

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. 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 June 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 purpose of the 2003 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 survey and other sources of information;
- Determine the extent to which water consumption behaviors have been altered among activities that are known to consume significant quantities of water;
- Determine opinions and perceptions of various issues, including:
 - Perceptions of water reliability and quality
 - Knowledge about sources of water
 - Level of support for the Water Authority's major water supply diversification programs, including the Regional Water Facilities Master Plan and seawater desalination
 - Value of water and the willingness of ratepayers to pay more to support the Water Authority's diversification programs
 - Environmental considerations
 - Statewide water issues
 - Drinking water safety issues
- 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 a minimum of 600 respondents in order to secure a margin of error not to exceed +/-4% @ 95% confidence. Ultimately, a total of 603 residents were surveyed. The random sample was selected by random digit dialing from zip codes contained within the San Diego County Water Authority service area.

Respondents were predominantly White/Caucasian (67%) and earned a median household income of \$57,000 per year. They had a median age of 48 years old and had lived in their community for a median of 21 years. A plurality (37%) is Republican; 30% are Democrats. More than 40% of the respondents possess a Bachelor's Degree or more, and more than two-thirds are homeowners.

Survey Findings

The 2003 San Diego County Water Authority Telephone Public Opinion Survey has been divided into six essential information components as follows:

- Attitudes and opinions about general local news/current issues and other utility services
- Water usage and quality
- Water conservation
- Knowledge and awareness of existing water supply issues
- Attitudes and perceptions concerning water reliability
- Opinions and preferences for future water reliability plans and programs

Attitudes and Opinions about General Issues and Other Utility Services

- San Diego County residents obtain their news mostly from television and secondarily from the primary daily local newspaper, *The San Diego Union-Tribune*.
- It is clear that the rapid upswing in housing costs in the County has registered very strongly with the public. Growth, which has so dominated surveys such as this in the past and, specifically the 2000 SDCWA survey, as the primary concern, now must share the stage with housing costs as the most important local issue facing residents.
- Power and Water are the two most important utilities, in that order, but Water edges out Power as a better value.
- Water is viewed as a better value than Power and all other utilities particularly by the following groups: those who have the responsibility for paying water bills; homeowners; higher income residents; and those with higher levels of education.

Water Usage and Quality

- Approximately one-half of residents use bottled water as their main source of drinking water and another one-third use filtered water.
- Tap water use for drinking purposes is low, especially among younger, less educated, lower income, and Hispanic/Latino groups who seem to feel that tap water is not especially safe.
- The majority of all residents (including the total population and isolated tap water and filtered water users) does believe that tap water is safe without filtering—an increase from the 2000 survey, despite its relatively low level of use for drinking purposes, indicating that issues of taste, convenience, or luxury (in the case of filtered water) may be more influential than safety.
- The majority of bottled water drinkers, however, do not believe that tap water is safe without filtering. They cite tap water's taste, smell, and suspected contaminants as their reason for doubting its safety. Furthermore, among bottled water drinkers, there exists a substantial amount of distrust of government agencies in caring for the water supply.

Water Conservation

- Residential water conservation practices have not changed much from the 2000 survey, with a strong cadre of residents conserving water regularly.
- Outdoor conservation through reduction of lawn area or replacement of plants with more water efficient varieties appeals to approximately one-half of those with lawns and landscaping through lower water bills and/or easier maintenance
- The one-half of the residents with landscaping who are not moved toward reducing lawn size or replacing plants by lower bills or easier maintenance are unlikely to be induced by further financial considerations. It is likely that efforts to reduce water usage among this group will require more educational outreach regarding irrigation and watering techniques and systems rather than being able to induce a wholesale change in their landscaping preferences.

Knowledge and Awareness of Existing Water Supply Issues

- Awareness of important water supply sources and issues has improved dramatically since the 2000 survey, particularly pertaining to familiarity with the competing demands among states that have rights to Colorado River water and with the San Diego County Water Authority-Imperial Irrigation District Water Transfer—both of which have better than 20% more awareness in the 2003 survey than they had in the 2000 survey.
 - In 2000, 47% of residents were aware that there were increasing and conflicting demands for water on the Colorado River, but by 2003 the level of awareness has reached 68%.
 - Another substantial increase occurred in awareness of the San Diego County Water Authority-Imperial Irrigation District Water Transfer, which in 2000 stood at 20%, but in 2003 is at 42%.
- Increases in knowledge and awareness between 2000 and 2003 were not experienced for Bay-Delta issues nor were they found for knowledge about San Diego's primary source of water or primary use of water—all of which levels of knowledge remained similar to the 2000 survey.
 - Residents are consistent with the 2000 survey in their identification of where San Diego County obtains most of its water supply, with 47% in both 2003 and 2000 indicating the primary source to be the Colorado River.
 - Awareness of Delta issues (31%) is essentially the same as in 2000 (28%).
- Knowledge and awareness are especially strong among highly educated, older, well-established residents, who are homeowners, voters, of higher income, and water bill payers. Men also seem to be more aware of these issues than are women.

- As knowledge and awareness have grown so has the level and intensity of concern among residents regarding water reliability because of competing demands among states along the Colorado River, because of the lack of resolution of the San Diego County Water Authority-Imperial Irrigation District Water Transfer, and because of the divergent needs of farmers, cities, and environmental causes in the Sacramento-San Joaquin Bay-Delta region.

Attitudes and Perceptions Concerning Water Reliability

- More than two-thirds of SDCWA service area residents feel that the current level of reliability for the water supply is good—much the same, if not slightly less reliable than was indicated in the 2000 survey.
- Extending the perception of reliability to the year 2020, including growth forecasts of 1 million more County residents, reduces respondents' confidence in local water agencies' ability to supply water reliably by 25%-30% from their current levels of perceived reliability.
- Groups that indicated a higher degree of confidence in future reliability are: renters, those not registered to vote, Hispanics/Latinos, and non-water bill payers.

Opinions and Preferences for Future Water Reliability Plans and Programs

- Approximately one-half (52%) of water bill payers express a willingness to pay additional monthly amounts for water in order to ensure greater regional water reliability as follows:
 - These 52% of water bill payers who were willing to pay additional funds for reliability indicated that they would pay a mean (average) additional amount each month to ensure reliability for the region equal to \$19
 - The other one-half (approximate) of water bill payers indicated either that they did not wish to pay any more (33%) or that they did not know if/how much more they would pay monthly (15%).
 - The median increase—the amount that one-half would pay more than and one-half would pay less than—was \$10 per month.
 - The modal amount of increase—the one most frequently indicated—was also \$10 per month. Second choice was \$20, and third choice was \$5.
 - 3% of all bill payers indicated a willingness to pay an additional \$40 or more per month.
- There is almost 100% agreement with San Diego County Water Authority efforts to improve reliability and diversity of water supply through water transfers, water recycling, and seawater desalination, rather than to rely upon the Metropolitan Water District for 90% of the region's supply.

- Agreement with efforts to diversify is especially strong among those same groups that demonstrated higher levels of knowledge and awareness-- highly educated, older, well-established residents, who are homeowners, voters, of higher income, water bill payers, and men.
- Seawater desalination and water recycling each achieve noteworthy and strong agreement and support from approximately 75% of the region's population— 80%-90% from the particularly supportive groups above.
- Opposition to recycling is based mostly upon fears of water contamination from waste, and opposition to seawater desalination is based upon discomfort about taste and cleanliness of the water rather than environmental issues.
- Approximately 30% of water bill payers (57% of the 52% who already offered some additional payment for reliability) expressed a willingness to pay an additional sum monthly for seawater desalination on top of what they already offered for general reliability, and that sum can be characterized as follows:
 - These 30% of water bill payers, who would pay additional funds for seawater desalination, indicated that they would pay a mean (average) additional amount each month for seawater desalination if they were convinced that seawater desalination would provide a more diverse and reliable water supply to the region equal to approximately \$10.50.
 - The median increase—the amount that one-half would pay more than and one-half would pay less than—was another \$10 per month.
 - The modal amount of increase—the one most frequently indicated—was \$5 per month. Second choice was \$10.
 - 4% of bill payers indicated a willingness to pay \$20 or more per month.
- In sum, therefore, regarding paying additional sums monthly for greater reliability and diversity of water sources, there is a core 50% (approximate) of water bill payers who are not offering to pay anything extra, another 20%, who are willing to pay \$10-\$19 per month, and another 30%, who are likely to be comfortable at \$20-\$27 additional per month under certain circumstances tied to a successful seawater desalination program.

Conclusions

These indications of support for the work of the San Diego County Water Authority that are offered by the region's residents in the 2003 Telephone Public Opinion Survey should be very gratifying to officials of the Water Authority. The nearly unanimous support for the Water Authority's diversification programs and the growth of the level of awareness, magnitude of concern, and support for the Imperial Irrigation District water transfer are extraordinary.

Not only are the projects, plans, and programs fairly well recognized and well favored, but also there does not seem to be the kind of rate problem that can frequently derail otherwise supported plans and programs. In the case of water for San Diego County, it appears as if the market will willingly absorb rate increases in exchange for greater water reliability.

Residents of the region have stated that they recognize both the importance and value of their water service. They understand certain of the risks to the future reliability of their water supply, and they are willing to pay more to protect and ensure that reliability into the future.

The additional sums that residents are willing to pay should be seen, therefore, not only as sources of funds for necessary projects, but, in association with the results herein, as highly encouraging to the San Diego County Water Authority. The results of this survey should serve 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 June 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, the San Diego County Water Authority Telephone Public Opinion Survey. The purpose of the 2003 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 survey and other sources of information;
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- 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 600 respondents in order to secure a margin of error not to exceed +/-4% @ 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, 56% of the respondents believe that their tap water is safe without having to filter it. This means that there is a 95% chance that the true proportion of the population that feels that their tap water is safe without filtering is between 52% and 60% (56% +/- 4%). Ultimately, a total of 603 residents were surveyed.

