San Diego County
Water Authority
2004 Telephonic Public Opinion
and
Awareness Survey

Prepared for

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Executive Summary

The San Diego County Water Authority has conducted a public opinion/public awareness survey within its service area in San Diego County in order to measure public knowledge of water issues and opinions regarding these issues. Rea & Parker Research was selected to be the lead consultant for this 2004 Telephonic Public Opinion and Awareness Survey. In January 2000, a public opinion survey, Public Awareness Regarding Water Issues, was conducted by Douglas Coe and the Social Science Research Laboratory (SSRL) of San Diego State University. In May 2003, Richard A. Parker, Ph.D., also of San Diego State University, and principal in Rea & Parker Research, joined with Mr. Coe and Catherine Happersett of SSRL to conduct the 2003 San Diego County Water Authority Telephone Public Opinion Survey. The same team has performed the 2004 study that has established the following objectives:

- Obtain scientifically reliable and sufficiently robust results to determine the level of knowledge among residents of the region;
- Compare that level of knowledge with baseline data available from the past surveys and other sources of information;
- Determine water use patterns among activities that are known to consume significant quantities of water;
- Determine opinions and perceptions of various issues, including:
    - Perceptions of water reliability
    - Knowledge and awareness concerning sources of water
    - Level of support for the Water Authority's major water supply diversification programs, including recycled water and seawater desalination
    - Population growth
    - Environmental considerations
- Obtain demographic data about the population for use in descriptive analysis and crosstabulations of data that can result in new, optimally targeted and tailored public awareness programs.

The survey was conducted by a random telephone sample of 710 respondents, which equates to a margin of error of +/-3.68% at the 95% confidence level. The 710 respondents were disproportionately stratified so that a minimum of 400 respondents would be residents of the City of San Diego. This was done in order to perform a separate analysis for the City of San Diego that would have a maximum margin of error of +/-4.9% at 95% confidence. A total of 406 City of San Diego residents were surveyed, generating a margin of error for the City of San Diego report (not a part of this report) of +/-4.86%.

In order to establish true proportionality and representativeness, weighting was required for this report so that the final sample would reflect the actual distribution of population within the Water Authority service area.

Respondents were predominantly White (67%) and earned a median household income of $55,500 per year. They had a median age of 47 years old and had lived in their community for a median of 22 years. A plurality (36%) is Republican; 29% are Democrats. Respondents were well educated (45% possessing a Bachelor's Degree or more), and more than two-thirds are homeowners.

Survey Findings

The 2004 Telephonic Public Opinion and Awareness Survey report has been divided into six essential information components as follows:

- Attitudes and opinions about general news/current event issues
- Knowledge and awareness of existing water supply issues
- Attitudes and perceptions concerning water reliability
- Attitudes and perceptions concerning seawater desalination
- Attitudes and perceptions concerning recycled water
- Water usage and conservation

Attitudes and Opinions about General News/Current Event Issues

- It is clear that the rapid upswing in housing costs and gasoline prices in the County have registered very strongly with the public. Growth, which has so dominated surveys such as this in the past (specifically the 2000 SDCWA survey and then shared the stage with Housing Costs and Traffic in 2003), now ranks fourth behind Housing Costs, Cost of Living (including gasoline prices), and Traffic as the most important issues facing the public currently in 2004.

Knowledge and Awareness of Existing Water Supply Issues

- Awareness of important water supply sources has essentially remained unchanged since the 2003 survey, but has grown since 2000.
    - A substantial increase occurred in 2003 regarding awareness of the San Diego County Water Authority-Imperial Irrigation District Water Transfer, which in 2000 stood at 20%, but in 2003 was at 42%. In 2004, awareness remained at 43%.
    - Residents were consistent with the 2003 and 2000 surveys in their identification of where San Diego County obtains most of its water supply, with 50% in 2004 and 47% in both 2003 and 2000 indicating the primary source to be the Colorado River.

- Knowledge and awareness are especially strong among highly educated, older, well-established residents, who are White, homeowners, voters, and of higher income. Men also seem to be more aware of these issues than are women. Lower levels of knowledge are demonstrated by younger residents, less educated, non-voters, Hispanics/Latinos, and Blacks/African-Americans.

Attitudes and Perceptions Concerning Water Reliability

- Two-thirds of SDCWA service area residents feel that the current level of reliability for the water supply is good, but slightly less than was indicated in the 2003 and 2000 surveys.
- Hispanics/Latinos believe that water service is more reliable than do Whites.
- Extending the perception of reliability to the year 2030, with growth forecasts of 1 million more county residents, reduces respondents' confidence in local water agencies' ability to supply water reliably by almost 30% from their current levels of perceived reliability.
- Groups that indicated a higher degree of confidence in future reliability are: Hispanics/Latinos, younger, and less educated residents of San Diego County.
- When asked what the San Diego County Water Authority should do to ensure a safe and reliable water supply, 18% indicated that seawater desalination should be pursued, 14% opted for more conservation, and 13% cited the increased use of recycled water.

Attitudes and Perceptions Concerning Seawater Desalination

- There is strong agreement with San Diego County Water Authority efforts to improve reliability and diversity of water supply through seawater desalination generally (70%)-- a percentage very slightly reduced from 2003 (75%). There is also agreement with constructing a facility in San Diego County (75%), and, further, specifically located adjacent to existing power plants along the coast (72%). This level of support parallels 2003, when 75% favored the idea generally and 72% adjacent to the Encina power plant in Carlsbad.
- Supporters view seawater desalination as a vast, nearby supply of a potentially alternative or backup water supply. Opposition is based predominantly upon possible contamination and pollution of the desalinated water, cost considerations, and the need for more information, with a slight increase in environmental concern (still a relatively minor objection, however) from 2003.
- There is a strong plurality that does not think seawater desalination is harmful to the ocean environment (46%, with 34% uncertain) and strong majority (58%) that does not believe that it would generate growth in excess of existing projections.
- There was less support for a San Diego County facility among those who thought the ocean would be harmed (66% supported) than among those who did not foresee harm (78%). It is remarkable, however, that despite their concern for potential harm to the ocean, two-thirds still supported a seawater desalination facility in San Diego County.
- Support for a San Diego County seawater desalination plant is the same for those who think that growth will be increased and those who do not think so.
- Agreement with seawater desalination is especially strong among those same groups that demonstrated higher levels of knowledge and awareness—older residents, Whites, males, smaller households, and, to a lesser extent, Republicans.
- Agreement with seawater desalination was weakest among larger households, ages 44 and under, women, and Blacks/African-Americans.

Attitudes and Perceptions Concerning Recycled Water

- There is considerable agreement with San Diego County Water Authority efforts to improve reliability and diversity of water supply through utilizing recycled water.
- Out of eleven potential uses of recycled water, seven were very strongly supported and two were well supported, as follows:
    - Freeways and golf courses (94% favor, of whom 80% strongly favor such use)
    - Toilet flushing in new buildings (87%--69% strongly)
    - Watering sports fields and parks (86%--65% strongly)
    - Electronics manufacturing (85%--65% strongly)
    - Watering landscape and common areas in multi-family housing (85%--61% strongly)
    - Industrial processing and manufacturing (83%--64% strongly)
    - Watering residential front yards (80%--55% strongly)
    - Agricultural irrigation (70%--50% strongly)
    - Watering playgrounds at schools (70%--47% strongly).
- Only using recycled water in recreational lakes, (for which support was split relatively equally) and using it to supplement drinking water supplies (approximately 2:1 opposed—4:1 when examining only strong support or opposition) were not favored.
- Recycled water receives its strongest support from males, homeowners, better-educated respondents, Whites, Asians, higher income, Republicans, and smaller households—a pattern well established already in terms of knowledge, support for seawater desalination, and a lesser degree of confidence in the future reliability of San Diego County's water supply.
- Weaker levels of support and, in a few cases, strong opposition come from lower income and lesser educated respondents, Hispanics/Latinos, Blacks/African-Americans, individuals who are not registered to vote, larger households, renters, and females.
- When comparing the perceived importance of developing recycled water with the importance of conservation, seawater desalination, and additional local water storage projects, there is no clear majority for water recycling over any of these alternatives.

    - 37% find recycled water to be more important than conservation; however, 46% think that it is less important.
    - 43% indicate that recycled water is more important than seawater desalination, with 37% thinking that it is less important.
    - 46% feel that recycled water is more important than additional storage projects, and 33% feel that local water storage is more important.
    - In all three instances, undecided/unsure respondents (who range between 17% and 22% on the three issues) carry the swing votes.

- An importance hierarchy is evident from these comparisons. Conservation is seen as more important than recycling, but recycling is more important than seawater desalination and even more important than water storage programs.

Water Usage and Conservation

- High efficiency clothes washers have garnered a substantial portion of the new washer market—33% having purchased new washers within the past three years—with almost half being high efficiency washers. Approximately half again (48%) of high efficiency clothes washers were purchased using a voucher program.
- There is near unanimous satisfaction with high efficiency washing machines (97%). New toilet purchasers have also used vouchers, but to a slightly lesser extent (43%) than purchasers of high efficiency washers.
- Most San Diego County households water their outside landscaping using only in-ground sprinklers or drip systems (58%)—a very small percentage (1%) not watering at all, and these households water their lawns with an amount of water that is typically greater than or equal to the water they use on their other landscaping.
- Among those with lawns, a two thirds have automatically controlled sprinkler systems, of whom almost three-fourths have adjusted their automatic controller two or more times during the past year.

Conclusions

There are strong indications of support for the work of the San Diego County Water Authority from the region's residents in the 2004 Telephonic Public Opinion and Awareness Survey. This support should be very gratifying to officials of the Water Authority.

Residents understand certain of the risks to the future reliability of their water supply, and they are willing to consider alternative sources (in particular both increased use of recycled water and seawater desalination) to a very significant degree in order to protect and ensure that reliability into the future.

The results of this survey should be viewed as ratification by the public of the importance of the work done by the Water Authority and as an expression of the confidence of the region in the value and quality of the work in which the Water Authority is, has been, and will be engaged.

Introduction and Methodology

The San Diego County Water Authority has conducted a public opinion/public awareness survey within its service area in San Diego County in order to measure public knowledge of water issues and opinions regarding these issues. In January 2000, a public opinion survey, **Public Awareness Regarding Water Issues**, was conducted by Douglas Coe and the Social Science Research Laboratory (SSRL) of San Diego State University. In May 2003, Richard A. Parker, Ph.D., also of San Diego State University, and principal in Rea & Parker Research, joined again with Mr. Coe and Catherine Happersett of SSRL to conduct the 2003 survey research (**2003 San Diego County Water Authority Telephone Public Opinion Survey)**. In April 2004, Rea & Parker Research and SSRL were selected to perform a further survey **(2004 Telephonic Public Opinion and Awareness Survey)**. The purpose of the 2004 research was to:

- Obtain scientifically reliable and sufficiently robust results to determine the level of knowledge among residents of the region;
- Compare that level of knowledge with baseline data available from the past surveys and other sources of information;
- Determine water use patterns among activities that are known to consume significant quantities of water;
- Determine opinions and perceptions of various issues, including:
    - Perceptions of water reliability
    - Knowledge and awareness concerning sources of water
    - Level of support for the Water Authority's major water supply diversification programs, including recycled water and seawater desalination
    - Population growth
    - Environmental considerations
- Obtain demographic data about the population for use in descriptive analysis and crosstabulations of data that can result in new, optimally targeted and tailored public awareness programs.

Sample

The survey was conducted by a random telephone sample of a minimum of 700 respondents in order to secure a margin of error not to exceed +/-3.7% @ 95% confidence. This figure represents the widest interval that occurs when the survey question represents an approximate 50%-50% proportion of the sample. When it is not 50%-50%, the interval is somewhat smaller. For example, in the survey findings that follow, 43.4% of respondent households have purchased a new toilet since 1992. This means that there is a 95% chance that the true proportion of the total population of the Water Authority's service area that has purchased a new toilet since 1992 is between 39.7% and 47.1% (43.4% +/- 3.7%). Ultimately, a total of 710 residents were surveyed, achieving a final margin of error of +/-3.68%.

The random sample was selected by random digit dialing from the zip codes contained within the San Diego County Water Authority service area. The survey response rate was 36%, based upon completed interviews in comparison to all eligible (and estimated to be eligible) phone numbers, including busy signals, answering machines, call backs, and no answers.

The 710 respondents were disproportionately stratified so that a minimum of 400 respondents would be residents of the City of San Diego. This was done in order to perform a separate analysis for the City of San Diego that would have a maximum margin of error of +/-4.9% at 95% confidence. A total of 406 City of San Diego residents were surveyed, generating a margin of error for the City of San Diego report (not a part of this report) of +/-4.86%.

In order to establish true proportionality and representativeness, weighting was required for this report so that the final sample would reflect the actual distribution of population within the Water Authority service area. With 406 respondents, the City of San Diego represented 57.2% of the sample; however, the City constitutes only 44.2% of the service area population. As such all City of San Diego respondents were weighted at .7732, with non-City of San Diego respondents receiving weights of 1.3024.

Survey Instrument

The survey instrument contained 46 questions, including 57 individual survey items (variables). The City of San Diego added one additional question that contained 4 variables. The survey was pretested May 17-18, 2004 and formally administered May 19-June 7, 2004. Mean survey administration time was 21.7 minutes per respondent.

The survey instrument was administered in both English and Spanish. A copy of each is attached in the Appendices. A total of 48 respondents elected to respond in Spanish (6.8%).

Respondent Characteristics

Table 1 presents certain demographic characteristics of the survey respondents. The discussion that follows will utilize the proportionate (weighted data); however, **Table 1** also displays the unweighted results in order to demonstrate the characteristics of the individuals actually surveyed. It can be seen that the unweighted sample does not differ to any significant degree from the weighted sample regarding these demographic characteristics.

Respondents were predominantly White (67%) and earned a median household income of $55,500 per year (18% earning $100,000 or more and 17% earning under $25,000). They had a median age of 47 years old and had lived in their community for a median of 22 years. A plurality (36%) was Republican; 29% were Democrats. Among respondents, 45% possess a Bachelor's Degree or more, with 18% having a High School education or less. Home ownership percentage was 70%, with a mean of 2.85 persons per household. Among Asians, 80% were homeowners; Whites were 77% homeowners; Blacks/African-Americans and Hispanics/Latinos 50% and 48%, respectively.

