309) receive a water bill, and of those who do, 92% (283) were able to estimate the last month's bill. The validity of this data is suspect, because the range of the responses was $3.00 to $200 for one month. However the breakdown of the respondents' estimates by category is shown in the table below:

Estimate of Last Month's Water Bill		
Less than $20	20.1%	57
$20 - $29	36.0%	102
$30 - $39	23.0%	65
$40 - $49	11.7%	33
$50 or more	9.2%	26

Findings

KNOWLEDGE OF WATER SOURCES, EDWARDS AQUIFER LEVEL, AND LAWS IN EFFECT PERTAINING TO MANDATORY WATER CONSERVATION

The first series of questions were designed to ascertain the respondents' knowledge of water sources, including the Edwards Aquifer, the aquifer's water level, and water conservation laws in effect at the time of survey. Overall, 97.4% of the respondents had heard of the Edwards Aquifer or identified it as the source of their own household's or San Antonio's water supply. When specifically asked about their own household water supply, the following responses were obtained:

Source of Household Water		
City Water System	43.8%	182
Edwards Aquifer	32.7%	136
Well	8.2%	34
Other (ground, tap)	1.9%	8
Lake, river, reservoir	0.7%	3
Private, bottled	0.5%	2
"Bexar Metro District"	0.5%	2
Another aquifer	0.2%	1
Don't know	11.5%	48

Those who had not answered their household water supply came from the Edwards Aquifer were asked about the source of the San Antonio water supply. Of the 280 in this group, 75.4% (211) correctly identified the Edwards Aquifer as the source. Other answers included don't know (56), city water system (6), lake, river, or reservoir (2), and single mentions each for well, springs, ground, rain, and Austin Aquifer.

Taken together as either a household source of water or San Antonio's source of water supply, the Edwards Aquifer was correctly identified as a water source by 83.4% of the sample (347 respondents).

When asked if they knew the level of the Edwards Aquifer, 35.9% (140) had confidence that they knew the current level. Respondents were then asked to provide a number. The answers ranged from inches to over 2,000 feet. Some responses were couched in terms of the level versus an average, such as "low" or "about average."

The actual level of the Edwards Aquifer during the week of the fieldwork was approximately 649 feet. Only 2 respondents could accurately identify the level (rounded to the nearest foot); 22 were within a foot of the actual level (higher or lower). The table below shows the array of responses ranging on either side of the actual level. It is important to note that a greater number of respondents (85%) guessed lower than the correct level as compared to higher (14%).

Accuracy and Range of Levels Provided		
Correctly provided 649 feet	2	0.9%
Within one foot (648-650)	22	9.9%
Within five feet (644-654)	47	21.1%
Within ten feet (639-659)	87	39.0%
Less than 600 feet	47	21.1%
600 - 699 feet	166	74.4%
700 feet or more	10	4.5%

Respondents were asked if the current level was above, about or below average for the aquifer. Most respondents thought the level was either about or below average, with only 14.7% believing that the level was above average. Specific responses are listed in the table below:

Current Level in Relation to Aquifer Average		
Above Average	14.7%	61
About Average	40.4%	168
Below Average	35.8%	149
Don't Know/No Answer	9.1%	38

Respondents were then asked when they kept track of the aquifer level. One third of the respondents who answered this question keep track only in times of crisis. Summer and crisis account for half of the tracking times. Nearly another third of the respondents report keeping track year 'round.

The table below shows the percentages of responses:

When Aquifer Level is Tracked		
Only in Crisis	33.3%	131
Year 'Round	27.2%	107
Don't Keep Track	19.3%	76
Only in Summer	17.3%	68
News/Weather Broadcasts	2.0%	8
Occasionally	0.5%	2
Aware, but don't track	0.3%	1

When asked where or how they learn about the level of the aquifer, the overwhelming leader in mentions is television (287), followed by newspaper (182), with radio a distant third (29). Other places where respondents mentioned they learned of the level were news without specific media type mentioned (8), school (3), chamber of commerce (2), with single mentions of fliers on base, agriculture department, and politicians.

Reviewing where a person learned of the aquifer level by accuracy of their estimate of the current level, the two who correctly identified the aquifer level at 649 received their information from television, and one of the two also mentioned newspaper. Comparing the media mentioned by respondents with the accuracy of their estimates, newspaper and television can be hypothesized as the most helpful. The chart below shows accuracy ranges overall, then by newspaper and television.