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 33%, 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.

Survey Instrument

The survey instrument contained 48 questions, including 65 individual survey items (variables). The survey was pretested May 19, 2003 and formally administered May 20-June 5, 2003. Mean survey administration time was 16.67 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 29 respondents elected to respond in Spanish (4.8%).

Respondent Characteristics

Table 1 presents certain demographic characteristics of the survey respondents. Respondents were predominantly White/Caucasian (67%) and earned a median household income of \$57,000 per year (18% earning \$100,000 or more and 18% earning under \$25,000). They had a median age of 48 years old and had lived in their community for a median of 21 years. A plurality (37%) is Republican; 30% were Democrats. More than 40% of the respondents possess a Bachelor's Degree or more, with 23% having a High School education or less. Home ownership percentage, responsibility for paying the water bill, and responsibility for outdoor landscaping are relatively consistent with one another within the 65-70% range.

The 2000 survey respondent population differed in regard to its 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%). That is to say, the survey samples were similar in political orientation, tenure in their community, and education; however, the 2003 sample is somewhat older, with more home ownership and a higher level of income.

Table 1
Water Authority Survey Respondent Characteristics

Gender	
Male	50%
Female	50%
Major Residential Zip Codes	
92054	4%
92020	3%
92021	3%
92117	3%
92128	3%
91977	3%
92105	3%
92026	3%
91941	3%
Median Age (Years)	48
Median Number of Years Lived in Community	21
Highest Grade/Level of School Completed	
High School or Less	23%
Some College	36%
Bachelor's Degree	20%
Some Graduate School	21%
Ethnicity	
White	69%
Hispanic/Latino	17%
Black/African-American	4%
Asian/Pacific Islander	4%
Native American	3%
Other	3%
Voter Registration	
Republican	37%
Democrat	30%
Other Party Affiliation	9%
Not Registered to Vote	24%
Median Household Income	\$57,000
Home Ownership Percentage	66%
Percentage of Households Responsible for Payment of Water Bill	70%
Percentage of Households with Responsibility for Outdoor Landscaping	65%

Survey Findings

The San Diego County Water Authority Telephone Public Opinion Survey has been divided into six essential information components as follows:

- Attitudes and opinions about general news/current event issues and other utility services
- Water usage and quality
- Water conservation
- Knowledge and awareness of existing water supply issues
- Attitudes and perceptions concerning water reliability
- Opinions and preferences for future water reliability plans and programs

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 2003 survey and for the 2000 survey where questions have been repeated and can be directly compared. Each component will include a discussion of the findings from the 2003 survey; however, 2000 results will not be discussed beyond the charts unless they differ from 2003 in a statistically significant manner. This means that, when there is no discussion of the 2000 results, there is no statistical difference between the 2003 and 2000 findings. 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, residential tenure in the community, different income categories, voter registration differences, households with and without responsibility for payment of the water bill, and Hispanic residents of the service area (the only ethnic group other than White/Caucasian with a sufficiently large sample size for analytical

purposes) will be presented in a succinct, boxed and bulleted format when statistical significance and relevance warrants such treatment.

Attitudes and Opinions about General Issues and Other Utility Services

SUMMARY: San Diego County residents obtain their news mostly from television and secondarily from the primary local newspaper, The San Diego Union-Tribune. It is clear that the rapid upswing in housing costs in the County has registered very strongly with the public. Growth, which has so dominated surveys such as this in the past and, specifically the 2000 SDCWA survey, as the primary concern, now must share the stage with housing costs as the most important local issue facing residents. Power and Water are the two most important utilities, in that order, but Water edges out Power as a better value, especially among those residents who have the responsibility for paying water bills, homeowners, higher income residents, and those with higher levels of education.

Residents of the San Diego County Water Authority (SDCWA) service area indicated that they obtain most of their news about local issues from television (49%) and from *The San Diego Union-Tribune* (27%)—**Chart 1**. When *The North County Times* and community newspapers are added in, the growth of newspapers as a source of information from 2000 is significant (from 25% in 2000 to 34% in 2003), whereas television has remained unchanged. Radio is a distant, and also unchanged, third place with 8%.

- Among those who rely more upon television for their local news are:
- Hispanics (72%)
 - High School Education or Less (68%)
 - Those not registered to vote (68%)
 - Income under \$25,000 (67%)
 - Ages 18-34 (66%)
 - Renters (60%)
 - Not responsible for water bill (58%)
 - Women (57%)

- Among those who rely more upon the Union-Tribune for their local news are:
- Income \$100,000 and above (39%)
 - Graduate School work (38%)
 - Men (33%)
 - Ages 35 and above (30%)

Among those who rely more upon other media, including the radio, for their local news are:

- Bachelor's Degree and above (32%)
- Republicans (29%)
- Homeowners (28%)

Chart 2 shows that the most important issues that face residents of San Diego County are Housing Costs, Traffic, and Growth/Development—all inter-related topics and all garnered 15% of the total responses. The Local Economy and then Education followed at 11% and 10%, respectively. In the 2000 survey Growth far outdistanced all other responses with 31%, followed by Traffic 14% and Crime 11%. The Other category is a compilation of all the others mentioned, including Immigration, Environment, Homelessness, and many others that can be viewed in the Appendix, where the full listing of responses is displayed.

Besides important local news-related and current event issues, important utility services were also inquired of the SDCWA service area residents. Residents were asked to rank the services depicted in **Chart 3** as first most important, second most important, and third most important among these utilities. Power was ranked first by 52% of the respondents and Water by 33% of the respondents, leaving only 15% for the remaining utilities. When the second and third most important rankings were factored into the calculation and all rankings were weighted (3 for a first most important ranking; 2 for a second most important ranking; and 1 for a third most important ranking), **Chart 3** shows the weighted distribution of these rankings, with Power receiving 38% of all possible weighted utility importance points, Water 31%, Sewer 10%, and Telephone 9%. Similar rankings were also put forth by respondents for these utilities based upon which is the best value for the money paid, which is second best, and so forth (**Chart 4**). The first choice for best value is a tie between Water and Power at 22%, with Telephone close behind at 19%. Application of the same weighting methodology leads to Water emerging as the best value, fractionally edging out Power, although both percentages round to 22%.

Telephone is next at 20% and Trash follows with 13% of all possible weighted value points.

A very important note to add at this point is that isolating only water bill payers—that is only those survey respondents who have the responsibility of paying a water bill—causes the perceived value of Water to significantly surpass the value of Power (27% to 19%). Conversely, among those who do not pay water bills, Power is seen as the greater value (36% to 19%).

Those other groups that perceive Water to be a greater value than Power are as follows:

- Respondents with Bachelor's Degrees (34% to 17%--note this pattern does not continue with Graduate school education respondents, who are more equal in their perception of value between the two utilities)
- Income \$50,000 and above (28% to 15%)
- Homeowners (26% to 19%)

Water Usage and Quality

SUMMARY: *Approximately one-half of residents use bottled water as their main source of drinking water and another one-third use filtered water. Tap water use for drinking purposes is low, especially among younger, less educated, lower income, and Hispanic/Latino groups that seem to feel that tap water is not especially safe without being filtered. The majority, however, does believe that tap water is safe, despite its relatively low level of use for drinking purposes, indicating that issues of taste, convenience, or luxury may be more influential than safety.*

Table 1 indicated that 70% of households are responsible for paying their own water bill, with the other 30% having the bill paid by someone else (for example a landlord or homeowners' association). **Chart 5** depicts the same 70%-30% split and further shows the distribution of the respondents' estimated amounts paid monthly for water, the arithmetic mean (average) of which is \$51 per month per household after excluding the 31% of the 70% bill payers (22% of the total population) that do not know how much they pay monthly. **Chart 5** also shows that 57% of these knowledgeable water bill payers find the value of the water service they receive for the amount they pay to be very good or good, and only 13% find the value of the service to be poor or very poor.

Contrasting (highest and lowest percentage) groups in terms of water bill responsibility are as follows:

- Homeowners (93% pay water bills) versus renters (only 26% pay water bills)
- Income \$100,000 or more (94%) versus under \$25,000 (37%)
- Republicans (85%) versus Not Registered (41%)
- Community residents for 35 years or more (85%) versus community residents for 1-10 years (51%)
- Some college or more (76%) versus High School or less (50%)
- Ages 35 and over (74%) versus 18-34 (57%)
- 70% overall versus Hispanic respondents (55%)

Chart 6 shows that both bottled water (48%) and filtered water (31%) exceed tap water (18%) as the main sources of drinking water in San Diego County homes.

Particularly low usage of tap water for drinking is found among the following groups:

- Hispanics (10%)
- Community residents for 1-10 years (10%)
- Ages 18-34 (10%)
- Income \$100,000 or more (12%)

The listing of low tap water usage groups above calls forth an interesting dichotomy whereby the first three groups are generally younger and lower income but the last group of \$100,000 earners differs substantially. This distinction is explained by the perceptions of tap water quality and safety that emerges from the data. **Chart 7** indicates that 56% of all residents in the region consider tap water to be safe without filtering—a percentage significantly higher than the 48% who rated tap water as safe in 2000. Yet, tap water usage is clearly very low.

For those groups cited above with particularly low levels of tap water use, corresponding indications of what percentage of members of these groups feel that tap water is safe without filtering is as follows:

- Hispanics (36%)
- Ages 18-34 (48%)
- Community residents 1-10 years (49%)
- Income \$100,000 or more (71%)

The explanation for the seeming dichotomy in the list of low tap water users now is clearer. Hispanics/Latinos and younger residents are driven toward alternative sources of drinking water more out of safety concerns than are high-income earners who do so, likely, for other reasons, such as taste, convenience, or luxury.