Table 1 San Diego County Water Authority Survey Respondent Characteristics		
	Weighted/Proportionate Sample	**Actual Respondents (unweighted)**
Gender		
Male	50%	50%
Female	50%	50%
Major Residential Zip Codes		
92054	4%	3%
91941	4%	3%
91910	3%	3%
92021	3%	3%
92026	3%	3%
92117	3%	4%
92129	3%	3%
92154	3%	3%
92115	3%	3%
Median Age (Years)	47	47
Median Number of Years Lived in Community	22	22
Highest Grade/Level of School Completed		
High School or Less	18%	18%
Some College	37%	35%
Bachelor's Degree	20%	21%
Some Graduate School	25%	26%
Ethnicity		
White	67%	66%
Latino/Hispanic	17%	17%
African-American/Black	5%	5%
Asian/Pacific Islander	6%	6%
Native American	1%	1%
Mixed Ethnicities	4%	5%
Voter Registration		
Republican	36%	35%
Democrat	29%	30%
Other Party Affiliation	2%	2%
Nonpartisan	14%	14%
Not Registered to Vote	19%	19%
Median Household Income	$55,500	$55,900
Home Ownership Percentage	70%	70%
Mean Number of Persons per Household	2.85	2.84

These demographic characteristics are similar to the distribution of 2003 respondents, with any differences well within the margin of error. Education is the only noteworthy difference between 2003 and 2004, where a greater proportion of respondents have done graduate work in the 2004 survey than in 2003 (25% versus 21%) and fewer have only a high school education or less (18% versus 23%).

The 2000 survey respondent population differed with regard to age (median = 39 years), household income (median = $41,000, with 18% earning under $20,000 and 10% 100,000 or more), and homeownership percentage (58%).

Survey Findings

The 2004 Telephonic Public Opinion and Awareness Survey has been divided into six essential information components as follows:

- Attitudes and opinions about general news/current event issues
- Knowledge and awareness of existing water supply issues
- Attitudes and perceptions concerning water reliability
- Attitudes and perceptions concerning seawater desalination
- Attitudes and perceptions concerning recycled water
- Water usage and conservation

The balance of this report will address these components in detail. Each section will begin with a very brief abstract, or summary of highlights within the ensuing section, in order to orient the reader to what is to follow.

Charts have been prepared for each of these components that depict the survey results for the 2004 survey and for the 2003 and 2000 surveys where questions have been repeated and can be directly compared. Each component will include a discussion of the findings from the 2004 survey, with key comparisons drawn regarding the 2003 and 2000 results. Detailed statistical frequency distributions and lists of open-ended responses to survey questions are contained in the Appendices.

Lastly, subgroup analyses for different age groups, various levels of education, gender, home ownership/rental status, household size, residential tenure in the community, different income categories, voter registration differences, and ethnicity of residents of the service area will be presented in a succinct, boxed and bulleted format when statistical significance and relevance warrants such treatment. Crosstabulations and Analyses of Variance statistical tables are also contained in the Appendices.

Attitudes and Opinions about General News/Current Event Issues

SUMMARY: ***It is clear that the rapid upswing in housing costs and gasoline prices in the County have registered very strongly with the public. Growth, which has so dominated surveys such as this in the past (specifically the 2000 SDCWA survey and then shared the stage with Housing Costs and Traffic in 2003), now ranks fourth behind Housing Costs, Cost of Living (including gasoline prices), and Traffic as the most important issues facing the public currently in 2004.***

Chart 1 shows that the most important issues that face residents of San Diego County are Housing Costs (20%), High Cost of Living (18%--of which 8% refer to high gasoline prices), Traffic (15%), Growth/Development (11%), and Economy/Jobs (8%). Water Supply and Quality received a 3% response. The "Other" category is a compilation of all the other responses that did not receive enough mention to merit an individual listing the chart, including Immigration, Pollution/Environment, Terrorism/War, Public Transportation, and Homelessness. These and the other responses can be viewed in the Appendices, where the full listing of responses is displayed.

High Cost of Living has taken a monumental leap in importance in the past year, growing from 4% to 18%. In the 2003 survey, Housing Costs, Traffic and Growth/Development all tied as the leading important issues at 15%. In the 2000 survey, Growth far outdistanced all other responses with 31%, followed by Traffic 14% and Crime 11%.

The Crosstabulation Appendix contains a summary of differences among important issues by subgroup.

Insert Chart 1

Knowledge and Awareness of Existing Water Supply Issues

SUMMARY: ***Awareness of important water supply sources has essentially remained unchanged since the 2003 survey, but has grown since 2000. Knowledge and awareness are especially strong among highly educated, older, well-established residents, who are White, homeowners, voters, and of higher income. Men also seem to be more aware of these issues than are women. Lower levels of knowledge are demonstrated by younger residents, less educated, non-voters, Hispanics/Latinos, and Blacks/African-Americans.***

Residents are consistent with the 2003 and 2000 surveys in their identification of where San Diego County obtains most of its water supply **(Chart 2)**, with 50% in 2004 and 47% in both 2003 and 2000 indicating the primary source to be the Colorado River. The Colorado River, together with Northern California in a shared response category, and Metropolitan Water District responses add a few additional "correct" responses such that, when taken together, these "correct" responses represent 58% of all responses and almost 80% of those who indicated something other than uncertainty That is to say, respondents demonstrated a respectable level of knowledge about the source of water to San Diego County.

The Colorado River, Metropolitan Water District, or Colorado River/Northern California were more correctly identified as the primary source of water for San Diego County by the following groups of residents

- Ages 55 and older (76%)
- More than 35 years in San Diego County (72%)
- Graduate education (71%)
- Income $100,000 or more (69%)
- Households with 1-2 residents (68%)
- Homeowners (66%)
- Whites (66%)
- Registered voters (64%)
- College Degree (64%)
- Men (63%)
- Ages 45-54 (63%)
- Income $50,000-under $100,000 (62%)
- Asians (59%)
- Ages 35-44 (59%)

Insert Chart 2

Lower levels of knowledge that The Colorado River, Metropolitan Water District, or Colorado River/Northern California were as the primary sources of water for San Diego County were demonstrated by the following groups of residents

- Ages 18-24 (19%)
- Blacks/African-Americans (25%)
- Not registered to vote (27%)
- Hispanics/Latinos (32%)
- Ages 25-34 (33%)
- Renters (39%)
- High School diploma or less (40%)
- Under $25,000 annual income (41%)
- 5 or more residents in the household (42%)

Awareness of the San Diego County Water Authority-Imperial Irrigation District Water Transfer, which in 2000 stood at 20%, but in 2003 was at 42% and stayed at 43% in 2004, indicating that, although the transaction was completed within the past year, knowledge of its existence and implementation has not grown since its more attention commanding negotiation period **(Chart 3).**

Groups most aware of the SDCWA/IID water transfer are:

- Ages 45 and older (58%)
- Graduate education (55%)
- More than 35 years in San Diego County (53%)
- Income $75,000 or more (53%)
- Households with 1-2 residents (52%)
- Republicans and Democrats (51%-in contrast to not registered or Other Parties)
- Males (50%)
- Homeowners (49%)
- Whites (49%)

Groups least aware of the SDCWA/IID water transfer are:

- Ages 18-24 (9%)
- Not registered to vote (22%)
- Ages 25-34 (22%)
- High School Diploma or less (22%)
- Hispanics/Latinos (23%)
- Blacks/African-Americans (26%)
- Renters (28%)

Insert Chart 3

There are significant similarities among several groups pertaining to awareness. That is, several groups, as would be expected, possess similar knowledge and awareness patterns either because they have similar characteristics or because they contain the same individuals. For example, younger respondents and renters show similar knowledge patterns, as do well educated and higher income groups. This is not unexpected because the same individuals are likely members of both groups in each case or possess similar characteristics to members of each.

Attitudes and Perceptions Concerning Water Reliability

SUMMARY: SDCWA service area residents feel that the current level of reliability for the water supply is good, but extending the perception of reliability to the year 2030, including growth forecasts of 1 million more County residents, reduces confidence in local water agencies' ability to supply water reliably. Reliability programs and policies that focus upon Seawater Desalination, Recycled Water, and Conservation are favored by service area residents.

Chart 4 shows that SDCWA service area residents believe that the current water supply is somewhat less reliable than they thought it was in 2003 and 2000, continuing a negative trend in this regard. Still, 66% of residents find that the current supply of water is either somewhat (40%) or very (26%) reliable, with only 16% very or somewhat unreliable. Those who thought that the water supply is not reliable most often cited that San Diego County is too dependent upon outside sources of water (32%) or had a limited supply and low reservoirs (20%).

Another way to analyze reliability is by converting the responses to a scale of 1-5, where 1 represents responses of "Very Reliable" and 5 represents "Very Unreliable." Doing so permits the calculation of a mean reliability index of 2.28, which corresponds to an average of "Somewhat Reliable." The use of means permits a more precise measure of differences between subgroups of the service area population. Utilizing this analytical tool, it is determined that the only statistically significant difference among subgroups regarding their perception of current reliability is between Hispanics/Latinos (mean reliability index=1.91) and Whites (mean index=2.33). This is to say, Hispanics/Latinos

Insert Chart 4

find the supply of water to be significantly more reliable than do Whites in the SDCWA service area.

Extending the perception of reliability to the year 2030, however, and growth forecasts of 1 million more county residents, reduces confidence in local water agencies' ability to supply water reliably such that only 7% are very confident in such reliability and 31% are somewhat confident **(Chart 5)**—a 38% total confidence factor for 2030, or 28% decline from the current perception of reliability. There is an increase for 2030 unreliability from 16% unreliable currently **(Chart 4)** to 42% not very confident or not at all confident in 2030 reliability **(Chart 5)**.

In the 2003 and 2000 surveys, similar, although not duplicate questions were asked of respondents about future reliability. The 2000 respondents were asked: "Looking ahead to about 10 years from now, do you think the water supply in this County will be more reliable, about the same as now, less reliable, or are you not sure?" Less reliable received 42% of the responses, which is comparable to the results from this 2004 survey. In 2003, the question referred to 1 million more residents by 2020 (instead of 2030) and asked about reliability at that time in the future. A greater proportion in 2003 than in 2004 (46%) responded that they were not confident or not at all confident. Those who are not sure has increased from 14% to 19%, which is not unexpected in view of the 10-year increase in the time horizon posed in the question.

Utilizing the mean index tool once again (1=Very Confident and 5=Not At All Confident) provides a mean reliability score for 2030 of 3.09—a neutral indication of confidence by the population. Within this population, however, in contrast to current reliability, there are several subgroup differences of significance.

Insert Chart 5

Groups with relatively high and/or low confidence in future reliability are as follows—NOTE: The more confident groups indicated below are also previously mentioned as being lower in knowledge and awareness about water issues:

- Hispanics/Latinos show a higher degree of confidence (2.69) than do Whites (3.18).
- Ages 18-44 (2.84) are more confident about 2030 reliability than are ages 55 and older (3.41).
- High School Diploma or less respondents are more confident (2.77) than Some College or more (3.14)

When asked, at the end of the survey what the San Diego County Water Authority should do to ensure a safe and reliable water supply, after having discussed in the survey reliability and diversification issues such as conservation, seawater desalination, and recycled water, 15% indicated that Seawater Desalination should be pursued, 12% opted for more Conservation, and 10% cited the increased use of Recycled Water **(Chart 6)**. Following these three suggested policies were Better Quality Control (8%) and Education Programs of an unspecified nature (6%). Among respondents, 6% chose a combination of these policies and 12% had other suggestions that included limiting growth, changing the political nature and structure of the Water Authority, and raising water rates.

The balance of this report will focus upon the three primary suggested policies for the Water Authority to continue to pursue according to survey respondents—Seawater Desalination, Recycled Water, and Conservation—which also happen to constitute the remainder of the survey questions.

Attitudes and Perceptions Concerning Seawater Desalination

SUMMARY: ***There is considerable agreement with San Diego County Water Authority efforts to improve reliability and diversity of water supply through seawater desalination generally, by locating a facility in San Diego County, and specifically locating a facility adjacent to existing power plants along the coast. Supporters view seawater desalination as a vast, nearby supply of a potentially alternative or backup water supply. Opposition is based upon possible contamination and pollution of the desalinated water, cost considerations, and the need for more information.***

Insert Chart 6

There is a strong plurality that does not think of seawater desalination as being harmful to the ocean environment and strong majority that does not believe that such a water supply would generate growth in excess of existing projections.

Agreement with seawater desalination is especially strong among those same groups that demonstrated higher levels of knowledge and awareness—older residents, Whites, males, smaller households, and, to a lesser extent, Republicans.

Chart 7 depicts seawater desalination as a drinking water supply option, and it shows that 70% of the residents of the region believe that making fresh water from seawater is a good idea, with 14% thinking it to be a bad idea, 8% needing more information in order to have an initial opinion, and 7% unsure—percentages very slightly reduced from 2003.

Those who are opposed to seawater desalination base their opposition fundamentally upon doubts regarding polluted, contaminated water for use (59%), with additional considerations also being cost (24%) and, to a much lesser extent, environmental damage to the ocean (8%)—percentages very similar to 2003.

Those who think that seawater desalination is a good idea cite the availability of a large, nearby supply of water (44%), the possibility that it can serve as a good alternative/backup source of water (31%), and the fact that the technology is used successfully elsewhere (10%) as the primary benefits.

Greatest agreement with seawater desalination (indication that it is a good idea) is found among:

- Age 45 and older (83%)
- Households with 1-2 residents (82%)
- Whites (81%)
- Men (81%)

It is remarkable how widespread is support for seawater desalination, Blacks/African-Americans being the only population subgroup that shows lower than 64% support for seawater desalination (39%).

When asked specifically about the possibility for a seawater desalination facility to be built in San Diego County that would provide 6%-15% of the County's water needs, 75%

favor the idea (46% strongly and 29% somewhat) --**Chart 8**. Only 7% are opposed (3% strongly and 4% somewhat), and 18% indicate that their support or opposition is uncertain. Those who are uncertain cite the need for more information as their primary reason, with cost and environmental considerations following**.** Opposition to a San Diego County site is based more upon cost issues than it was for the general question that was depicted in **Chart 7**, with more information needed and pollutants in the water next in order as reasons for opposition to a San Diego County site.

Again utilizing the mean index, overall support for the construction of a seawater desalination facility in San Diego County is 1.90 (1=strongly favor and 5= strongly oppose), indicative of relatively strong support.

Statistically significant differences among subgroups regarding support for a seawater desalination facility are as follows:

- Two-person households are more in favor (1.70) than four-person households (2.18)
- Ages 45 and older are stronger in their support (1.71) than ages 18-44 (2.15)
- Men are more in favor (1.81) than Women (2.02)
- Blacks/African-Americans are very much more opposed (2.66) than the other ethnicities (1.84 combined, ranging from 1.81 for Whites to 1.94 for Hispanics/Latinos)

Respondents were provided with a brief description of the seawater desalination process as follows: "Seawater desalination facilities produce fresh water from salty ocean water. The leftover salts are mixed with other seawater and discharged back into the ocean." They were then asked if they thought that this would be harmful to the local ocean environment. Only 20% of the respondents thought that the process would harm the ocean; 46% thought that it would not be harmful and 34% were uncertain **(Chart 9).** Among those 20% who thought the process to be harmful, it was indicated that seawater desalination would alter the existing ocean salinity (43% of the 20%=9% of the total population), that it would be generally (without any specificity) bad for the ocean environment (22%=4% of total), or that it would disturb the natural balance of the ocean (15%=3% of total).

Insert Chart 7

Insert Chart 8

Insert Chart 9

Groups most inclined to think that seawater desalination would harm the ocean were:

- Ages 18-34 (31%)
- Democrats (25%)
- Women (25%)

Groups most confident that there would be no harm were:

- Males (59%)
- Republicans (56%)

Women (43%) and Democrats (40%) were more inclined to respond "Do Not Know" about potential harm to the ocean than were other groups.