		Media Mentioned	
Accuracy of Levels	Total	Newspaper	Television
Correctly provided 649 feet	2	1	2
Within one foot (648-650)	22	16	10
Within five feet (644-654)	47	30	27
Within ten feet (639-659)	87	51	57
600 - 699 feet	166	84	115

Respondents were asked to characterize how informed they felt they were in relation to others. The majority perceived themselves to be about average (67.5% or 266), compared to 18.5% characterizing themselves as more informed (73) and 11.4% as less informed (45).

Finally with reference to the knowledge section of the questionnaire, respondents were asked if they were aware of any water conservation laws in effect at the time they were being surveyed. Slightly more than a third reported some law being in effect (33.9%). When probed, the most common response was that the alerts had just recently been cancelled

(47), the referenced laws pertained to restrictions on lawn watering (35) or car washing (4), or the city of San Antonio still had some restrictions (nonspecific) in place (4).

ATTITUDES TOWARD WATER CONSERVATION

The sample surveyed had an overwhelming response to the importance of water conservation. Nearly 100% considered such conservation somewhat or very important, with 85.1% reporting it as very important. Unlike other questions, there were no respondents who were unable to voice their opinion. The table below shows the breakdown of responses:

Importance of Water Conservation		
Very Important	85.1%	354
Somewhat Important	14.2%	59
Not Important	0.7%	3

Respondents were then asked who (which group or groups) they felt used the most water. Without being read any possible answers, the largest number of responses were for business and industry (167 mentions), with homeowners mentioned next (100), followed by cities (70), farmers (48), and others (27). "Others" included military and military bases (10), retirees (5), building complexes (3), recreational uses such as Sea World (3), everyone (3), the rich/wealthy (2), and lawn waterers (1).

When asked if they felt there was enough water for current needs 70.9% (295 respondents) answered yes. There were however some caveats regarding this availability. Most mentioned condition was continued conservation (12), rainfall (7), identification of another source for water (4), lack of growth and expansion (4), limits on industry (2), and government monitoring or restrictions.

Bexar County residents responded with slightly greater confidence in the amount of water for current needs (78.1% for Bexar County vs. 71.1% overall). Comal County respondents, although there were only 15 in the sample, split with 46.7% fearing that the amount of water was not enough for current needs (vs. 23.1% overall).

Age of respondents was also a key indicator for confidence in water meeting current needs. The older the respondent the more likely they believe there is sufficient supply.

The table below shows this relationship.

Enough for current needs	Yes	No
Under 25 years old	55.8%	41.9%
25 to 34 years old	61.9%	30.9%
35 to 44 years old	70.7%	23.2%
45 to 54 years old	77.9%	19.1%
55 to 64 years old	81.0%	7.1%
65 to 74 years old	79.4%	17.6%
75 years and older	88.5%	7.7%

In contrast, when respondents were asked if there was enough water for future needs, the responses shifted to a negative perspective with 60.4% fearing that future needs will not be met. Again continued conservation was mentioned most frequently in comments about future water needs (20), followed by limits on growth and expansion (13), rainfall (6), requirements for additional sources of water (5), and a need to plan (3).

The table below shows the shift in respondents' answers contrasting having enough water for current vs. future needs:

Enough water for:	Yes	No	DK/NA
Current needs	295 (70.9%)	96 (23.1%)	25 (6.0%)
Future needs	113 (27.2%)	250 (60.1%)	53 (12.7%)

Respondents were asked if they thought government should limit current water usage to which a majority of respondents (60.6% or 252) responded negatively. Only 35.6% (148) answered that government should limit current usage. When asked what level of government should be involved, 58.6% favored local governmental involvement, compared to state (21.9%) and federal (7.1%) or a combination of levels of government (12.4%).

When reviewing whether the government should limit current usage by various age categories, the very young (under 25 years) report a much higher belief in governmental action (60.5% favor) than the older age groups, particularly those in the 45 to 54 and 55 to 64 year old groups (20.9% and 19.0%, respectively).

When asked whose water should be limited, an egalitarian response was more often registered than any particular group. Everyone's water should be limited was reported by 115

respondents, followed by business and industry (33), homeowners (16), the city's (13), and farmers (4).

Recognizing that some occupations and businesses depend in part or wholly on the availability of water, respondents were asked if there should be different standards for water usage based on whether or not water is an important element in one's livelihood. The majority of the sample (68.7%) felt that there should be different standards, with comments following that farmers should get more (14), business should get more (5), and there should be a break for restaurants or the elderly. Fourteen respondents suggested this issue would require more study or guidelines before implementing. Possible abuse was mentioned by 5 respondents, and water should be reused wherever possible by another 5. Also captured in the comments were more negative remarks. Water should be on a first come/first served basis (2), farmers should be given no preferential treatment (2), and recreational use should be limited (1) were comments noted.