There are other groups that also consider tap water to be somewhat less safe—all of whom are consistent with the younger, lower income grouping than with the upper income category--and those other groups are:

- Not registered to vote (36%)
- Not responsible for water bills (45%)—NOTE: The corollary to this is that 64% of those who have responsibility for paying water bills do believe that tap water is safe versus 56% of the total population surveyed.
- High School education or less (46%)
- Renters (47%)

Chart 8 provides elaborations given by respondents who indicated that they thought that tap water is safe without filtering, and it shows that almost one-half (47%) of those who think that tap water is safe trust governmental agencies and the tests that are performed on the water supply—up from 39% in 2000—and another 31% have experienced no adverse effects from using tap water; therefore, they see no reason to consider it unsafe.

Chart 9 provides the same information from those respondents who consider unfiltered tap water to be unsafe. Tap water’s unpleasant taste and smell is cited as the primary reason for lack of safety (31%), followed by contaminants/solids/impurities (22%), and distrust of agencies involved in water delivery (17%).

Among those who use tap water as their primary source of drinking water, 90% consider the tap water to be safe. Among those who use filtered water, 63% consider tap water to be safe. Only 44% of bottled water drinkers think that tap water is safe.

Filtered water users indicate that they trust the governmental agencies to provide safe tap water (32%), that they have experienced no adverse effects when they have used tap water (14%), but that they do not like the taste or smell of tap water (11%). Bottled water

users are much more negative about tap water safety, demonstrating less trust (22%), more aversion to the taste and smell of tap water (18%), less of an indication of no adverse effects (12%), dissatisfaction with contaminants and solids in tap water supplies (12%), and, besides the lower amount of positive trust indicated above, a stated negative trust in governmental water agencies (10%).

Water Conservation

SUMMARY: *Residential water conservation practices have not changed much from the 2000 survey, with a strong core of residents conserving water regularly. Outdoor conservation through reduction of lawn area or replacement of plants with more water efficient varieties appeals to approximately one-half of those with lawns and landscaping through lower water bills and easier maintenance; however, the other half is not moved at all either by those incentives, nor are they influenced by further financial inducements.*

A substantial majority of San Diego County households tries to conserve water on a regular, ongoing basis (83%--**Chart 10**). These households perform much as they did in 2000 (**Chart 11**) by running the clothes washer and dishwasher only with full loads (86%), sweeping (rather than hosing) the driveway (75%), not watering midday (73%), and seasonally adjusting irrigation systems (52%). Respondent volunteered (not specifically offered by the survey) conservation alternatives included:

- Short baths/showers (20%)
- Limited sink use (15%)
- Low flow toilet/shower heads (13%)
- Catch-reuse water (7%)

Water conservation efforts have leveled off, increasing at a lower rate (11%) than they did in 2000 (18%) but otherwise staying the same and not decreasing (**Chart 12**).

- Conservation measures are increasing only among residents with Bachelor's Degrees, as an identifiable group.

Chart 13 shows that 65% of the population has some landscaped area for which their household is responsible, and for 50% of these households, that landscaping includes a lawn. **Chart 13** further demonstrates that among those with a lawn, 24% could be

motivated to reduce the size of their lawn by having easier maintenance and 17% could be tempted by reduced water bills, but that more than half (56%) would find neither of interest in exchange for reducing the size of their lawn. If offered some additional financial incentive, almost two-thirds of those 56% would still not reduce their lawn and another one-fourth is unsure. Only 12% of the 56% would even consider such incentives, and the incentives must be several hundred dollars. That is to say, among those with lawns, 40% might be interested in the basic benefits of reduced maintenance and reduced water bills, but beyond those households, the others are very firmly locked into their lawns and are not open to even very substantial financial incentives.

Groups with the greatest degree of landscaping responsibility are as follows:

- Incomes \$100,000 and over (87%)
- Homeowners (82%)
- Ages 45-54 (82%)
- Responsible for water bill (80%)
- Residents of the community for 21 years or more (79%)
- Ages 55-64 (77%)
- Some college or more (70%)

Chart 14 shows the same 65% landscape/50% lawn distribution and then identifies a greater interest in replacing existing plants with those that would require less water, where 27% of those with such landscaping would be enticed by easier maintenance and 26% by reduced water bills—53% in total versus 41% for lawn replacement. Once again, however, for those 44% not interested in either of these incentives, approximately two-thirds of that disinterested 44% would not be interested in any kind of additional financial incentive to replace their plants, another one-fifth of the 44% is unsure, and that small 14% proportion of the 44% would require several hundred dollars of incentives.

It seems clear that one-half of residents with landscaping will be very difficult to move toward reducing lawn size or replacing plants by lower bills, easier maintenance, or further financial inducements. It is likely that efforts to reduce water usage among this group will require more educational outreach regarding irrigation and watering techniques and systems rather than being able to induce a wholesale change in their landscaping preferences.

Knowledge and Awareness of Existing Water Supply Issues

SUMMARY: *Awareness of important water supply sources and issues has improved dramatically since the 2000 survey. The level of concern regarding water reliability and issues such as competing demands among states along the Colorado River and the San Diego County Water Authority-Imperial Irrigation District Water Transfer has also grown. Knowledge and awareness are especially strong among highly educated, older, well-established residents, who are homeowners, voters, of higher income, and water bill payers. Men also seem to be more aware of these issues than are women.*

Residents demonstrate close to the same perception of how residential water is used as they did in 2000 (**Chart 15**). They believe that water is used equally indoors and for landscaping uses outside, with over one-third (37%) unsure of what they think is correct. In 2000, more respondents were certain of their responses and they were slanted more toward inside uses. Residents are also consistent with the 2000 survey in their identification of where San Diego County obtains most of its water supply (**Chart 16**), with 47% in both 2003 and 2000 indicating the primary source to be the Colorado River and 31% in both years indicating uncertainty. The Colorado River shared a 2% growth with Northern California in a shared response category and a new response called “farmers/IID” also has Colorado River implications, as does “MWD.” That is to say, respondents demonstrated a very respectable level of knowledge about the source of water to San Diego County.

The Colorado River was most widely identified as the primary source of water for San Diego County by the following groups of residents (NOTE: Differences were not so much between correct responses concerning the Colorado River and assorted incorrect responses. Differences between groups were more between identifying the Colorado River and being unsure of the response. For example, Men identified the Colorado River 53% of the time and were unsure 24%. In contrast, only 42% of women identified the Colorado River, but 38% were unsure):

- Income \$100,000 and above (61% identified the Colorado River)
- Community residents for 35 years or more (60%)
- Ages 45 and over (56%)
- Registered voters (56%)
- Homeowners (55%)
- Responsible for payment of water bill (54%)
- Men (53%)
- Income \$50,000-under \$100,000 (52%)
- Some college or more (52%)

A very substantial increase of 21% has taken place between 2000 and 2003 in awareness about issues regarding the various states that have rights to water from the Colorado River (**Chart 17**) and the threat posed to California's historical draw from the Colorado River because of those competing and evolving demands. In 2000, 47% of residents were aware that there were increasing and conflicting demands for this important source of water, but by 2003 the level of awareness has reached 68%. Furthermore, concern that these demands could reduce the reliability of San Diego's water supply, which those 47% who were aware in 2000, had either some concern (49%) over or a great deal of concern (30%) over, has increased in intensity in 2003 to 35% some concern, and 46% great deal of concern.

Another substantial increase of 22% occurred in awareness of the San Diego County Water Authority-Imperial Irrigation District Water Transfer, which in 2000 stood at 20%, but in 2003 is at 42% (**Chart 18**). The importance to the region's water supply reliability is demonstrated in **Chart 19**, where 60% of residents believe that this transfer of up to 200,000 acre-feet of water from the Imperial Valley to San Diego County is very important and another 28% find it to be somewhat important. Excluding those who are unsure, almost all (98%) respondents believe the water transfer to be very or somewhat important to San Diego County's water reliability.

Another awareness question was posed concerning the competing demands among farmers, environmental interests, and urban areas for water that moves through the Sacramento-San Joaquin Bay-Delta water system. Awareness of this issue had not grown in a parallel manner with the Water Transfer and Colorado River issues. This is not unexpected given the level of publicity and urgency of the latter issues during recent years, but nonetheless, **Chart 20** shows that awareness of Delta issues is essentially the same as in 2000 (28%) at 31%. Concern about reliability, however, has intensified from 24% great deal of concern to 40% great deal of concern.

There is significant collinearity 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, if low-income respondents and renters show similar knowledge patterns, that would not be unexpected because the same individuals are likely members of both groups. With that having been said, **Table 2** shows the groups that tend to demonstrate consistently higher and lower degrees of knowledge and awareness as they pertain to the three statewide water supply issues in the survey: competing demands among states on the Colorado River, SDCWA-IID Water Transfer, and Bay-Delta.

Not surprisingly, the highest levels of awareness are found among highly educated, older, well-established residents, who are homeowners, voters, higher income, and water bill payers. Men also seem to be more aware of these issues than are women. These groups are the same as those identified above as having been more strong in their recognition of the Colorado River as the primary source of San Diego County's water supply, thereby making the pattern of awareness all the more clear as to which groups are knowledgeable and which might benefit from further outreach.

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 2020, including growth forecasts of 1 million more County residents, reduces confidence in local water agencies' ability to supply water reliably.*

Chart 21 shows that SDCWA service area residents believe that the current water supply is approximately as reliable as they thought it was in 2000, with a slight leaning toward less reliability. Still, 68% of residents find that the current supply of water is either somewhat (38%) or very (30%) reliable, with only 16% very or somewhat unreliable. Excluding those who do not know or refused to answer, reliability is acknowledged by 82% of respondents.