There was less support for a San Diego County facility among those who thought the ocean would be harmed (66% supported) than among those who did not foresee harm (78%). It is remarkable, however, that despite their concern for potential harm, two-thirds still supported a seawater desalination facility.

Pursuing the seawater desalination issue further and with greater specificity as to location, respondents were told of certain efficiencies associated with locating seawater desalination facilities adjacent to power plants along the coast in San Diego County and were asked: "Suppose now that [seawater] desalination plants will be built here. Would you favor or oppose locating a seawater desalination plant adjacent to one of the existing power plants on the coast?" Respondents were 72% in favor of such a location (35% strongly and 37% somewhat)—11% were opposed (6% strongly and 5% somewhat)—**Chart 10**. In 2003, respondents were asked specifically about a proposed seawater desalination facility at the Encina Power Plant in Carlsbad and 72% supported the concept (47% strongly and 25% somewhat), with 9% opposed—much like 2004. In both years almost one-fifth of residents were unsure how they feel about the coastal/Encina location, with most indicating that they need more information. Among those who are opposed, their opposition was based upon possible contamination (31% of 11%). 2003 opponents cited such contamination only 11% of the time. Cost, which loomed large in 2003 (29%), was cited by a lesser proportion (11%) in 2004.

Insert Chart 10

With an overall mean index of 2.11 (Somewhat Favor), significant differences among groups are as follows:

- Two person households are more in favor of a San Diego County facility (1.89) than three or more person households (2.27).
- Ages 55 and older are more in favor (1.91) than ages 18-24 (2.45).
- Republicans are more in favor (1.93) than Democrats (2.23) and Not Registered (2.29)
- Whites (1.93) are more in favor than Hispanics/Latinos (2.37), Blacks/African Americans (2.58), and Other/Mixed ethnicities (2.88). Asians (2.16) and Other/Mixed (2.88) also differ from one another

One final seawater desalination question was posed—whether the respondent felt that tapping into the ocean for more water would result in additional population growth beyond projections. Regarding any such growth, 58% saw no causal relationship between seawater desalination and growth, whereas 28% did think that more growth would result **(Chart 11).**

The only statistically significant group that indicated that the population would increase because of seawater desalination was still well under 50%--Income under $25,000 (37%).

Support for a San Diego County seawater desalination plant is the same for those who think that growth will be increased and those who do not think so.

Those who thought that such a connection would exist indicated that more water would bring more people (65% of 28%=18% of total), 7% (2% of total) saw no connection but indicated that growth would ensue nonetheless, and 6% (2% of total) indicated that more water would facilitate more construction. Those who did not think that seawater desalination would lead to excess growth stated that growth occurs for other reasons (85% of 58%)—jobs, climate, and the beauty of the region—and that water in and of itself cannot cause growth.

Insert Chart 11

Attitudes and Perceptions Concerning Recycled Water

SUMMARY: ***There is considerable agreement with San Diego County Water Authority efforts to improve reliability and diversity of water supply through utilizing recycled water. Out of eleven potential uses of recycled water, seven were very strongly supported and two were well supported. Only using such water in recreational lakes, (for which support was split relatively equally) and using it to supplement drinking water supplies (approximately 2:1 opposed—4:1 when examining only strong support or opposition) were not favored.***

Recycled water is also favored as a source of alternative water supply under most circumstances. **Chart 12** shows that the strongest support for using recycled water comes when it is used for watering landscape along freeways and golf courses (94%, of whom 80% strongly favor such use), toilet flushing in new buildings (87%--69% strongly), watering sports fields and parks (86%--65% strongly), electronics manufacturing (85%--65% strongly), watering landscape and common areas in multi-family housing (85%--61% strongly), industrial processing and manufacturing (83%--64% strongly), and watering residential front yards (80%--55% strongly). Less, but still substantial, support is found for agricultural irrigation (70%--50% strongly) and watering playgrounds at schools (70%--47% strongly). Using recycled water for recreational lakes is approximately equally split, with 49% in favor (27% strongly), 41% opposed (25% strongly), and 10% unsure.

On the other hand, when provided with additional treatment and mixed with other drinking water sources, recycled water used to supplement drinking water is favored by only 28% (12% strongly), but opposed by 63% (45% strongly), with 10% again uncertain **(Chart 13)**. This is an opposition ratio of approximately 2:1 and an even more dramatic 4:1 when examining only strong inclinations in favor or opposed.

Those who oppose using recycled water for drinking water do not trust the process (18% of those 63% who are opposed), have health/safety concerns (17%), need more information (17%), are generally uncomfortable with the concept (16%), and are concerned with the biological chemical additives (14%). A majority of those who are

Insert Chart 12

Insert Chart 13

uncertain feel that they need more information (36%) or do not have a reason for their uncertainty (30%), which is likely rooted in a lack of knowledge and information.

Table 2 shows the differences by subgroups in their support for these various uses for recycled water. It is clear that recycled water receives its strongest support from males, homeowners, better-educated respondents, Whites, Asians, higher income, Republicans, and smaller households—a pattern well established already in terms of knowledge, support for seawater desalination, and a lesser degree of confidence in the future reliability of San Diego County's water supply. Weaker levels of support and, in a few cases, strong opposition comes from lower income and lesser educated respondents, Hispanics/Latinos, Blacks/African-Americans, individuals who are not registered to vote, larger households, renters, and females. It is important to note that those individuals who are not registered to vote appear in opposition or weaker support for seawater desalination also, thereby allowing the conclusion to be drawn that a public vote on some of these issues might result in even more support than is evident in the survey.

Chart 14 compares the perceived importance of developing recycled water with the importance of conservation, seawater desalination, and additional local water storage projects. There is no clear majority for water recycling over any of these alternatives. Recycled water is thought to be more important than conservation by 37% of the respondents, and 46% think that it is less important. Republicans, in particular, think that recycled water is more important than conservation.

Chart 14 also shows that 43% indicate recycled water to be more important than seawater desalination, with 37% thinking that it is less important. Further, 46% feel that recycled water is more important than additional storage projects, with 33% feeling that local water storage is more important. In all three instances, undecided/unsure respondents (who range between 17% and 22% on the three issues) carry the swing votes. Somewhat of an importance hierarchy is evident from these comparisons. Conservation is seen as more important than recycling, but recycling is more important than seawater desalination and even more important, yet, than water storage programs.

Insert Chart 14

Table 2
Statistically Significant Differences for Various Potential Uses of Recycled Water
(Scale 1=Strongly Favor---5=Strongly Oppose)

Potential Uses of Recycled Water	Overall Mean Index	Statistically Significant Differences Stronger Support/ Weaker Opposition		Weaker Support/ Stronger Opposition	
Freeway/Golf Landscape	1.32	Asians	1.18	Hispanics/Latinos	1.57
		Whites	1.24		
		Income $25K+	1.24	Income under $25K	1.74
		Males	1.26	Females	1.39
		Own	1.28	Rent	1.43
		Some College/More	1.28	High School/Less	1.54
Electronics Manufacturing	1.59	Whites	1.51	Hispanics/Latinos	1.86
		Republicans	1.52	Not Registered	1.85
		Other Parties	1.44		
		Income $25K+	1.52	Income under$25K	1.94
		Males	1.53	Females	1.68
		Some College/More	1.54	High School/Less	1.90
Toilets in New Buildings	1.59	Income $50K - <75K	1.38	Income under $25K	1.90
		Income 100K+	1.44		
		2-3 Person Household	1.47	4 Person Household	1.83
		Whites	1.50	Hispanics/Latinos	1.87
Industrial Manufacturing Processes	1.65	Ages 45-64	1.42	Ages 18-34	1.90
		2 Person Household	1.46	5+ Person Household	1.84
		Whites	1.50	Blacks/African-Americans	2.00
				Hispanics/Latinos	2.03
		Republicans	1.54	Not Registered	1.99
		Other Parties	1.48		
		Income $25K+	1.57	Income under $25K	2.01
		Some College/More	1.59	High School/Less Females	1.98
		Males	1.60		1.81

Sports Fields/ Parks	1.65	Asians	1.47	Hispanics/Latinos	2.04
		Whites	1.58	Blacks/African-Americans	2.08
		Income $25K+	1.56	Income under $25K	2.06
		Males	1.56	Females	1.77
		Own	1.59	Rent	1.85
Multi-Family Common Areas	1.76	2 Person Household	1.58	4 Person Household	1.98
		Whites	1.58	Hispanics/Latinos	2.29
		Asians	1.58	Blacks/African-Americans	2.26
		Republicans	1.60	Not Registered	1.96
		Own	1.63	Rent	2.05
Residential Front Yards	1.89	Whites	1.79	Hispanics/ Latinos	2.28
Agricultural Irrigation	2.15	Bachelors Degree	1.87	Some College/Less	2.29
		2 Person Household	1.91	4+ Person Household	2.35
		Whites	1.96	Hispanics/Latinos	2.77
		Asians	1.96		
		Males	1.97	Females	2.32
		Republicans	2.00	Not Registered	2.49
School Playgrounds	2.24	Asians	1.96	Hispanics/Latinos	2.64
		Whites	2.13	Blacks/African-Americans	2.87
		Income $100K+	2.09	Income under $25K	2.59
		Males	2.10	Females	2.38
		Own	2.13	Rent	2.50
Recreational Lakes	2.91	2 Person Household	2.68	5+ Person Household	3.26
		Males	2.70	Females	3.08
Drinking Water	3.69	Males	3.56	Females	3.83
		Whites	3.58	Blacks/African-Americans	4.42

Water Usage and Conservation

SUMMARY: ***High efficiency clothes washers have garnered a substantial portion of the new washer market, half of which were purchased using a voucher program. There is much satisfaction with these machines. New toilet purchases have also used vouchers, but to a slightly lesser extent than for high efficiency washers.***

Most San Diego County households water their outside landscaping using only in-ground sprinklers or drip systems and they water their lawns with an amount of water that is typically greater than or equal to the water they use on their other landscaping. Among those with lawns, a two-thirds have automatically controlled sprinkler systems, of whom almost three-fourths have adjusted their automatic controller two or more times during the past year.

A series of questions was posed to residents of the San Diego County Water Authority service area concerning water usage and conservation regarding clothes washing machines and toilets. **Chart 15** shows that within the past three years, 34% of all households purchased a new clothes washing machine. Among these households, almost one-half (15%) purchased high efficiency washers and half again used a voucher program to do so (48% of the 15% = 7% of all households and 21% of new washer purchases).

Among the 21% of new washer purchasers who used a voucher program to purchase their high-efficiency washer, 87% said that they would have done so anyway. The only difference in use of voucher programs is found by educational achievement, with 60% of those who purchased a new washer and having achieved at least a Bachelors Degree using a voucher in contrast to 37% with Some College and only 19% with a High School education or less.

Chart 15 points further to the value of the product in that 97% of those who purchased high efficiency washers are very (84%) or somewhat (13%) satisfied with the new washer, when they compare it to the standard models.

Insert Chart 15

Groups most inclined to purchase high efficiency washers during the past three years were:

- Income $100,000 or more (32%--approximately double the percentage that purchased standard washers)
- 5 or more residents in the household (23%--approximately equal to the percentage that purchased standard washers)
- Homeowners (20%--approximately equal to the percentage that purchased standard washers)

Groups least inclined to purchase high efficiency washers during the past three years were:

- Households of 1 person (5%--approximately one-third the rate of standard washer purchases)
- Renters (7%--approximately one-half the percentage that purchased standard washers)
- Income under $50,000 (8%--approximately one-half the percentage that purchased standard washers)

Regarding new toilet purchases, 42% of households have done so since 1992 **(Chart 16)**. Of these purchases, 43% of the 42% (18% of the total population) used voucher programs. The use of vouchers to purchase toilets is somewhat less than their use for high-efficiency washing machines. This is likely due, in some part, to the fact that ultra low flush toilets have been installed in new construction since 1992 and vouchers are only issued for use in pre-1992 buildings and homes. Therefore, a resident who lives in 1992 or later construction and purchases a new toilet is not eligible for a voucher.

Groups most inclined to purchase a new toilet since 1992 were:

- Residents of San Diego County for more than 35 years (60%)
- Republicans (55%)
- Income $100,000 and more (53%)
- Age 35 and older (50%)

Groups least inclined to purchase a new toilet since 1992 were:

- Not registered to vote (23%)
- Age 18-34 (25%)
- Income under $25,000 (25%)

Insert Chart 16

Considerable attention was devoted in the 2004 survey to outdoor water usage and conservation. **Chart 17** shows that 68% of the population has some landscaped area for which their household is responsible—a percentage similar to that in the 2003 survey. These households use in-ground sprinkler systems (34%) and a combination of hoses with sprinklers attached (33%) equally. Another 21% use in-ground sprinklers combined with a drip system, and 8% combine drip or in-ground systems with the use of their hoses. In total, 59% of those with landscaping for which they are responsible use only drip and in-ground systems or never water at all and 41% use hoses to some degree.

Groups with the greatest degree of landscaping responsibility are as follows:
- Incomes $75,000 and over (86%)
- Homeowners (84%)
- Graduate education (78%)
- Republicans (78%)
- Ages 45 and older (76%)
- Residents of the community for 21 years or more (75%)
- Bachelors Degree (73%)
- Whites (73%)
- Two or more in household (72%)

Groups with the greatest degree of in-ground and drip-watering systems are:
- Incomes $100,000 and over (78%)
- Reside in San Diego County for 1-10 years (71%)
- Whites (62%)

Chart 17 demonstrates that among those with landscaping, for which they are responsible, 77% have both lawns and trees/shrubs and 3% have lawns only; 20% have no lawn area—only other forms of landscaping.

Among the 80% with some lawn area, 42% of the 80% (34% of all households with landscape responsibility) have lawn areas that cover 50% or more of their landscaped area and 58% (46% of households with landscape responsibility) have lawns that cover less than 50%. Further, 43% of the 80% (35% of all households with landscape responsibility) water their lawn with a greater amount of water than they use on their

Insert Chart 17

other landscaping, and 39% (31% of all households with landscape responsibility) water their lawns and other landscaping equally **(Chart 18)**.

Among those with lawns, 66% (53% of all households with landscape responsibility) have automatically controlled sprinkler systems **(Chart 19),** of whom almost three-fourths (71% of those with automatic controllers and 38% of all households with landscape responsibility) have adjusted their automatic controller two or more times during the past year--11% (6% of those with landscape responsibility) having made no adjustments at all and 8% not knowledgeable about what their household does.

Table 3 provides a summary of these landscape issues.