When asked if there should be limits placed on water usage in the future, a large percentage (81.8%) responded in the affirmative, compared to only 11.2% who felt limits were not needed. Comments captured from respondents regarding such limits included seasonal limits (7), the need for technological alternatives or another source of water supply (9), and the need for public information to encourage water conservation. Limits were not perceived to be needed if we conserve (12), if there is limited growth or expansion (8), or limits might not be necessary depending upon rainfall (10).

When asked if people should conserve voluntarily, an overwhelming response of 97.1% said "yes" as compared to only 2% who disagreed. Then respondents were asked when people should conserve. The large majority (82.9%) reported a need for people to conserve year 'round, with 15.1% suggesting conservation during the summer or periods of high use. In addition to these encouraging signs of people's recognition of the importance of voluntary water conservation was a belief that individuals can make a difference (94.0%).

INDIVIDUAL WATER CONSERVATION ACTIONS TAKEN

A series of water conservation measures were listed for respondents to report as actions they had taken or not taken. In some cases, water saving devices had already been installed, and in other cases, the action was not applicable to their household, such as watering lawns for apartment dwellers.

The list of actions included: installation of a water saving toilet, installation of toilet bags or dams, installation of shower flow restrictors, installation of water saving showerheads, installation of faucet aerators, installation of a drip irrigation system, use of sprinkler gauge or measurement of watering, reduction of water pressure, landscaping of yard to use less water, checking of water meter in the last year, watering the lawn less often, checking for water leaks, watering lawns in the evenings or early mornings, refraining from washing drives, patios, and sidewalks, washing cars/trucks less often, using a car wash that recycles water, turning off faucet while using, limiting time in shower or reducing amount of water for bath, and ordering a water conservation kit.

The following chart shows the percentage of the sample who embarked on water conservation measures listed above or who knew of their prior installation or existence in their dwellings. Actions are listed in descending order, beginning with the most frequently reported to the least.

Water Conservation Measures

Turned off faucet while using	83.4%	347
Watered evenings/mornings	74.5%	310
No washing of drives, walks	73.6%	306
Checked for leaks	73.3%	305
Limited showers	69.3%	287
Water lawn less	65.4%	272
Washed cars/trucks less	65.4%	272
Water saving showerhead	48.8%	203
Shower flow restrictor	43.8%	182
Used car wash that recycles	40.4%	168
Faucet aerator	39.9%	166
Sprinkler gauge	35.6%	148
Landscaped to save water	35.6%	148
Checked water meter	33.4%	139
Water saving toilet inst.	29.6%	123
Toilet bags/dams	26.0%	108
Reduced water pressure	19.7%	82
Drip irrigation system	15.4%	64
Ordered water cons. kit	8.7%	36*

* Although only 36 had previously ordered a water conservation kit, 280 respondents requested the free kit, which upon receipt would raise the total percentage in this sample to 76%.

AWARENESS OF EDWARDS UNDERGROUND WATER DISTRICT AND WATER CONSERVATION MESSAGES

Although 97% of the sample had heard of the Edwards Aquifer, only 86.8% reported having heard of the Edwards Underground Water District (EUWD). A slightly smaller percentage reported having seen water conservation advertising messages (80.8%).

It is important to note that during the summer months, a number of organizations in addition to the EUWD, such as the City of San Antonio and various media, were promoting the message of water conservation. Messages were heard on television and radio, seen on outdoor boards, in the newspapers, and on bus benches and bumper stickers. Civic organizations, schools, churches, home shows, and employers were contributing to the effort to conserve water.

The advertising messages sponsored by the Edwards Underground Water District were only a part of their efforts which included public relations, special events, newsworthy press releases and press conferences. The fielding of this research came 3 months after the height of the activity and may account for a lower level of awareness of specific messages than might have been expected at the end of the summer. Nonetheless, respondents were able to identify media and messages, including some playback of specific outdoor board slogans and copy points from the EUWD campaign.