- Respondents with some Graduate education perceive current water reliability to be particularly low (24% unreliable)

Table 2 Awareness of Water Supply Issues						
	Competing Demands— Colorado River		SDCWA-IID Water Transfer		Competing Demands— Bay-Delta	
	High Level	Low Level	High Level	Low Level	High Level	Low Level
Graduate work	87%		62%		47%	
Age 55 and over	83%		64% (age 65 and over)		46%	
Community Residents 35+ Years	82%		60%		45%	
Registered Voters	79%		52%		36%	
Homeowners	78%		50%		35%	
Income \$50,000+	77%		54% (\$100,000+)		37%	
Responsible for water bill	77%		49%		34%	
Men	76%		49%		36%	
Age 18-24		38%		2%		8%
Not Registered to Vote		39%		14%		16%
High School or less		47%		33% (some college or less)		16%
Hispanics/Latinos		50%		25%		11%
Renters		51%		27%		23%
Not Responsible for water bill		52%		28%		25%
Income		54% (under \$25,000)		39% (under \$100,000)		24% (under \$50,000)
Community Residents 1-20 Years		59%		36%		26% (under 35 years)
Women		62%		36%		26%

Extending the perception of reliability to the year 2020, however, and growth forecasts of 1 million more County residents, reduces confidence in local water agencies' ability to

supply water reliably such that only 10% are very confident in such reliability and 30% are somewhat confident (**Chart 22**)—a 40% total confidence factor for 2020, or 28% decline from current perception of reliability. There is an increase for 2020 from 16% unreliable currently (**Chart 21**) to 46% not confident in reliability and not very confident (**Chart 22**).

In the 2000 survey, a similar, although not duplicate question was 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 2003 survey.

Groups with relatively high and/or low confidence in future reliability are as follows—NOTE: Interestingly, many of the higher confidence groups (not all) have proven previously in this study to be lower in knowledge and awareness:

- Men are more confident than women--13% very confident and 13% not at all confident; however women are only 7% very confident and are 19% not at all confident.
- Hispanics/Latinos show a high degree of confidence, with 46% either very or somewhat confident in future reliability.
- Residents of the community for 35 years or more are not especially confident in the future—25% of whom are not at all confident about 2020 reliability.
- Renters are 49% somewhat or very confident about 2020 reliability, whereas homeowners are only 36% confident.
- Ages 55 and over are 55% somewhat or not very confident about 2020 reliability.
- Not registered to vote are 49% somewhat or very confident about 2020 reliability; Republicans are 42% confident; Democrats are only 33% confident.
- Those not responsible for their water bill are more confident about 2020 than those who are bill payers (50% confidence versus 35%)

Opinions and Preferences for Future Water Reliability Plans and Programs

SUMMARY: *There is considerable and substantial agreement with San Diego County Water Authority efforts to improve reliability and diversity of water supply through water recycling, water transfers, and seawater desalination. Agreement is especially strong among those same groups that demonstrated higher levels of knowledge and awareness-- highly educated, older, well-established residents, who are homeowners, voters, of higher income, water bill payers, and men.*

Regarding paying additional sums monthly for greater reliability and diversity of water sources, there is a core 50% (approximate) of water bill payers who are not offering to pay anything extra, another 20%, who are willing to pay \$10-\$19 per month, and another 30%, who are likely to be comfortable at \$20-\$27 additional per month under certain circumstances tied to successful seawater desalination.

SDCWA service area residents who are water bill payers and who know how much they regularly pay each month were asked if they would pay more per month to ensure a more reliable water supply for the region (**Chart 23**). Of all respondents, as discussed in the Respondent Characteristics and Water Usage sections above, 70% are responsible for payment of their water bills, of whom 69% of the 70%--or 48% of the total resident population pays water bills AND knows how much they pay monthly. This subset of the total population responded to the question about an additional payment, as indicated on **Chart 23**, that one-third (33%) of these water bill payers would pay nothing more and 15% were not sure what or if they would pay. That leaves approximately one-half (52%) of bill payers expressing a willingness to pay additional monthly amounts as follows:

- These 52% of water bill payers, who are willing to pay an additional amount for greater reliability, indicated that they would pay a mean (average) additional amount each month to ensure reliability for the region equal to \$19
- The median increase—the amount that one-half would pay more than and one-half would pay less than—was \$10 per month.
- The modal amount of increase—the one most frequently indicated—was also \$10 per month. Second choice was \$20, and third choice was \$5.
- 3% (one-half of 6%) of bill payers indicated a willingness to pay an additional \$40 or more.

Chart 24 indicates further substantial agreement with developing greater reliability whereby 94% of residents are strongly (77%) or somewhat (17%) in agreement with developing alternative sources of water (specifically cited were seawater desalination, water transfers, water recycling) in order not to depend upon one source for 90% of San Diego County water, as is currently the case with imports from the Metropolitan Water District.

Agreement with developing alternative sources of water is strongest among:

- Incomes \$100,000 and over (92% strongly agree)
- Graduate school (91% strongly agree)
- Men (86% strongly agree)
- Ages 35 and over (85% strongly agree)
- Homeowners (84% strongly agree)
- Registered voters (84% strongly agree)
- Incomes \$50,000 to under \$100,000 (84% strongly agree)
- Responsible for water bill (83% strongly agree)

Recycled water is strongly favored as a source of alternative water supply for non-residential uses such as golf courses, parks, freeway landscaping, or industrial manufacturing by 74% of the region's residents and somewhat favored by another 16% (**Chart 25**). Only 8% are either strongly or somewhat opposed to the development and use of such water. Opposition from the few who are opposed is based upon fears of contamination, for the most part.

Strongest agreement with recycled water is from:

- Republicans (84% strongly favor)
- Men (81% strongly favor)
- Homeowners (80% strongly favor)
- Ages 35 and above (80% strongly favor)

Chart 26 depicts seawater desalination as an alternative water supply option, and it shows that 75% of the residents of the region believe that making fresh water from seawater is a good idea and that 13% think it to be a bad idea. Those who are opposed base their opposition fundamentally upon doubts regarding cleanliness and taste (67%), with additional considerations also being cost (24%) and, to a much lesser extent, environmental damage to the ocean (5%).

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

- Men (88%)
- Republicans (87%)
- Residents of the community for 35 years or more (85%)
- Homeowners (84%)
- Age 35 and above (84%)
- Incomes \$50,000 and above (84%)
- Some college or more (82%)

Regarding the proposed seawater desalination facility at the Encina Power Plant in Carlsbad that is planned to provide at least 8% of San Diego’s water needs, the region’s residents favor the concept (47% strongly and 25% somewhat—**Chart 27**), but there seems to be less of a firm commitment than to the alternatives question (**Chart 24**), the recycled water question (**Chart 25**), or to the general seawater desalination question (**Chart 26**). Almost one-fifth of residents are unsure how they feel about the Encina location, in contrast to 4% uncertainty for all alternatives and 12% uncertainty for seawater desalination generally. On the other hand, only 9% oppose the Encina location versus 13% who thought seawater desalination was a bad idea. The main concerns of those who are opposed are that the water produced will be too costly to justify (29%), that the project will cause environmental damage—this time both to the ocean (9%) and to the site itself (15%), and that the water will be substandard in cleanliness and taste (11%).

Opposition to the Encina proposal is strongest among:

- Ages 18-24 (27%)
- Renters (19%)
- Ages 25-34 (17%)
- Not responsible for water bill (16%)

As above where water bill payers were asked what additional amounts they might be willing to pay monthly to ensure regional water reliability, to which one-half (52%) of the bill payers responded \$10-19, that one-half was further probed to determine the value of seawater desalination to them. **Chart 28** shows the evolution of the bill-paying question over the course of its various filters and screens. The pie chart at the top shows

the 30% who do not pay water bills and the 22% who do not know how much they pay—both as shown on **Chart 23**. **Chart 28** then divides the remaining 48% of bill payers who also know how much they pay monthly into those who indicated that they were not willing to pay more per month for greater reliability (23%) and those who were (25%). It is this last group that was asked one final question. They were reminded how much they said they were willing to pay to ensure regional reliability and were then asked if they would pay even more per month if they were convinced that seawater desalination would provide a yet more diverse and reliable water supply.

It is important to keep in mind that the sample being questioned at this point represents one-half of the water bill payers—those who indicated a willingness to pay more per month for reliability. This final question now finds that 36% of the remaining half does not want to pay any more and 7% is unsure—that is, approximately 30% (57% of 52%) of water bill payers will pay an additional sum monthly for seawater desalination on top of what they already offered for general reliability, and that sum can be characterized as follows:

- Approximately 30% of water bill payers indicated that they would pay a mean (average) additional amount each month for seawater desalination if they were convinced that it would provide a more diverse and reliable water supply to the region equal to approximately \$10.50.
- The median increase—the amount that one-half would pay more than and one-half would pay less than—was \$10 per month.
- The modal amount of increase—the one most frequently indicated—was \$5 per month. Second choice was \$10.
- 4% of bill payers indicated a willingness to pay \$20 or more per month.

Chart 29 shows the combined additional amounts offered to be paid by these 30% of water bill payers, who are willing to increase their monthly payments in order to help San Diego County achieve greater diversity and reliability in its water supply are distributed for both regional reliability and for seawater desalination. The mean combined amount is \$26.70 per month to be paid by this group, and the median is \$20. The most frequently

cited combined additional sum that respondents are willing to pay is \$20 per month, followed by \$15 and \$10, in that order.

In sum, there is a core 50% (approximate) of water bill payers who are not offering to pay anything extra, another 20%, who are willing to pay \$10-\$19 per month, and another 30%, who are likely to be comfortable at \$20-\$27 additional per month under certain circumstances tied to a successful seawater desalination program. It is further worthy of note that, although there were some variances among groups regarding mean amounts that they were willing to pay, these mean differences were not statistically significant, indicating that, at the +/-4% margin of error, there is no established statistical difference among groups and that the willingness to incur additional charges is unrelated to the various demographic categories analyzed in this study.