Table 3
Outdoor Landscape Watering

Watering/Landscape Issue	%
In-Ground/Drip System Exclusively	59%
Use Hoses to Some Extent	41%
Water Lawn More	35%
Water Lawn and Other Landscape Equally	31%
Water Other More	11%
Unsure	3%
No Lawn	20%
Lawn Area 50% or More	34%
Lawn Area Under 50%	46%
No Lawn	20%
Automatically Controlled Sprinkler System	
Adjusted 2+ Times per Year	38%
Adjusted Once per Year	5%
Never Adjusted	6%
Unsure	4%
No Automatically Controlled Sprinkler System	27%
No Lawn	20%

- It is noteworthy that the proportion of area that is lawn (greater than or less than 50%) does not demonstrate any significant relationship to the use of automatically controlled sprinklers. However, as is expected, 51% of those with more lawn area tend to water their lawns more than they do their trees and shrubs in contrast to 37% with smaller lawns who water their lawn more.
- Drip and In-Ground system households tend to water their lawns more than their trees and shrubs (47%) when compared to Hose users (37%). In contrast, households that use Hoses tend to water their trees and shrubs more relative to Drip/In-Ground households (21% versus 10%).

Finally, when asked what the San Diego County Water Authority and their local agencies could do that would motivate their household to conserve more water in terms of their outdoor water usage, one-half (49%) did not have any ideas at all, 16% suggested financial incentives, and 12% asked for a greater educational effort **(Chart 20)**.

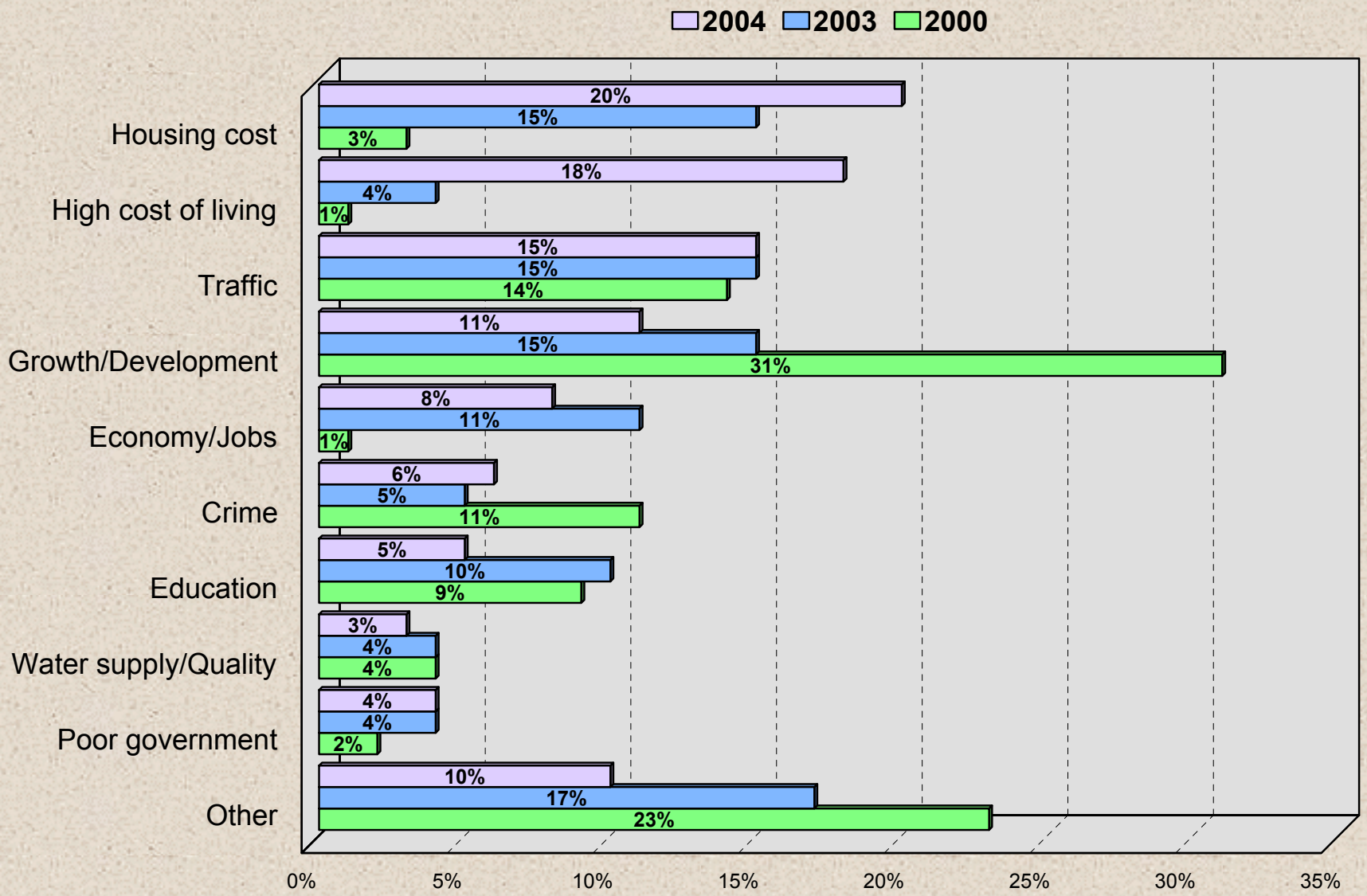
Insert Chart 18

Insert Chart 19

Insert Chart 20

Chart 1

Most Important Issue Facing San Diego County Residents Today



Q1

Chart 2

Primary Source of San Diego County's Water Supply

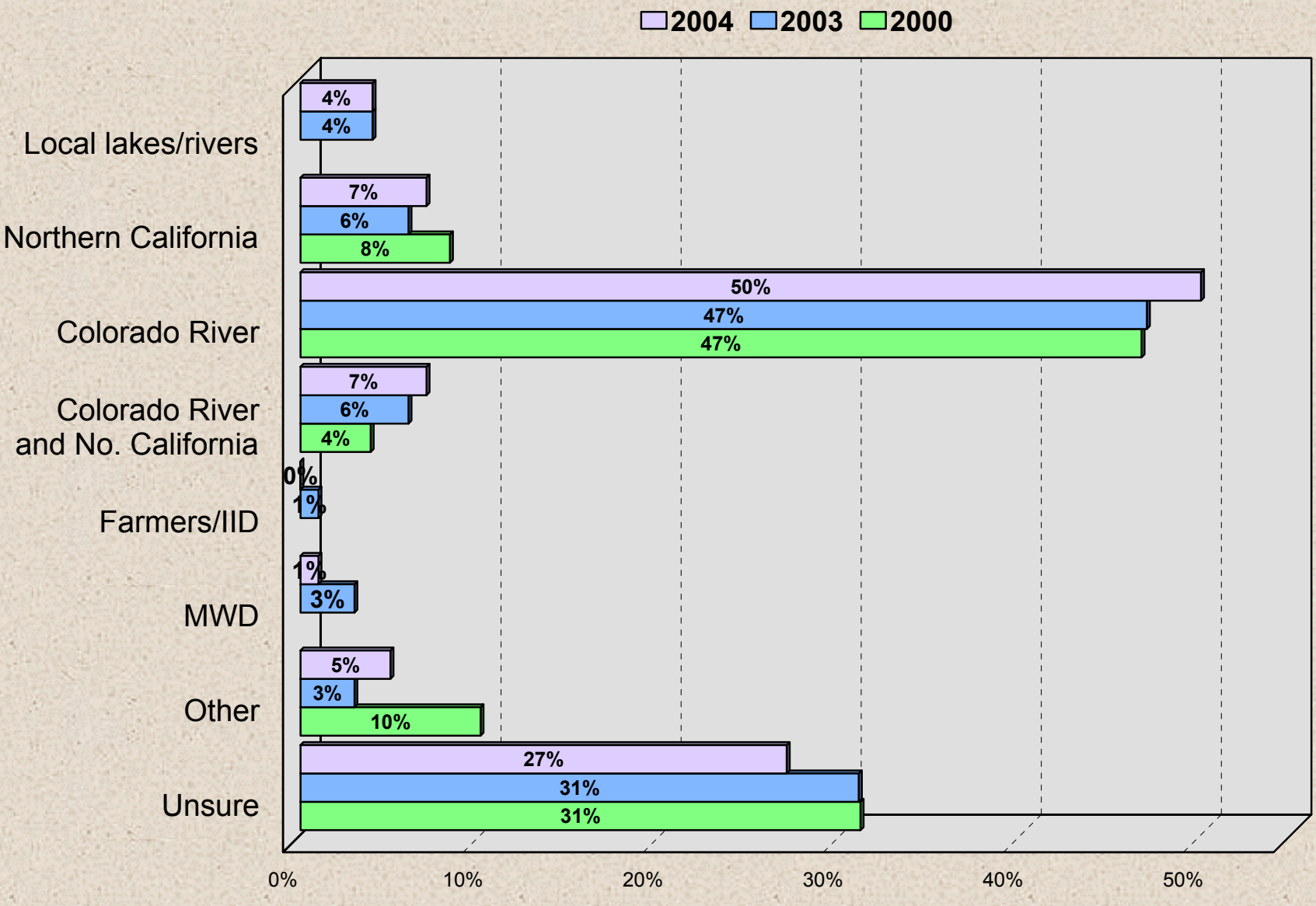
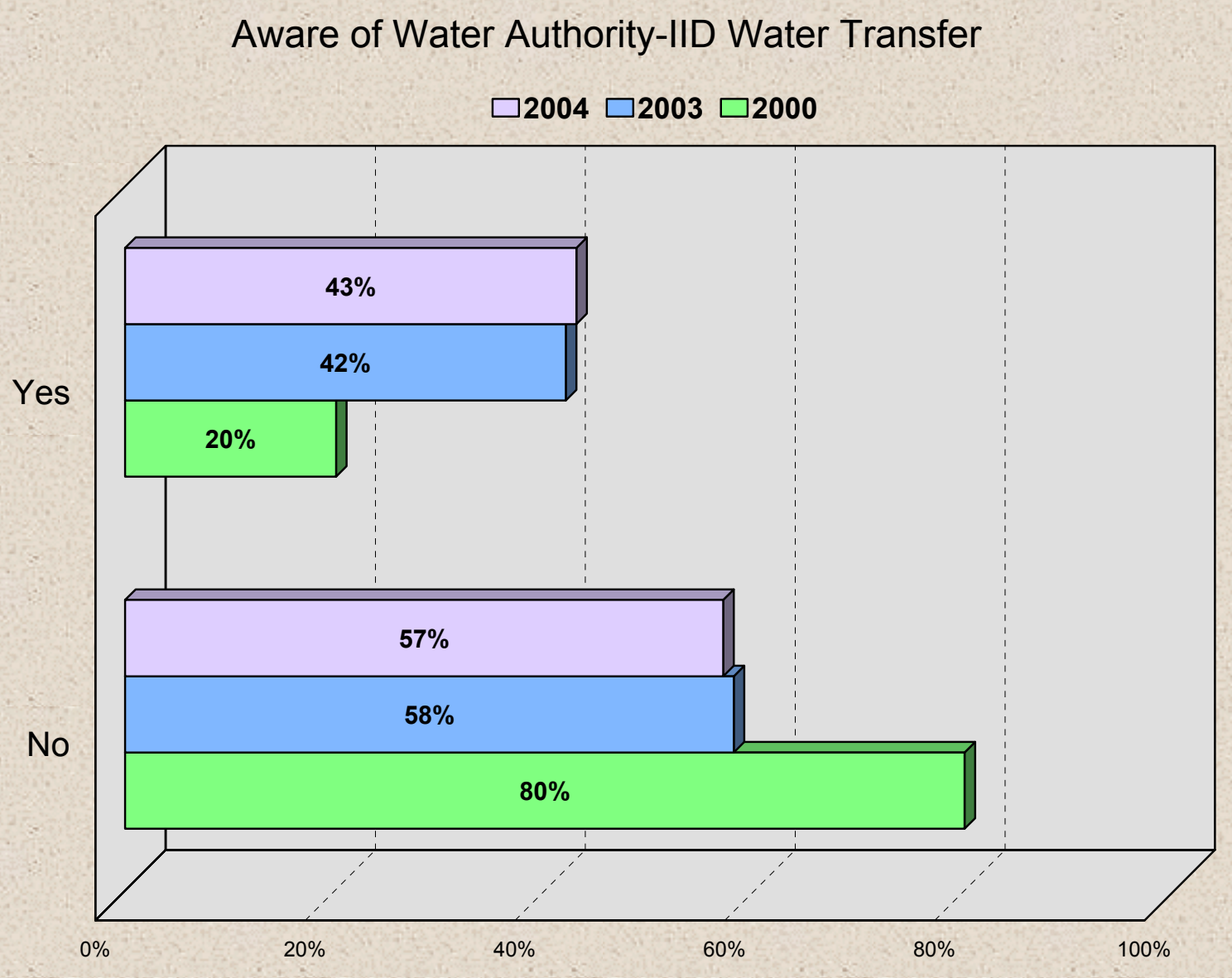


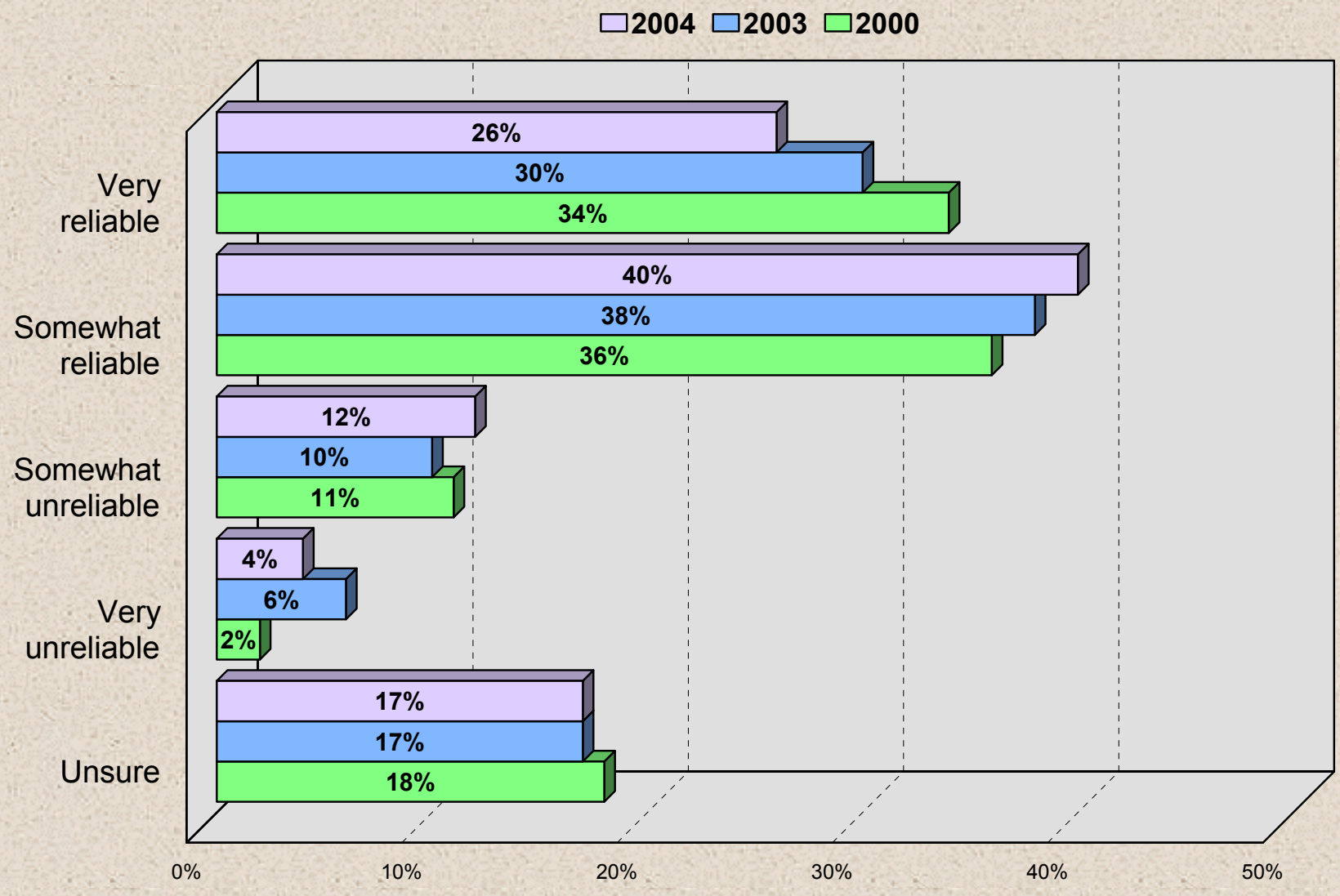
Chart 3


Aware of Water Authority-IID Water Transfer
2004
2003
2000
Yes
No
43%
42%
20%
57%
58%
80%
0%
20%
40%
60%
80%
100%