The medium which received the most mentions for carrying the water conservation message was television (231), followed by newspaper (108), outdoor boards (76), elsewhere (45), radio (40), bus benches (13), and bumper stickers (9). Recall research shows that people sometimes have difficulty distinguishing what is advertising sponsored by an organization and what might be press coverage or news which has not been paid for the sponsoring group or what might be a message sponsored by another group. For example, bus benches were mentioned by some in the sample. These were no doubt the City's "H2OK" benches, revived from the 1989 campaign.

When asked what they remembered from these messages, 57.5% volunteered a response. These answers were taken verbatim from respondents, and as they were not limited by a list from which they could choose, many included multiple messages that they had remembered. The most frequent responses pertained to conserving water (109), followed by non-specific "water conservation tips" (24) and mentions of fines for not conserving (2). Twenty-nine respondents repeated slogans used by the various groups, including the EUWD, and 7 actually said "faster showers." Seventeen simply described the seriousness

of the water situation, and 7 recalled the political discussions surrounding the water issue.

The table below shows the array of responses given, grouped by type of answer. Multiple mentions by individual respondents are shown individually, so that the total number of mentions exceeds the number of respondents providing answers.

Remembered from Water Conservation Messages

Conservation (non-specific)	109
Conservation tips (non-specific)	24
Conservation or fines	2
Conservation kits	7
Lawn watering	22
Showerhead restrictors/faster showers	13
Toilet dams/bags/water-saving toilets	10
Washing cars less often	6
Turning off faucet while brushing teeth	4
Fixing water leaks	1
Restrictions on water in restaurants	1
Slogans repeated	29
Description of the situation	17
Political discussion	7

When respondents were asked to identify the current slogan for the Edwards Underground Water District, 90% answered they did not know. "H2OK" was mentioned by 32 respondents, followed by "Be Water Tight" (8) and "Don't Be A Drip" (2).

Respondents were then read a list of four slogans which had been used by the EUWD in the past three years and asked which was the current slogan. Providing such a list of plausible responses and asking to correctly identify which line is in current use encourages respondents to guess, regardless of actual recall. When given an opportunity to try to identify the slogan, 49.3% answered the question, as compared to the 10% who could answer unaided.

"H2OK" still garnered the most responses with 90 single mentions and mentions by another 19 respondents in combination with other answers. "Be Water Tight" was selected by 36 respondents with another 7 mentioning the line in combination with other answers. "Don't be a Drip" was chosen by 32 respondents as a single response and in combination with 13 others. "Kids Can Conserve Too" was mentioned by 12 individuals as the sole slogan and mentioned by 5 others in combination with another line or lines.

ATTITUDES TOWARD EFFECTIVENESS OF MEDIA AND MEASURES TO ENCOURAGE WATER CONSERVATION EFFORTS

Respondents were provided a list of media and other actions which might prove effective in eliciting water conservation efforts. The media included advertising, feature programs, newspaper stories, teaching water conservation ethics to children in school, and dispatching speakers into the workplace. Other measures on which respondents were asked to gauge effectiveness included higher water bills, limited availability of water, rewards for lower usage, penalties for wasting water, free installation of water saving devices, tax credits for conservation, and requirements for installation of water saving devices in new homes. Respondents were also asked to provide any other measures which they felt might impact the public and encourage them to use less water.

Since respondents could answer that the media or measure would be "very effective," "somewhat effective," or "not effective at all," a scale was devised to weight the responses in an effort the differentiate responses among the three options. If an activity was deemed to be "very effective," the response was counted as a four. Those "somewhat effective" were counted as two, and those "not effective at all" were not counted toward the overall score. The scale scores were calculated by totalling the weighted scores and dividing by the number of respondents.

The table below shows the number of respondents who answered in each of the three categories and the overall scale score for that item based on respondents' evaluations. The higher the scale number, the more effective the measure was seen to be by the overall sample. Media and communication efforts are grouped together first, followed by rewards, penalties, and other actions. The other methods are listed in the third grouping.

Media/Measure	Very Effective	Somewhat Effective	Not at All Effective	Scale Score
Teach in School	347	60	9	3.63
TV Advertising	289	121	6	3.36
TV Program	203	144	68	2.64
Radio Advertising	144	230	42	2.49
Newspaper Stories	138	211	65	2.34
Speakers at Work	137	190	86	2.23
Outdoor Boards	135	188	91	2.20
Newspaper Adv'g.	111	233	72	2.19

Media/Measure	Very Effective	Somewhat Effective	Not at All Effective	Scale Score
Penalty for Waste	277	102	31	3.15
Free Installation	253	126	30	3.04
Reward Lower Use	230	135	47	2.86
Higher Water Bill	250	82	82	2.80
Limit Availability	238	77	98	2.66

Other Methods to Encourage Less Use of Water

Education	61
Fines/Penalties	26
Advertise More	12
Landscaping	9
Rewards/Discounts	6
Change Behavior	5
Technological Devices	2
Fix Leaks	1
Shorter Showers	1
Nothing Will Work	1

Respondents were also asked if they favored tax credits for water conservation devices and laws requiring installation of water conservation devices in new homes. Nearly three-quarters of the sample (72.1%) favored tax credits, while 19.5% were opposed. A smaller percentage (62.9%) favored installation of devices in new homes, however both measures support a water conservation ethic.