Conclusions

These indications of support for the work of the San Diego County Water Authority that are offered by the region's residents in the 2003 Telephone Public Opinion Survey should be very gratifying to officials of the Water Authority. The nearly unanimous support for the Water Authority's diversification programs and the growth of the level of awareness, magnitude of concern, and support for the Imperial Irrigation District water transfer are extraordinary.

Not only are the projects, plans, and programs fairly well recognized and well favored, but also there does not seem to be the kind of rate problem that can frequently derail otherwise supported plans and programs. In the case of water for San Diego County, it appears as if the market will willingly absorb rate increases in exchange for greater water reliability.

Residents of the region have stated that they recognize both the importance and value of their water service. They understand certain of the risks to the future reliability of their water supply, and they are willing to pay more to protect and ensure that reliability into the future.

The additional sums that residents are willing to pay should be seen, therefore, not only as sources of funds for necessary projects, but, in association with the results herein, as highly encouraging to the San Diego County Water Authority. The results of this survey should serve 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.

Chart 1

Source Rely Upon Most for News About Local Issues

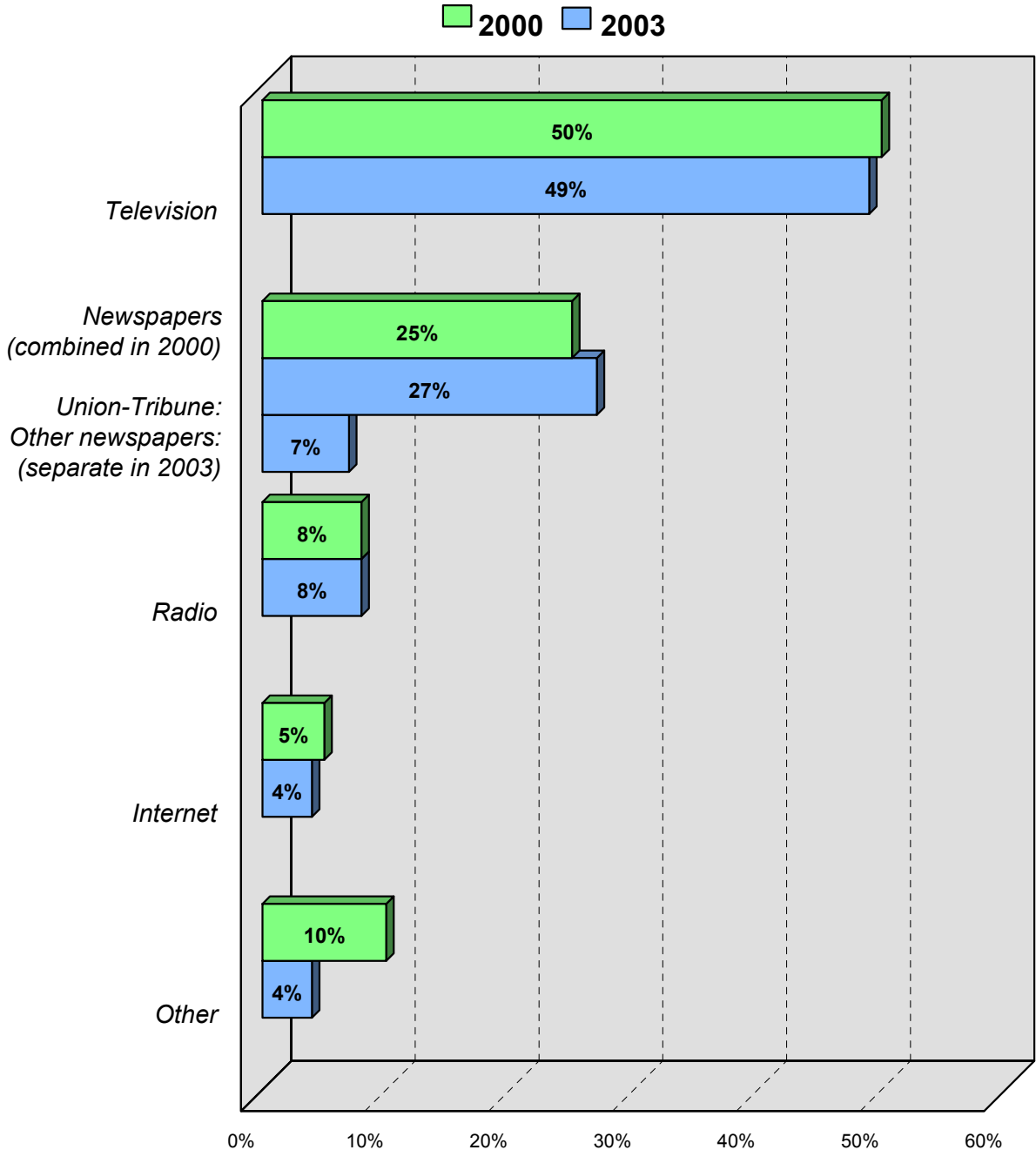


Chart 2

Most Important Issue Facing San Diego County Residents Today

2000 2003

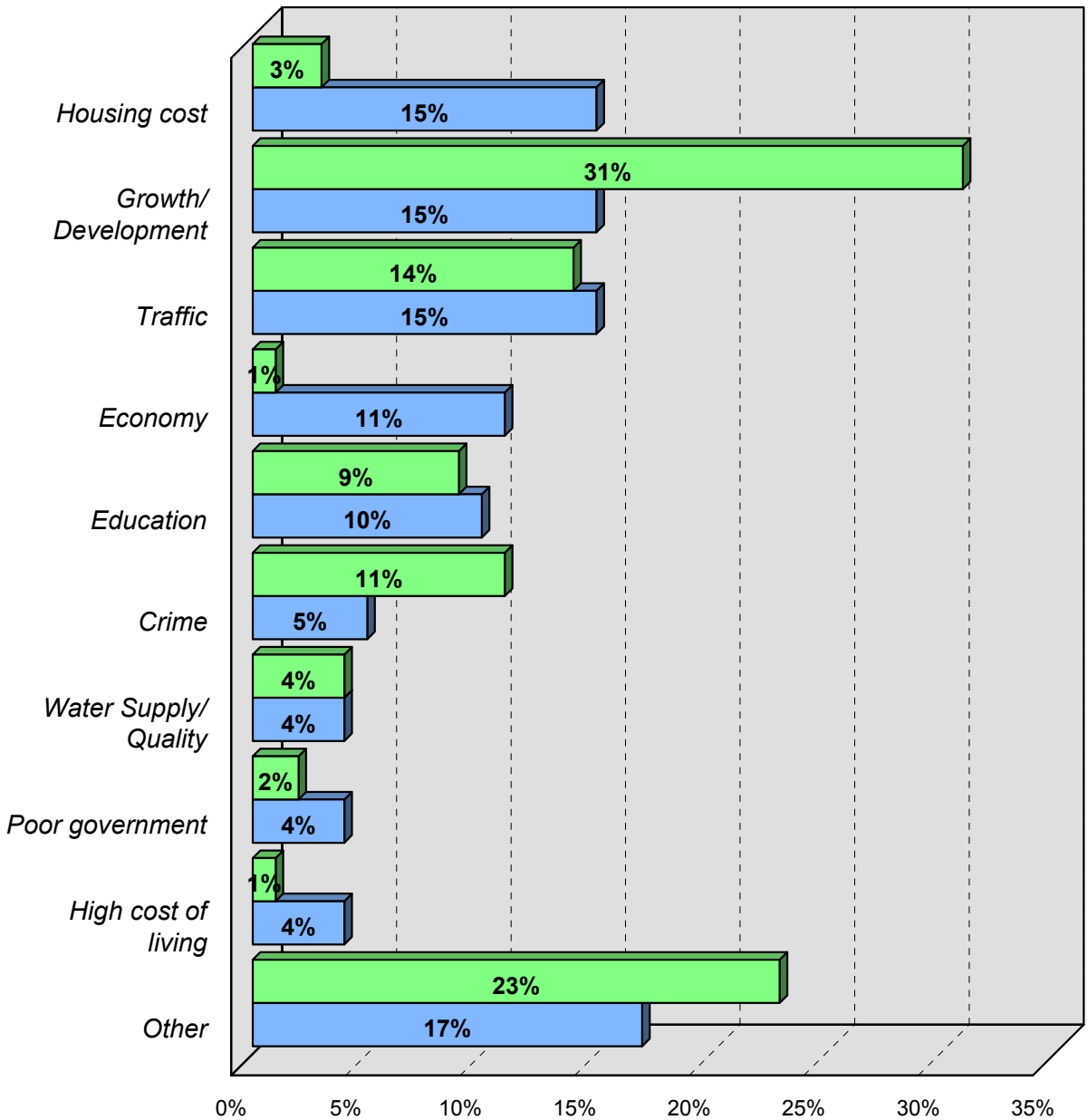
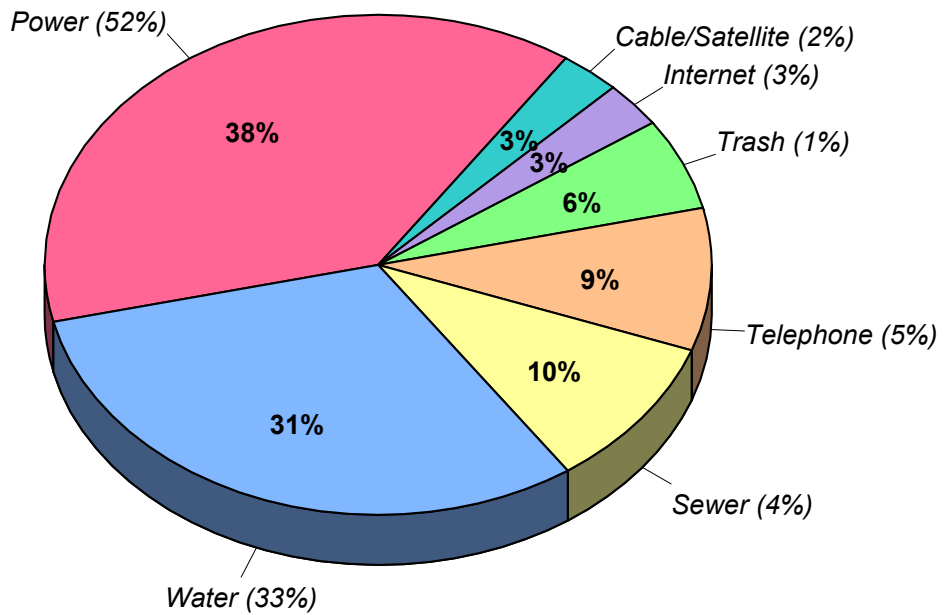