Q5

Chart 4

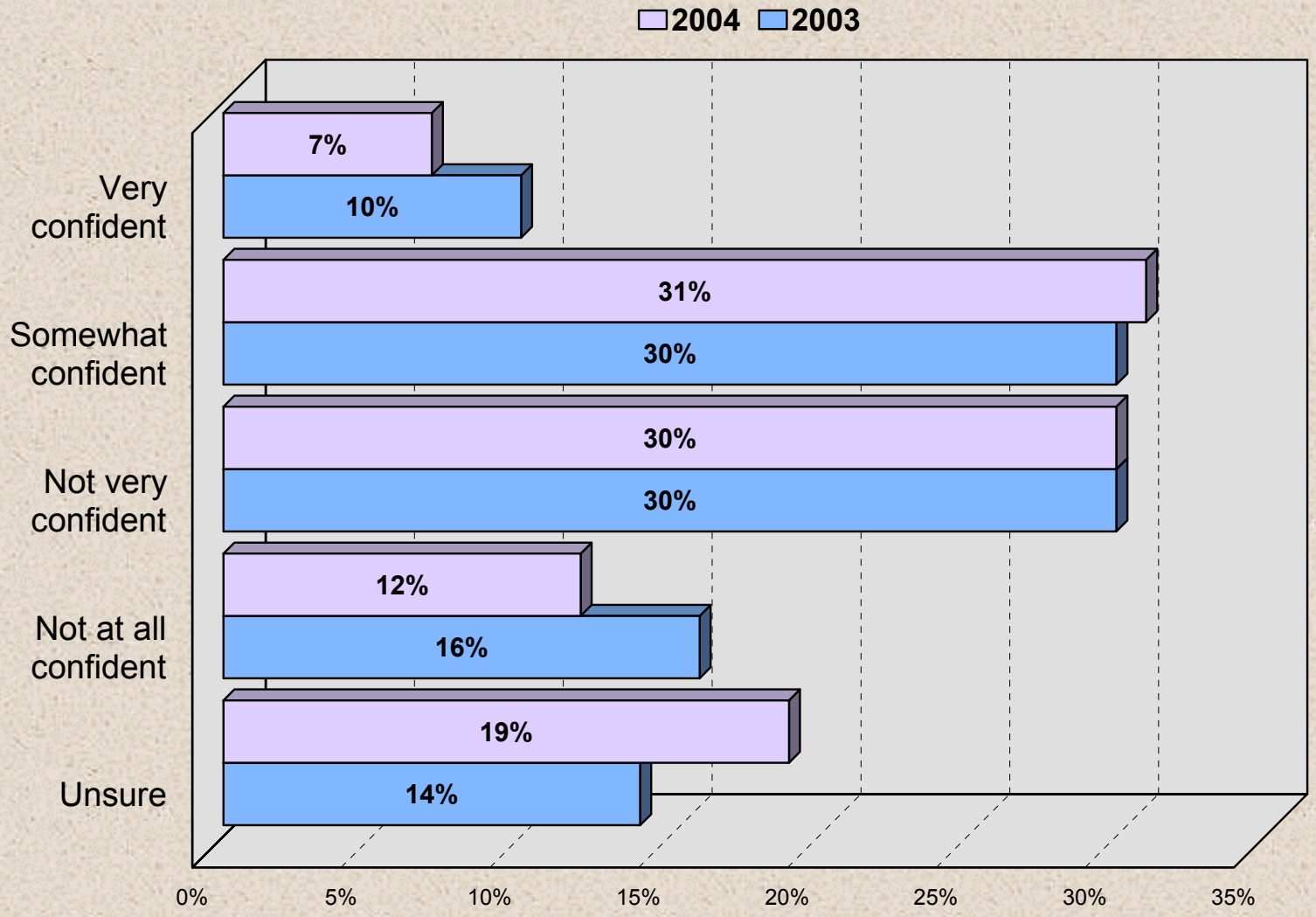
Reliability of Current Water Supply



Q2

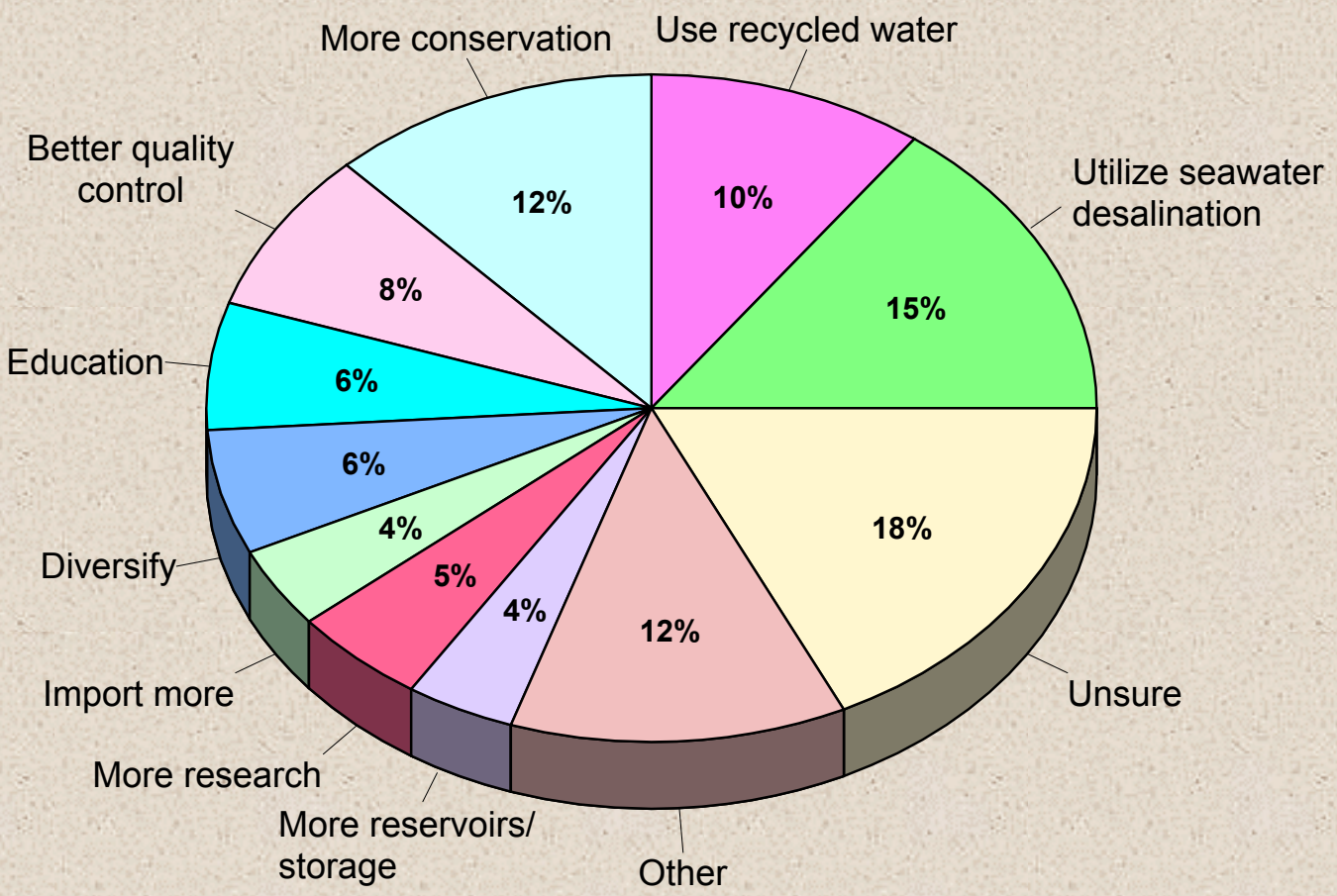
Chart 5

Ability of Water Agencies to Provide a Reliable Water Supply By Year 2030*



** 2003 version of survey instrument question asks about '2020', not '2030'*

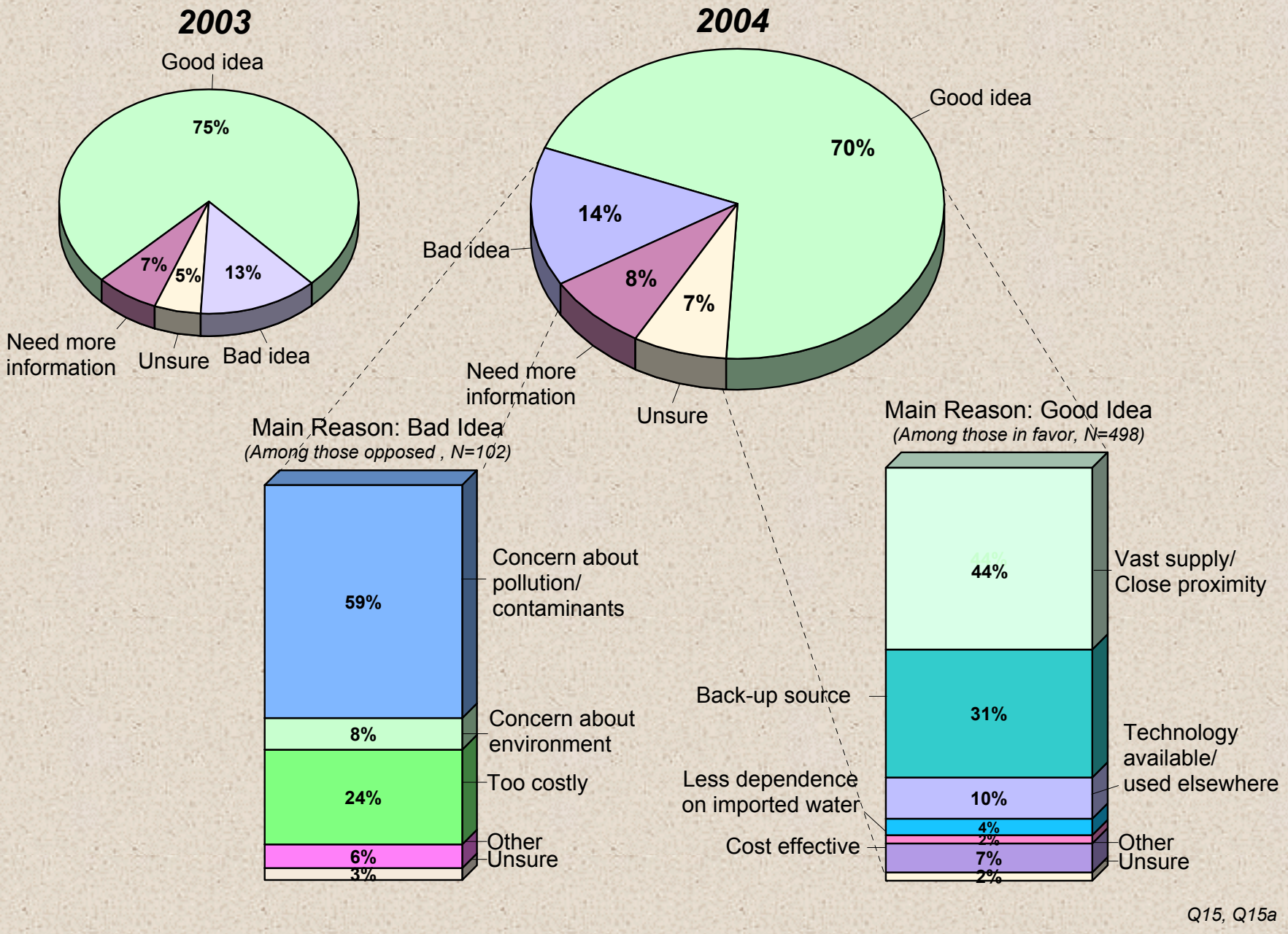
Most Critical Thing San Diego County Water Authority Should Do to Ensure Safe and Reliable Water Supply