Finally, respondents were asked if there was enough public awareness of the water issue at the time of the survey. The sample was split on this question with 53.5% answering not enough, while 42.3% answered there was enough public awareness. Comments were recorded along with this question. Of the 90 respondents who volunteered clarification to their answer, 31 stated there was enough awareness only during crisis, 28 reported there needs to be more awareness of the issue, 2 mentioned lots of confusion, 1 felt the issue was only political, 8 felt there was already quite a lot of public awareness, and 19 answered that people don't really care about water conservation.

Discussion

Overall the awareness of the Edwards Aquifer and the perceived need for water conservation are very high. However, based on the comparison of current situation and future needs, this sample clearly believes limits may need to set now, and may become more necessary in the future, in order to have enough

water to meet future water needs. Local governmental involvement is the preferred level in terms of limiting such usage.

More study needs to be undertaken regarding the setting of standards for water usage by businesses who depend upon water for their livelihood, as a majority of the sample feel that this group's needs should be addressed separately.

This sample is strongly in favor of requirements to install water conservation devices in new homes and tax credits for installation of water conservation devices.

The public relations and advertising campaign had its desired impact in raising the level of awareness of specific water conservation techniques based on the playback by respondents of the types of actions they are currently taking to conserve water. However, many respondents believe that public awareness should be raised throughout the year, not only during the summertime, times of high usage, or times of crisis.

Regarding the effectiveness of media and measures, teaching children to carry forward the message of water conservation was perceived to be the most effective measure followed by television advertising. Perhaps next year's campaign should include a greater emphasis on this influential target. Also it is recommended that the EUWD consider a paid television advertising schedule in subsequent campaigns to ensure the greatest reach and frequency of the conservation message.

Penalties for wasting water were also perceived to be effective motivators, followed by free installation of water saving devices and rewards for lower usage. Education and advertising were mentioned most frequently as other means to spread the message of the need for water conservation and change behavior.

This sample believes that the individual can make a difference, and the Edwards Underground Water District should take full advantage of this belief by continuing its message to individuals as well as taking on the larger, more complex water users identified by the respondents: business and industry.

The Edwards Underground Water District should continue its efforts to distribute literature, water conservation kits, and analyze the attitudes and behaviors of the residents in this five-county region. Future research should continue to measure individuals' conservation efforts to determine if a greater percentage of the population is adopting water

conservation measures and if those who are already conserving are finding more ways in which to contribute to conservation efforts.

Future research should also be directed at the four counties with more rural population to determine if their attitudes are significantly different that the more urban Bexar County. Without other organizational units competing for share of voice, the EUWD message could be more impactful in these regions.

Executive Summary of Key Findings

* 97.4% have heard of the Edwards Aquifer
* 86.8% have heard of the Edwards Underground Water District
* 75.4% correctly identified the Edwards Aquifer as San Antonio's water source
* 76.2% perceived the aquifer level to be about or below average
* Television and newspaper are the key media sources for learning about the aquifer level
* 99.3% believe water conservation is somewhat or very important
* 85.1% believe water conservation is very important
* 70.9% believe there is enough water for current needs
* 27.2% believe there is enough water for future needs
* 97.1% believe that people should conserve voluntarily
* 94.0% believe that individuals can make a difference
* 35.6% believe government should limit current usage
* 58.6% of those who think government should limit current usage favored local government involvement
* 81.8% believe limits should be placed on water usage in the future

* 68.7% believe there should be different standards for water usage for those whose livelihood is dependent on water

* 72.1% favored tax credits for water conservation devices

* 62.9% favored installation of water conservation devices in new homes

* 53.5% believe there is <u>not enough</u> public awareness of the water issue

* 80.8% have seen water conservation messages

* 57.5% remembered something from these messages

* 89.9% did not know the current slogan for EUWD (unaided)