Chart 3

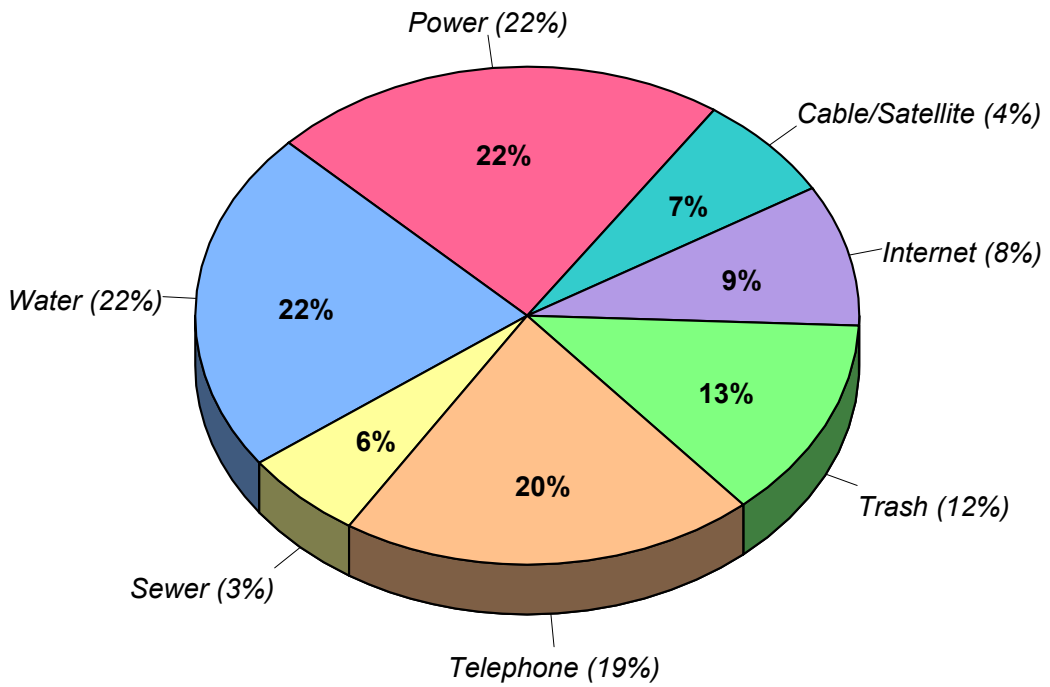
Weighted Importance Rankings of Utilities*
(Percent indicating "Most Important" shown in parentheses)



* Most important rank received a weight of 3, second place rank received a weight of 2, and third place rank received a weight of 1

Chart 4

Weighted Value Rankings of Utilities*
(Percent indicating "Most Valuable" shown in parentheses)



* Most important rank received a weight of 3, second place rank received a weight of 2, and third place rank received a weight of 1