Q23

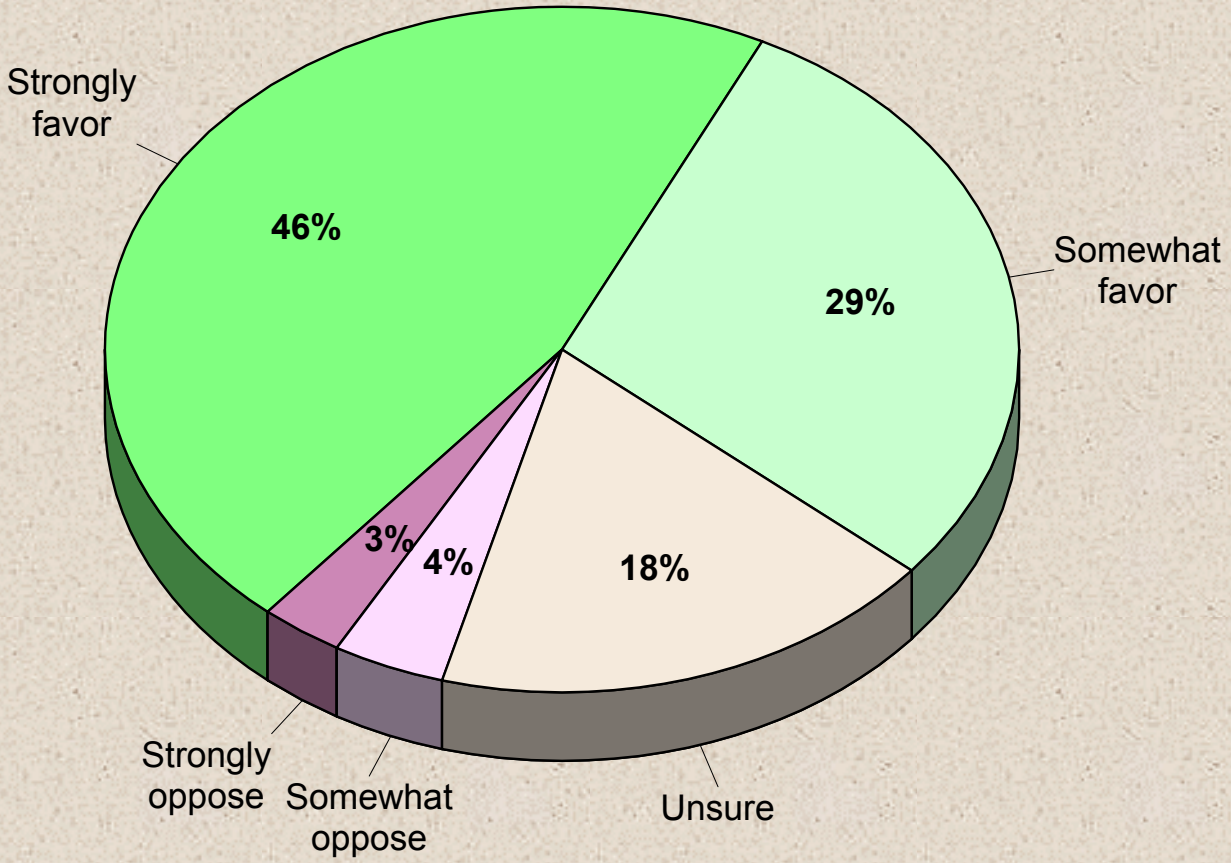
Chart 7

Opinion of Seawater Desalination



Q15, Q15a

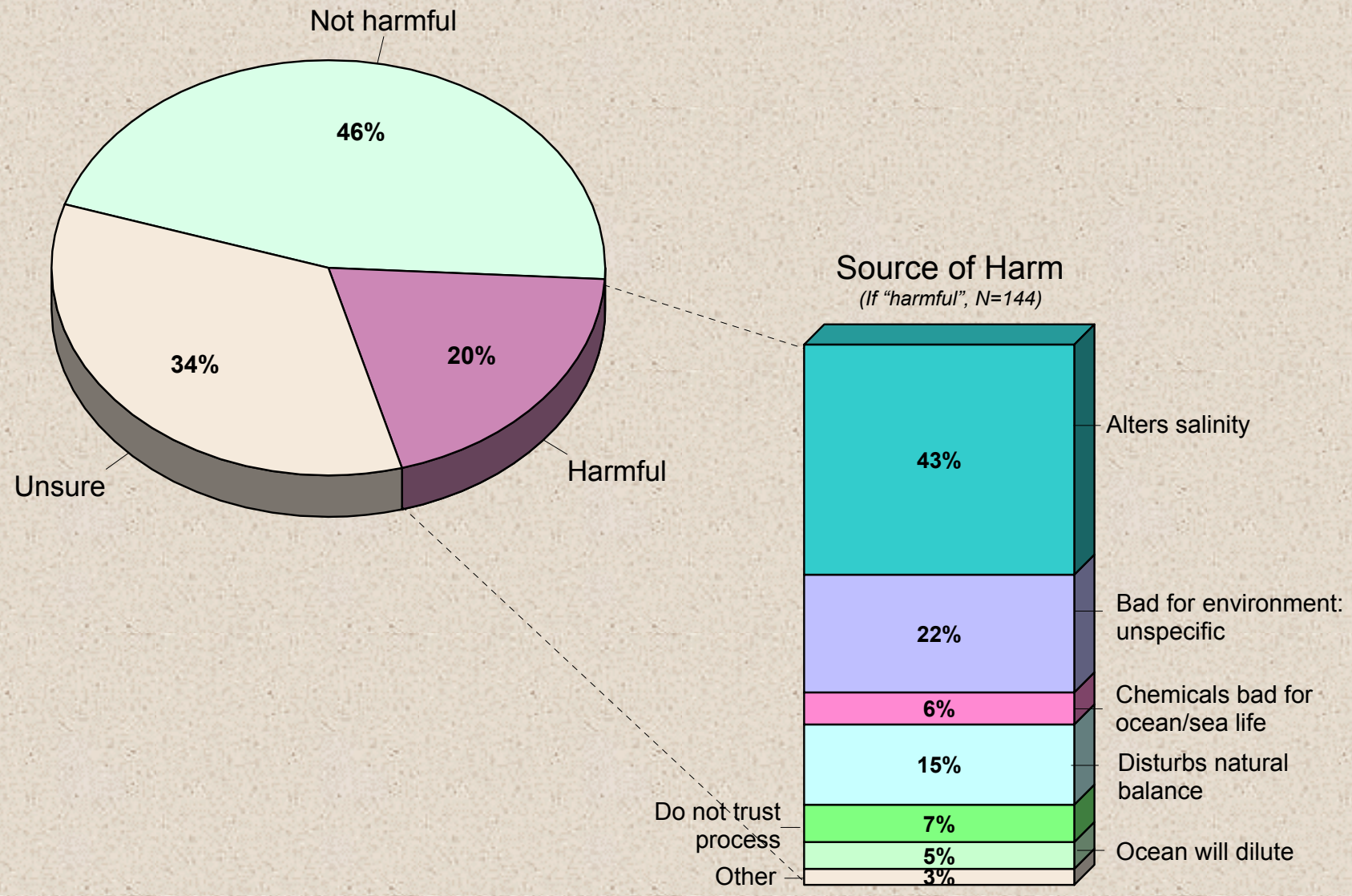
Favor or Oppose Building Seawater Desalination Facilities in San Diego County



Q16R

Chart 9

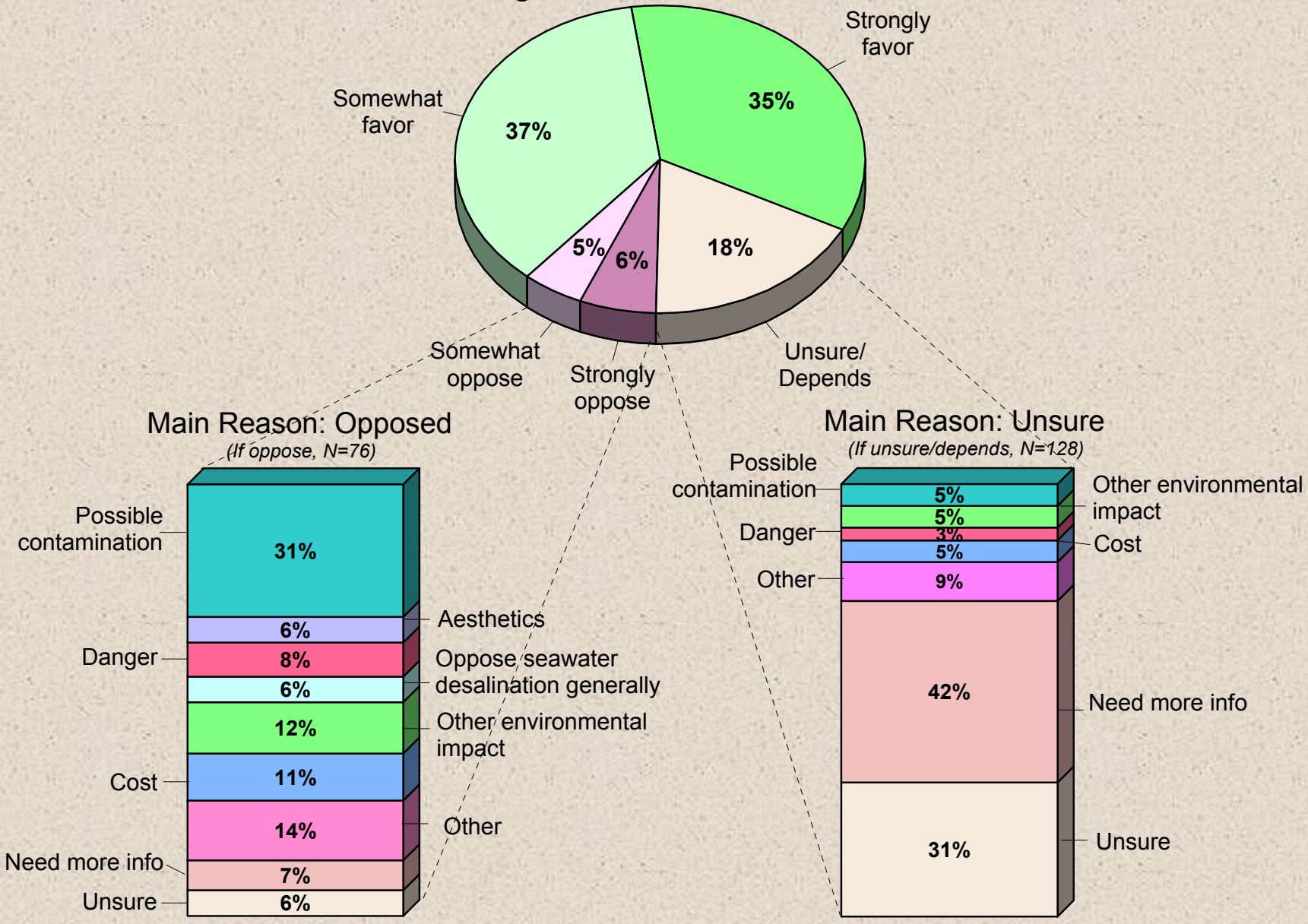
Believe Seawater Desalination Process is Harmful or Not Harmful to Local Ocean Environment



Q17, Q17a

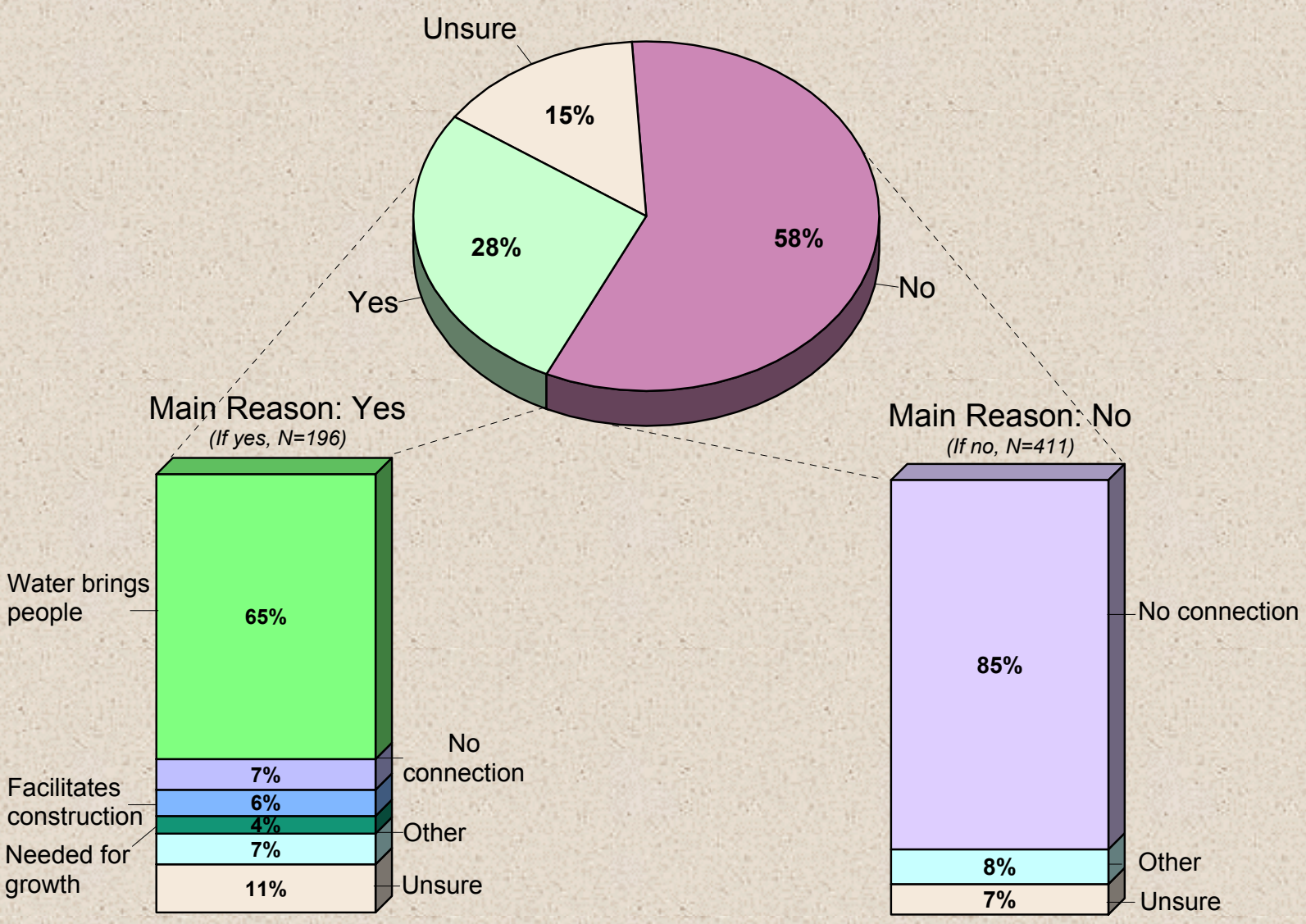
Chart 10

Favor or Oppose Locating Seawater Desalination Plant Adjacent to Existing Coastal Power Plants