Chart 5

Who Pays the Water Bill

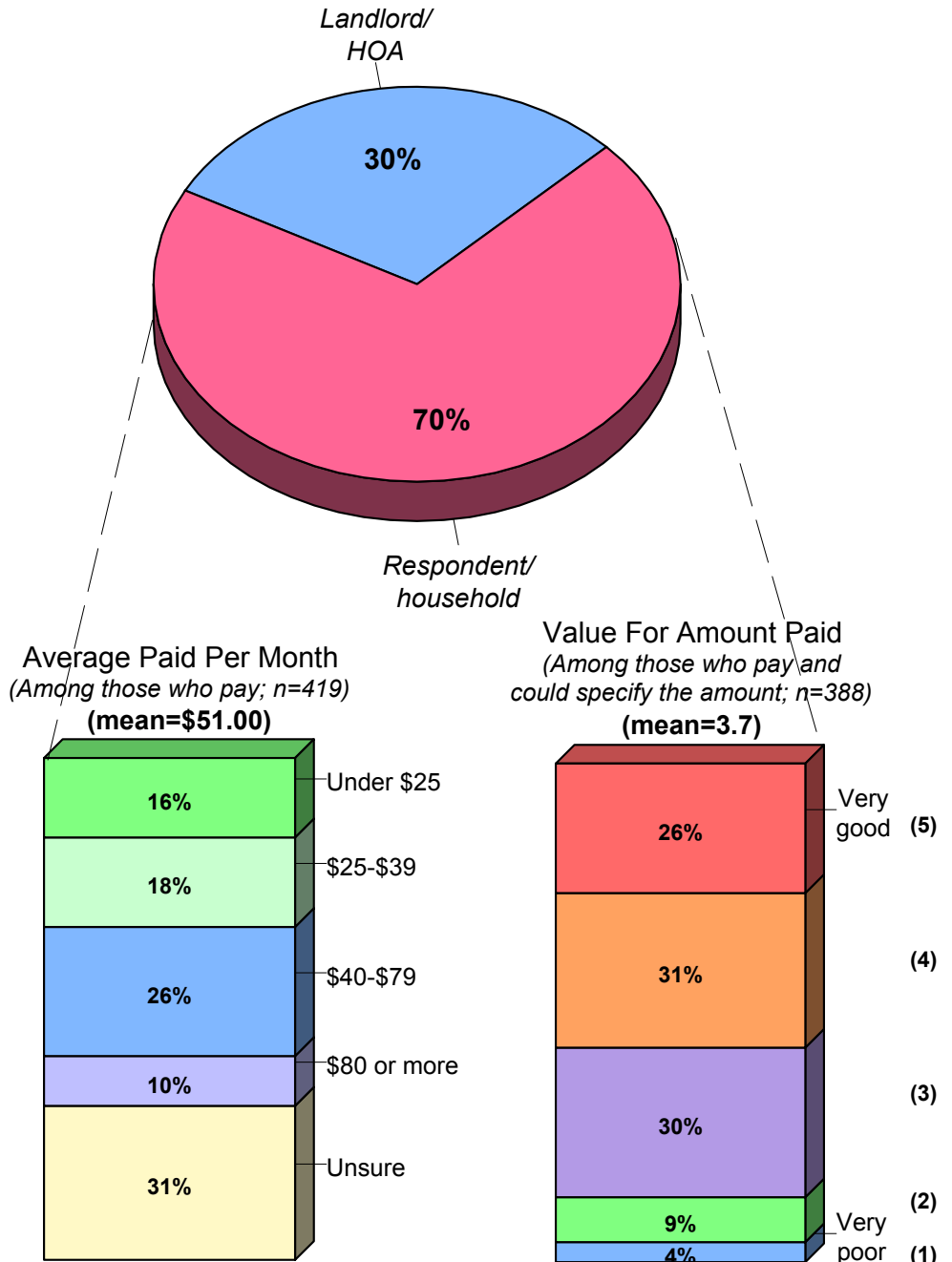


Chart 6

Main Source of Drinking Water In Home

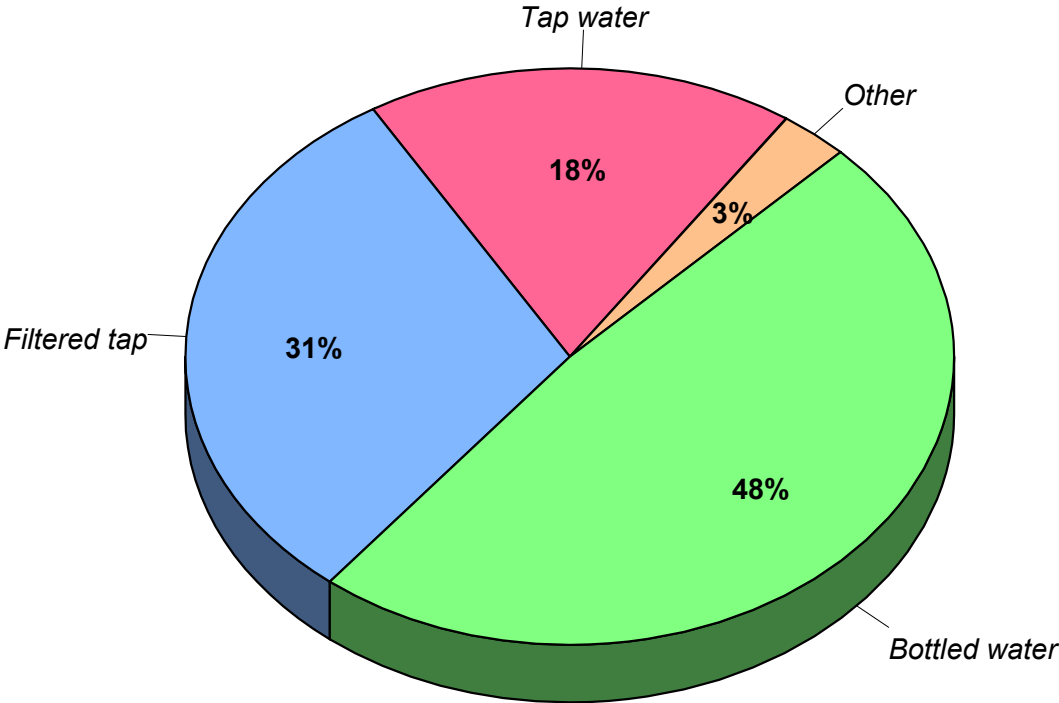


Chart 7

Household Tap Water Safe Without Additional Filtering

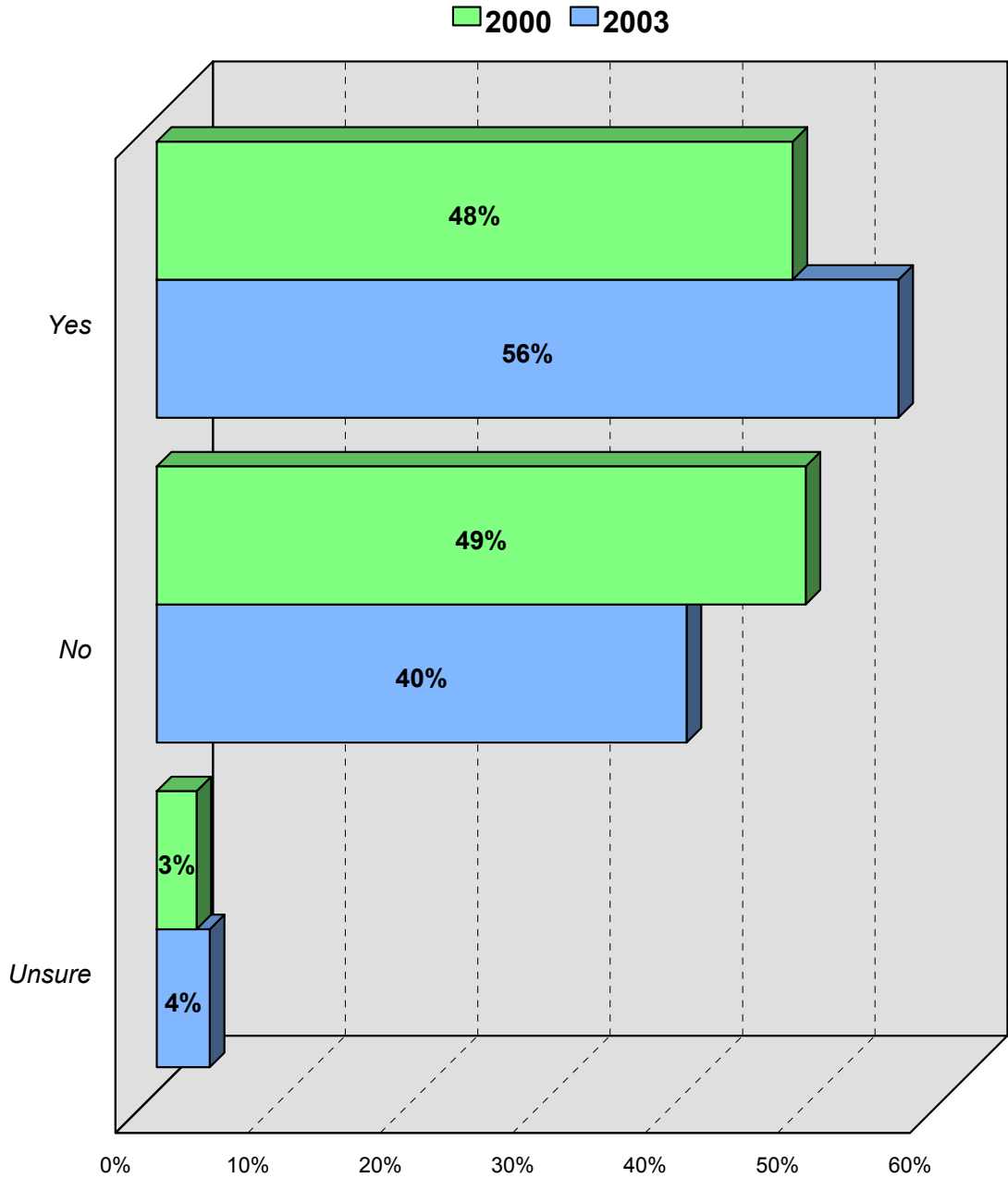


Chart 8

Why Household Tap Water Is Safe Without Filtering

(Among those who claim it is safe)

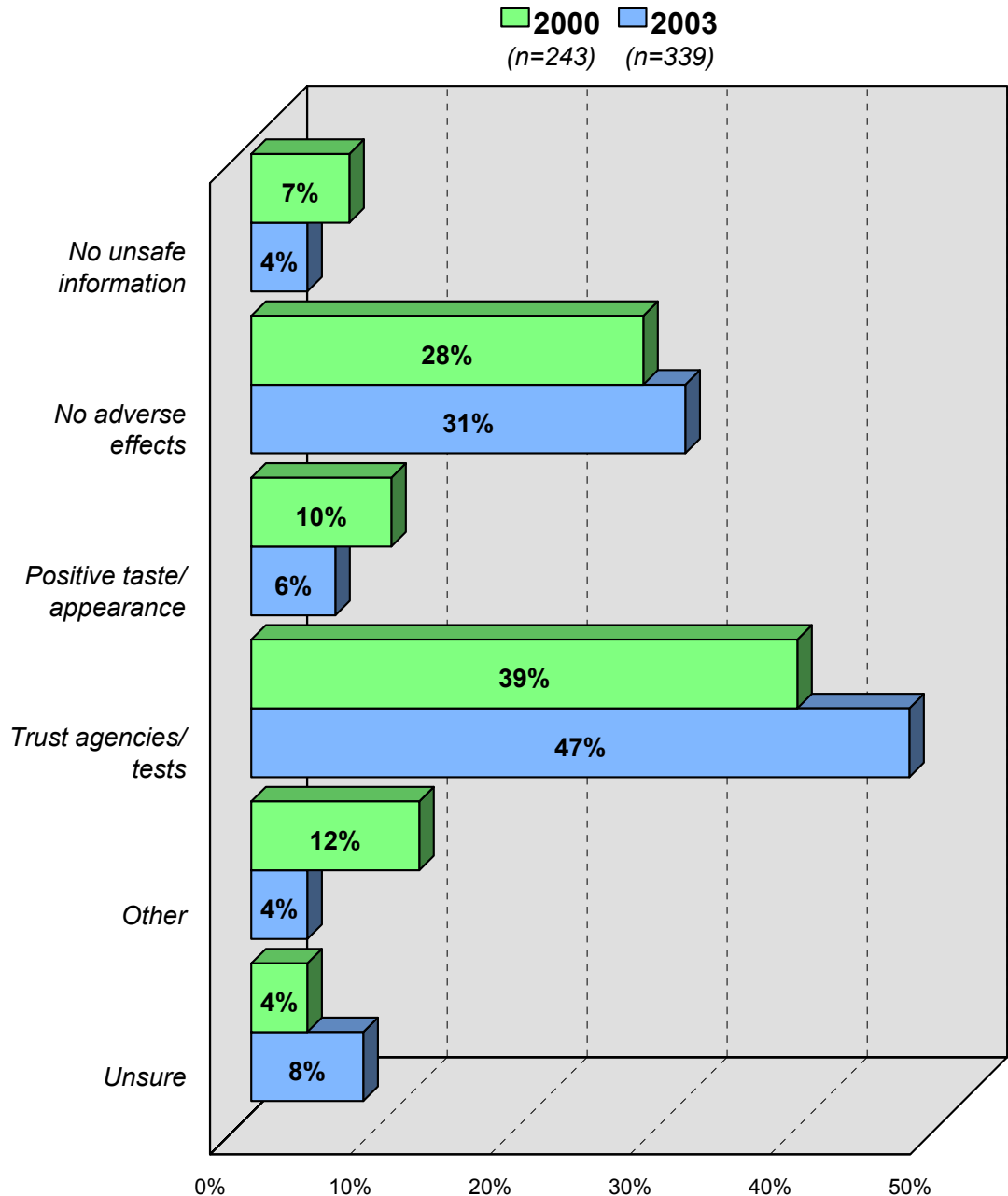


Chart 9

Why Household Tap Water Is Not Safe Without Filtering

(Among those who claim it is not safe)