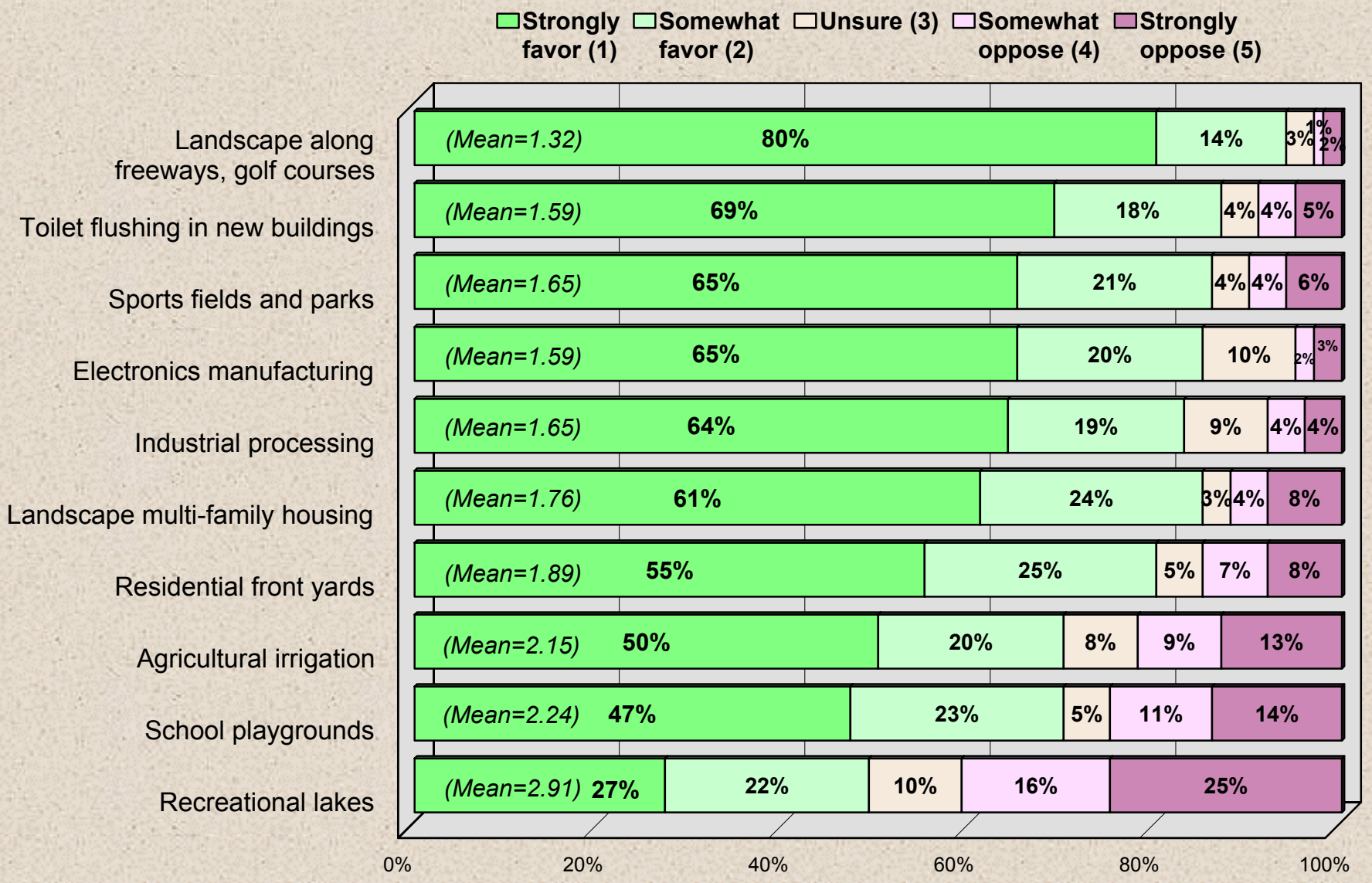
Q18R, Q18a

Believe Tapping Ocean as Water Supply Will Result in Population Growth in County Beyond Current Projections



Q19, Q19a

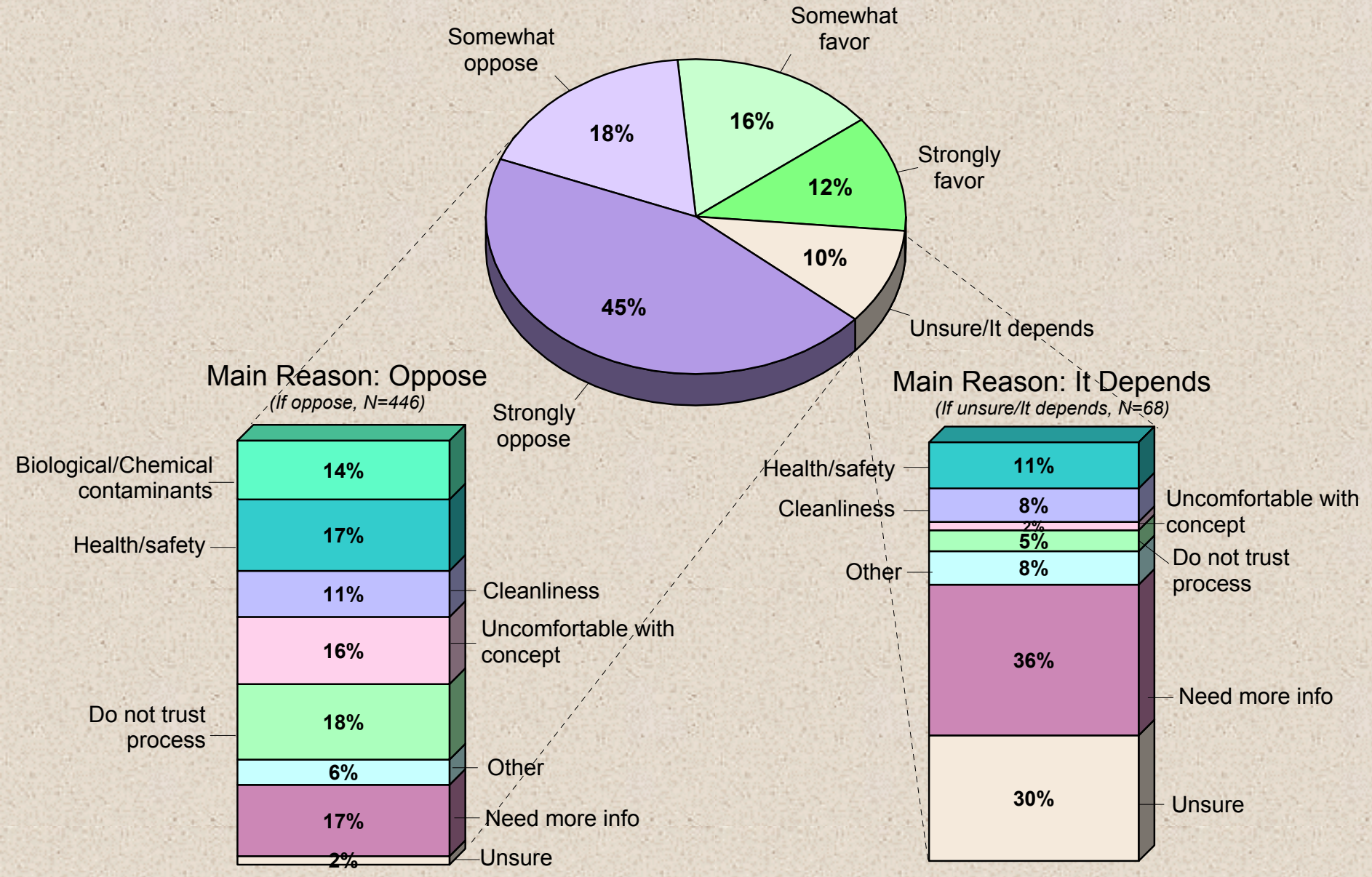
Favor or Oppose Use of Recycled Water for...



Q20

Chart 13

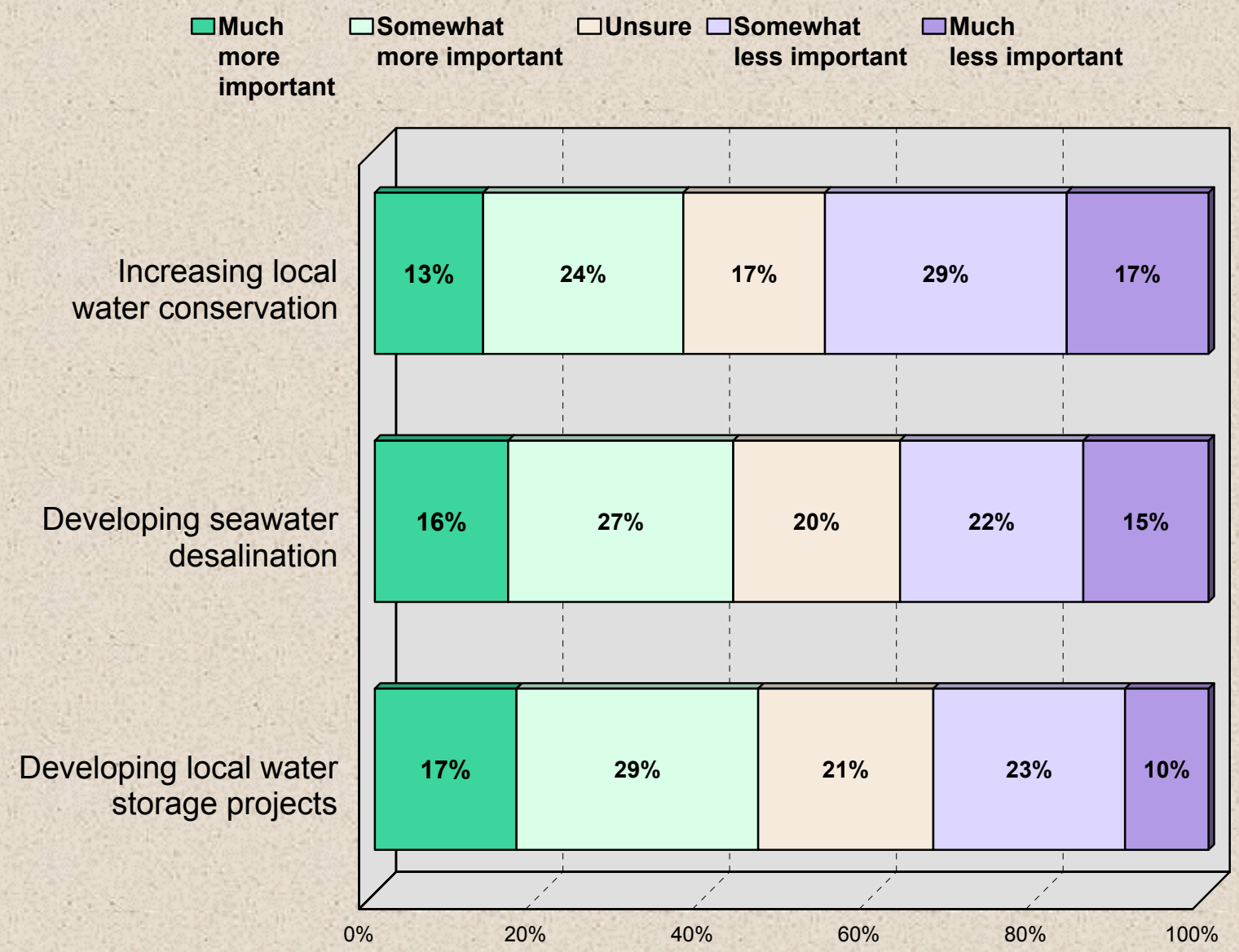
Favor or Oppose Using Additionally Treated Recycled Water for Drinking Water



Q21, Q21a

Chart 14

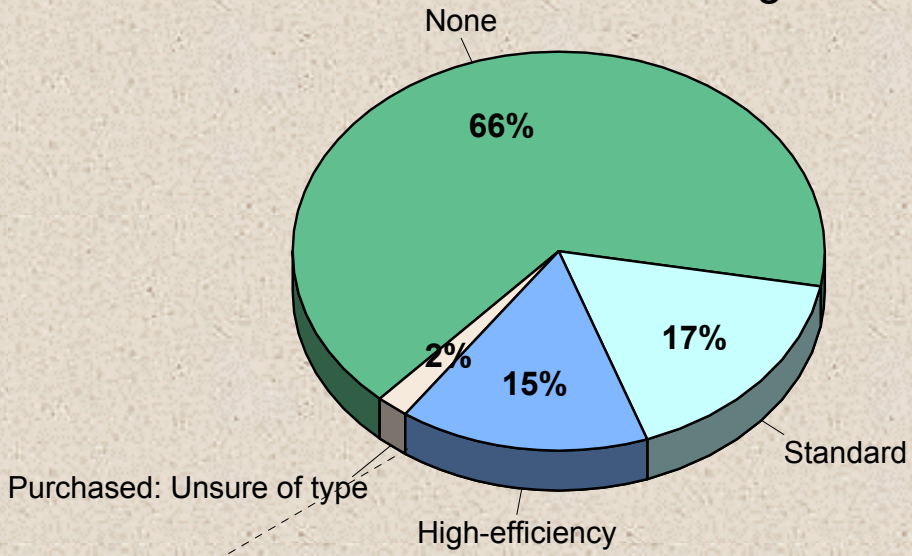
Importance of Developing Recycled Water Compared to...



Q22

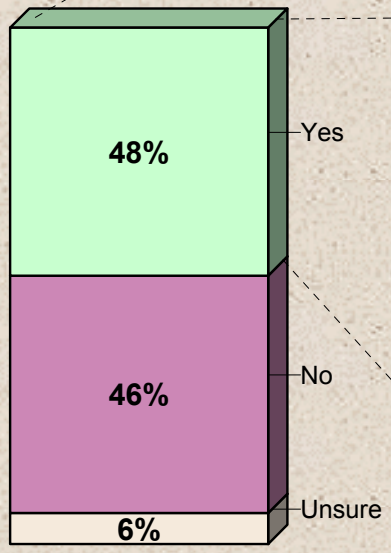
Chart 15

Household Purchased Clothes Washing Machine in Past 3 Years



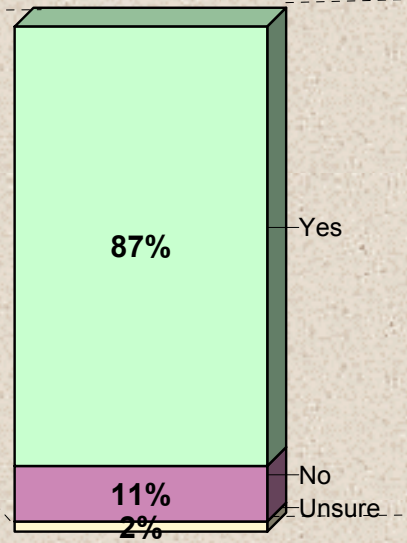
Used Voucher Program

(Among those who purchased high efficiency washer, N=109)



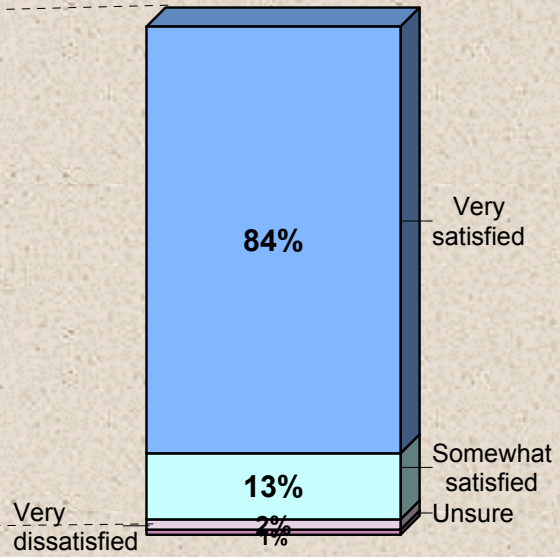
Would Have Purchased Without Voucher Program

(Among those who used voucher to purchase high efficiency washer, N=52)



Satisfaction With High-Efficiency Washer

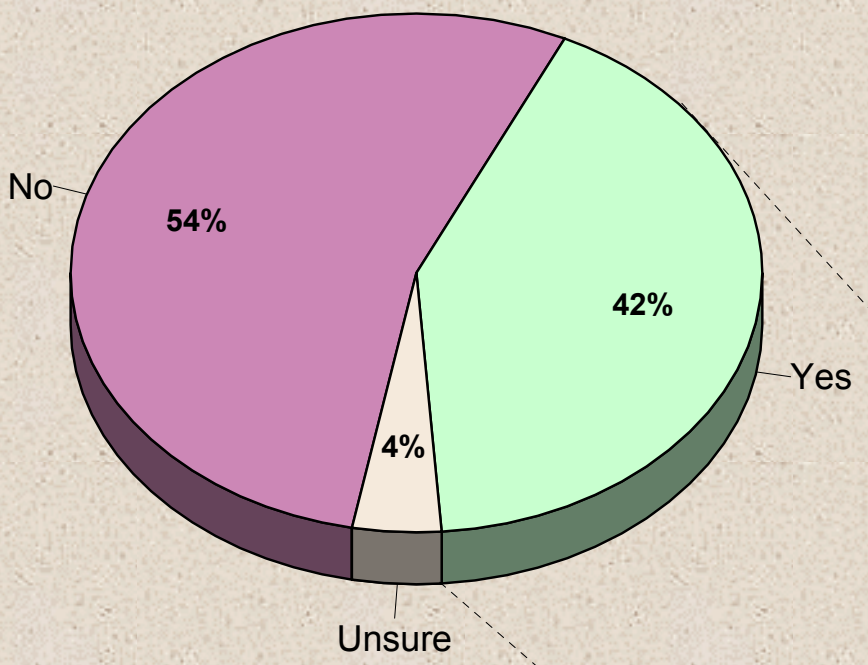
(Among those who used voucher to purchase high efficiency washer, N=52)

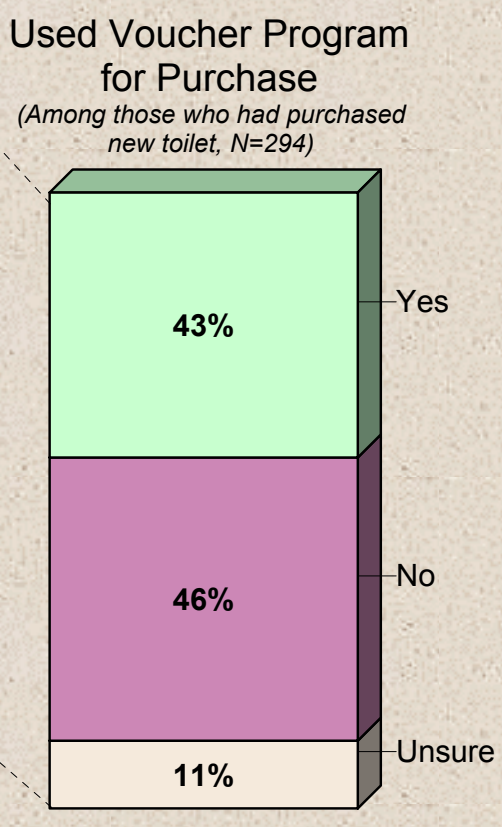


Q6, Q6a, Q6b, Q6c

Chart 16

Household Purchased New Toilet Since 1992

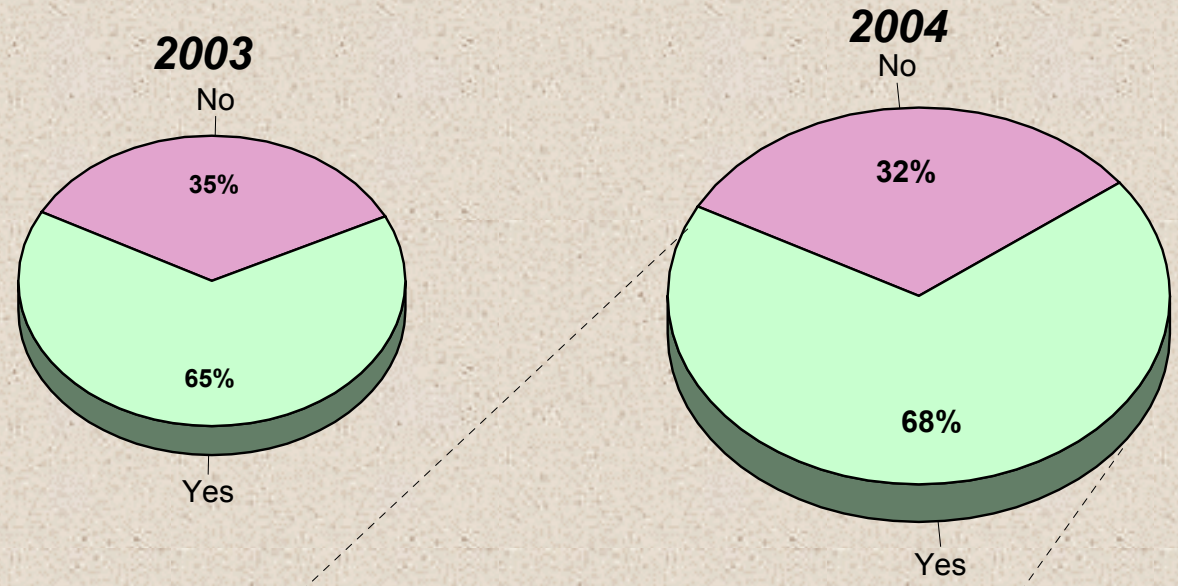




Q7, Q7a

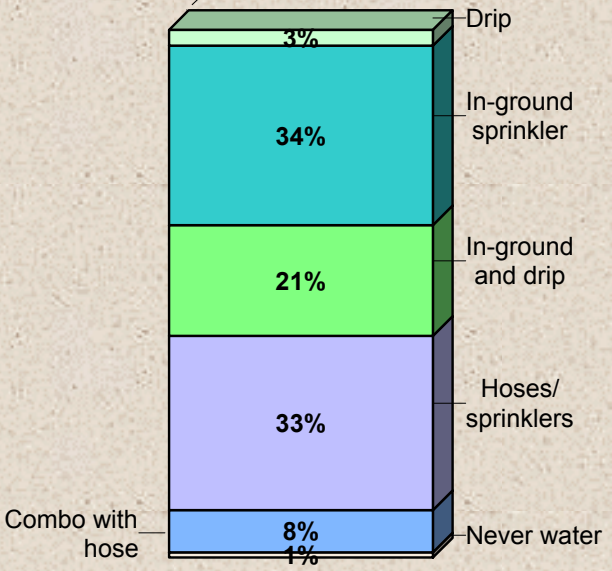
Chart 17

Residence Responsible for Maintaining Outdoor Landscaping



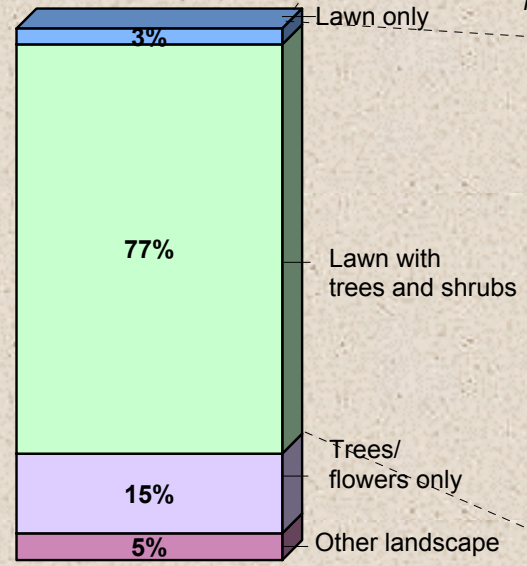
Type of Watering System

(Among those responsible for outdoor landscaping, N=482)



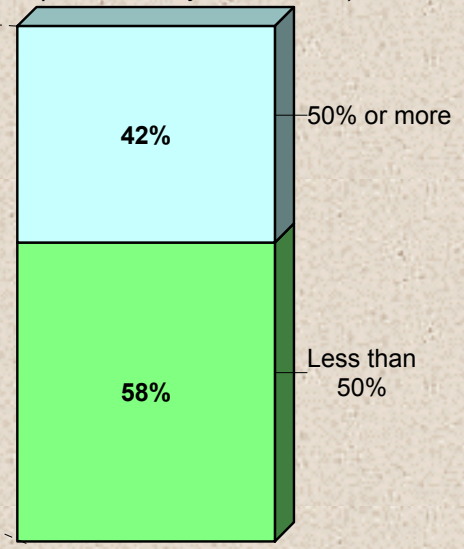
Landscape consists of...

(Among those responsible for outdoor landscaping, N=482)



Percent of Landscape Covered by Lawn

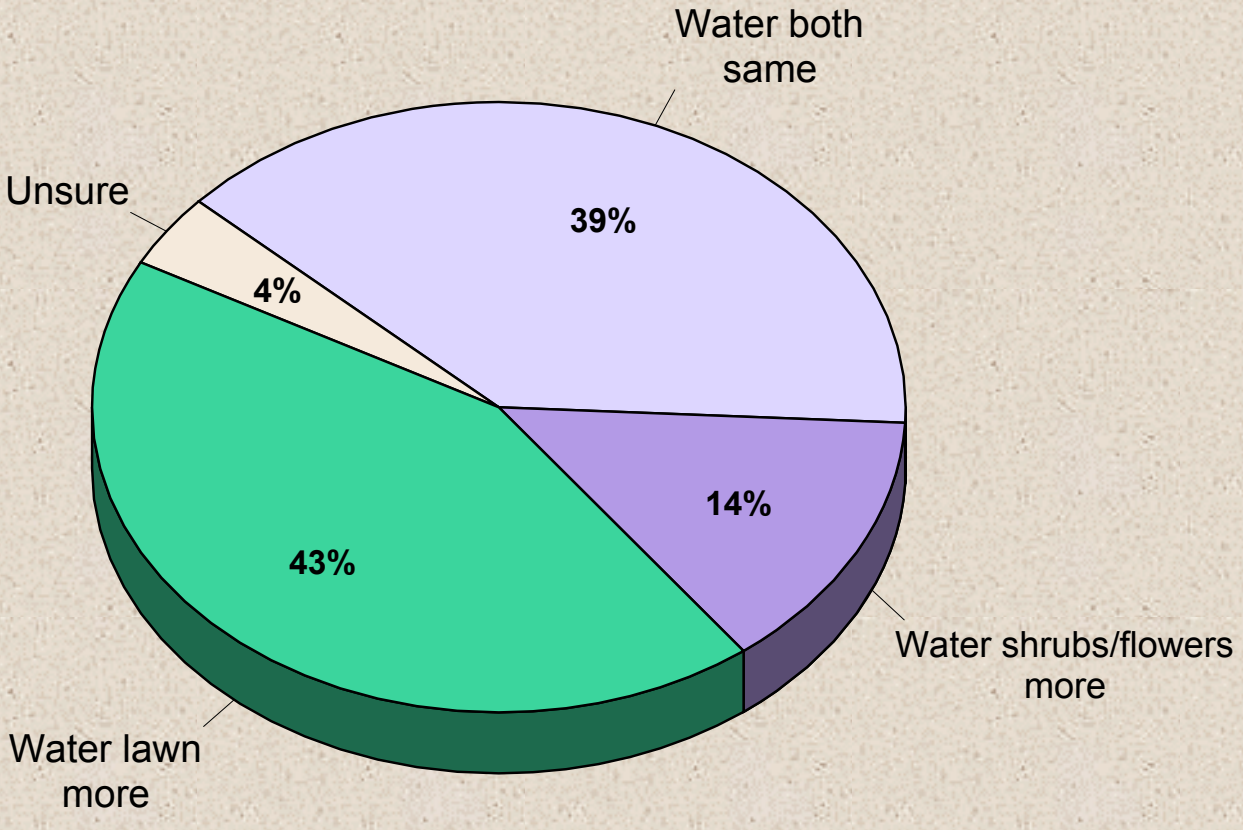
(Among those with some portion of outdoor landscape covered by lawn, N=369)



Q8, Q9, Q10, Q12

Water Lawn Area More or Shrubs and Flower Beds More

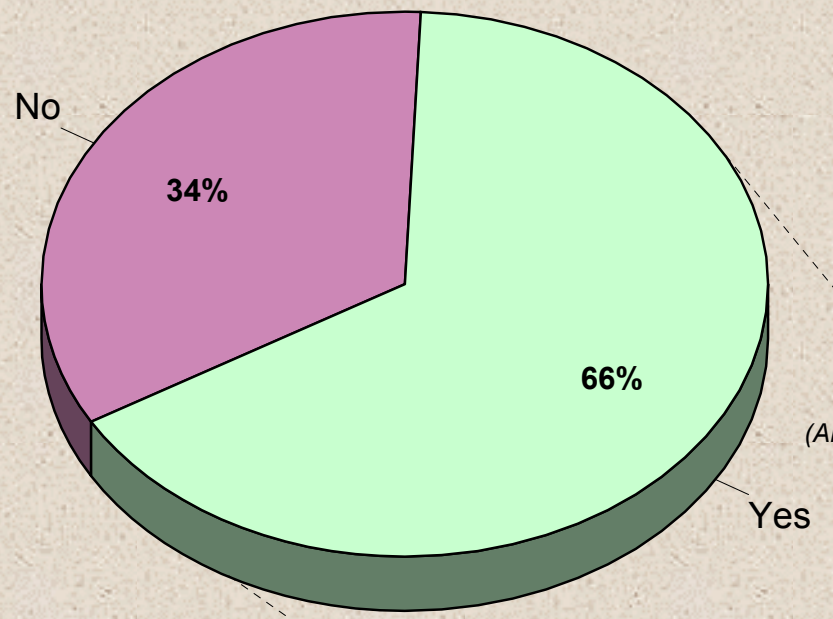
(Among those responsible for outdoor landscaping and some portion of landscaping is lawn, N=369)



Q11

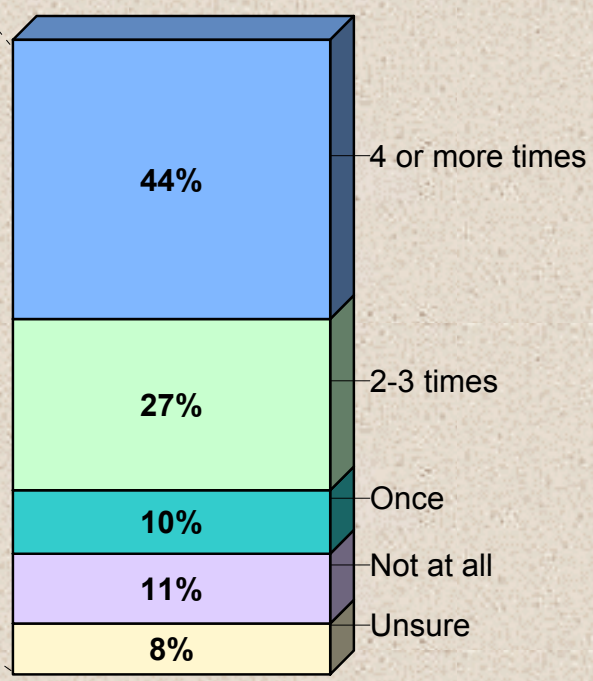
Household Has Automatically-Controlled Sprinkler System for Lawn

(Among those who have some lawn area, N=385)



Controller Adjusted in Past 12 Months

(Among those who have automatically-controlled sprinkler, N=252)



Q13, Q13a

One Thing Water Agency Could Do to Motivate Household's Water Conservation

(Among those responsible for outdoor landscaping and who water landscape, N=479)