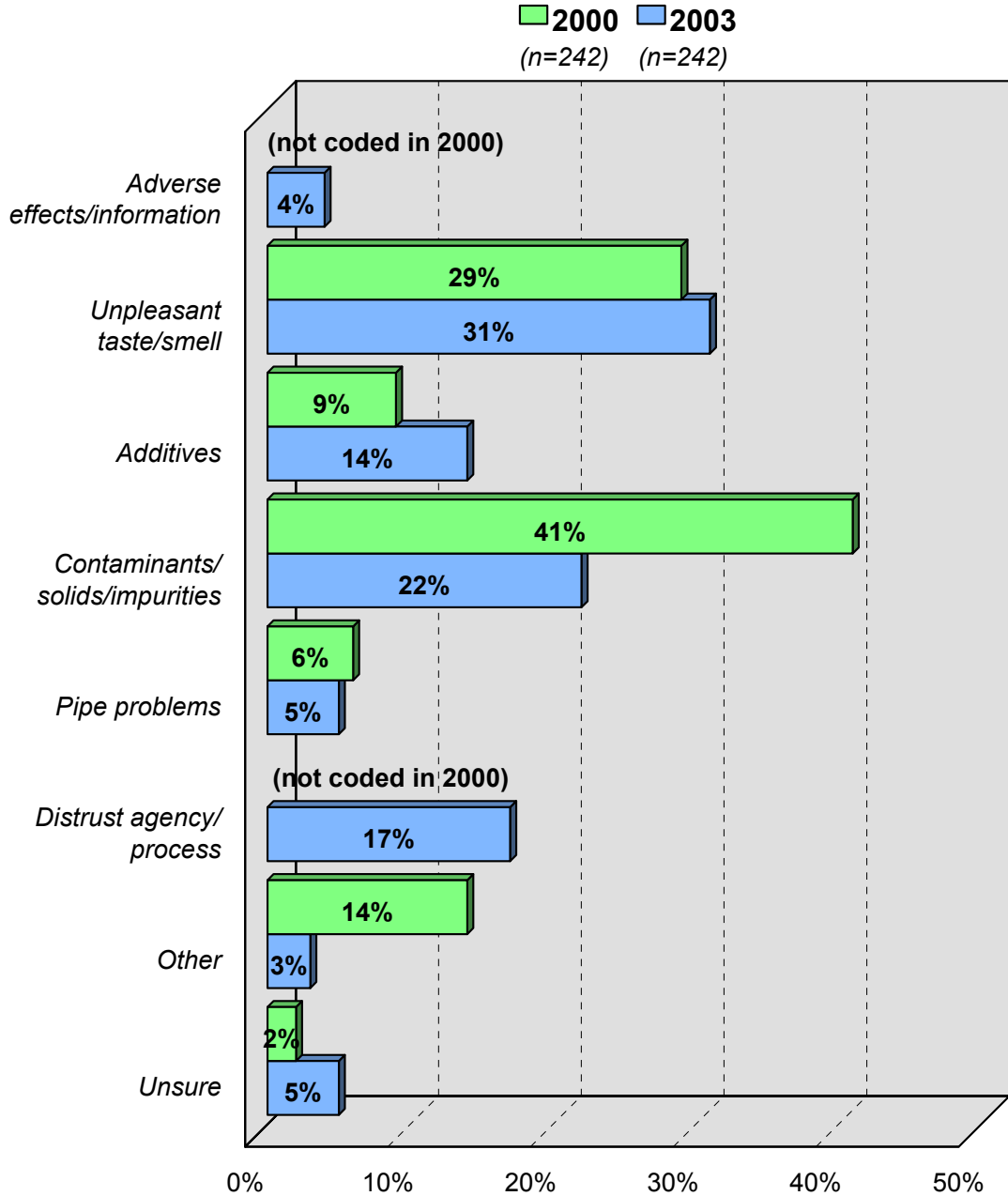


Chart 10

Household's Water Conservation Efforts

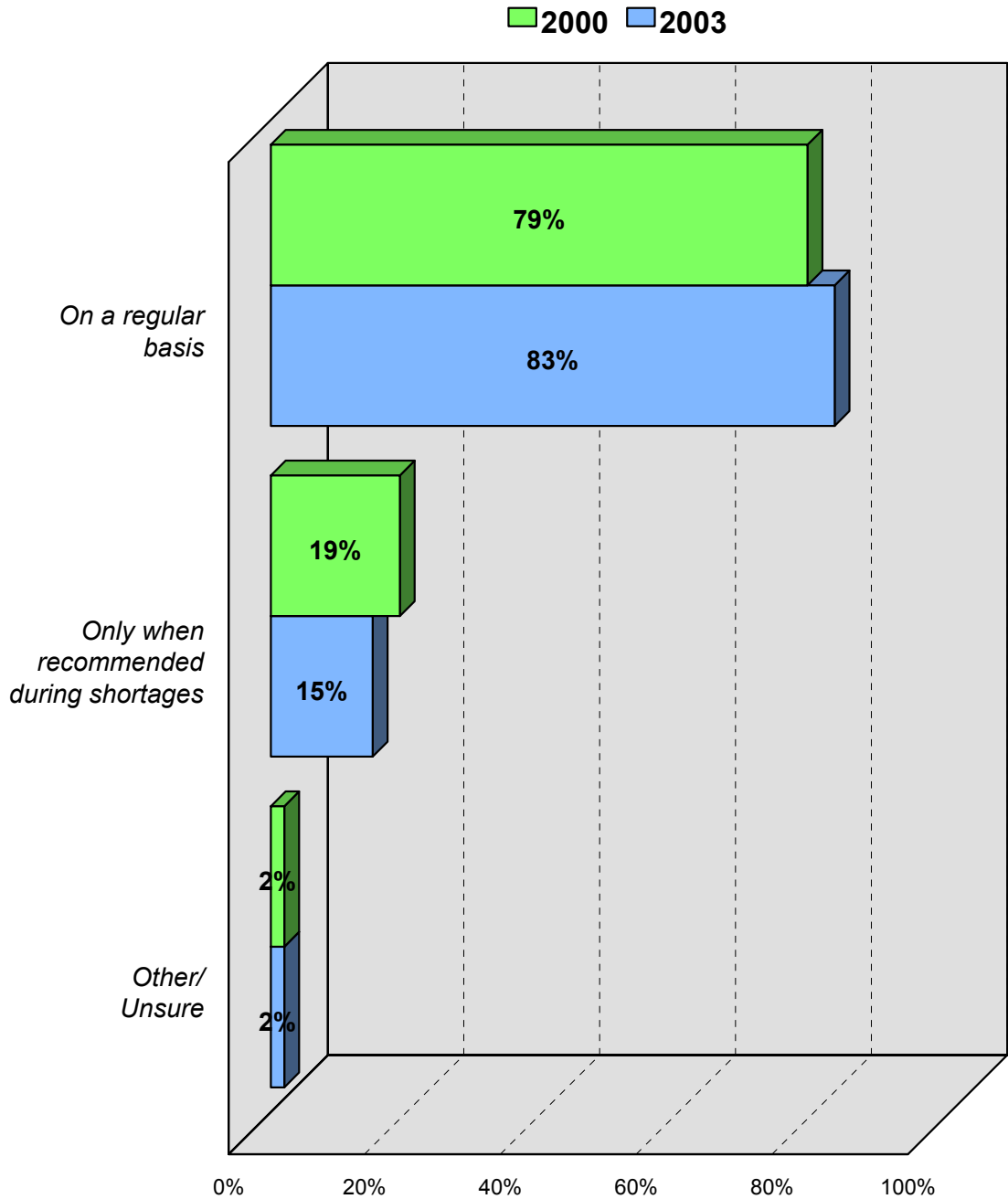


Chart 11

**Water Conservation Habits
Performed on a Regular Basis**

2000 2003

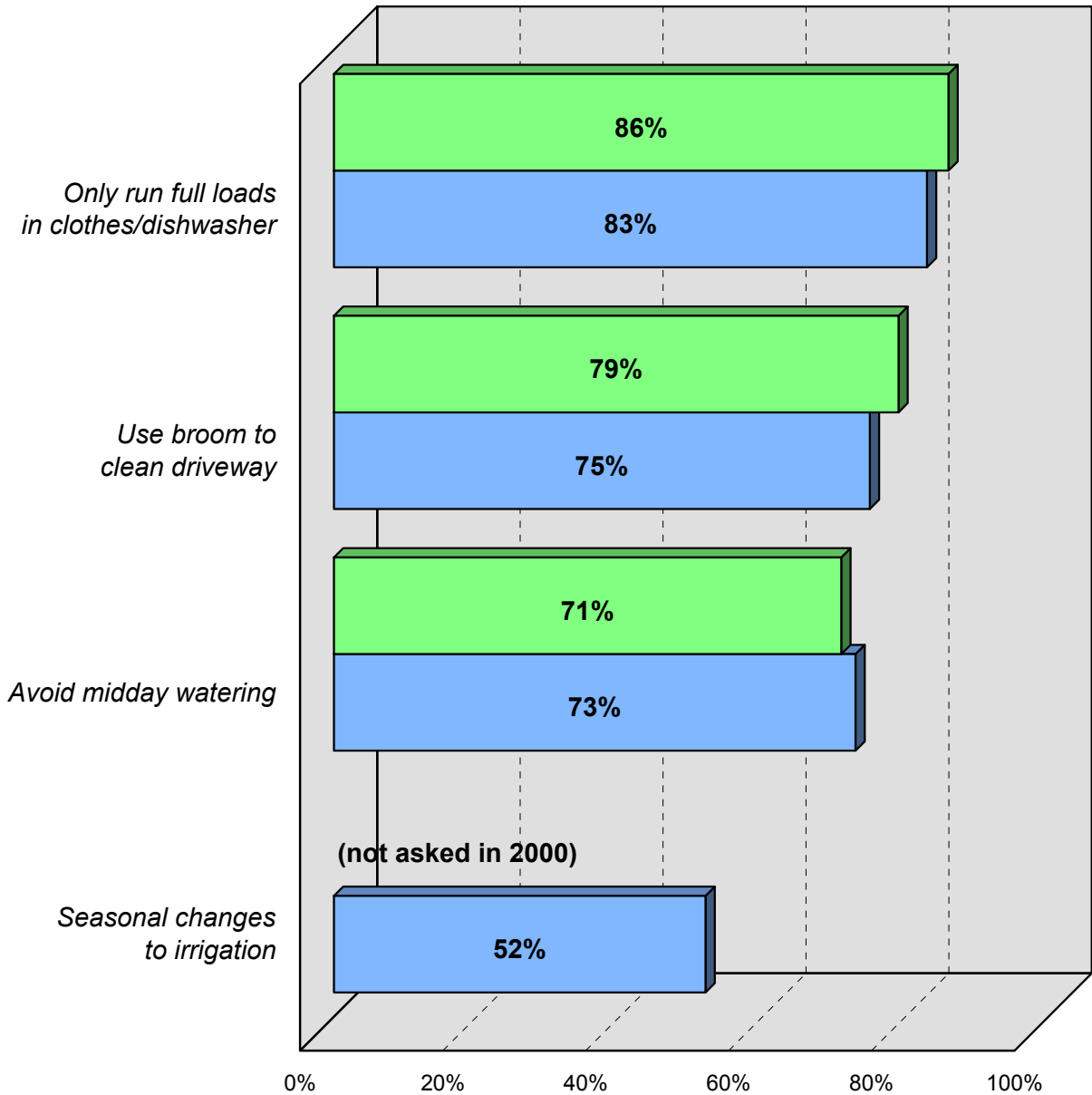


Chart 12

Effort Level for Household Water Conservation During the Past Year

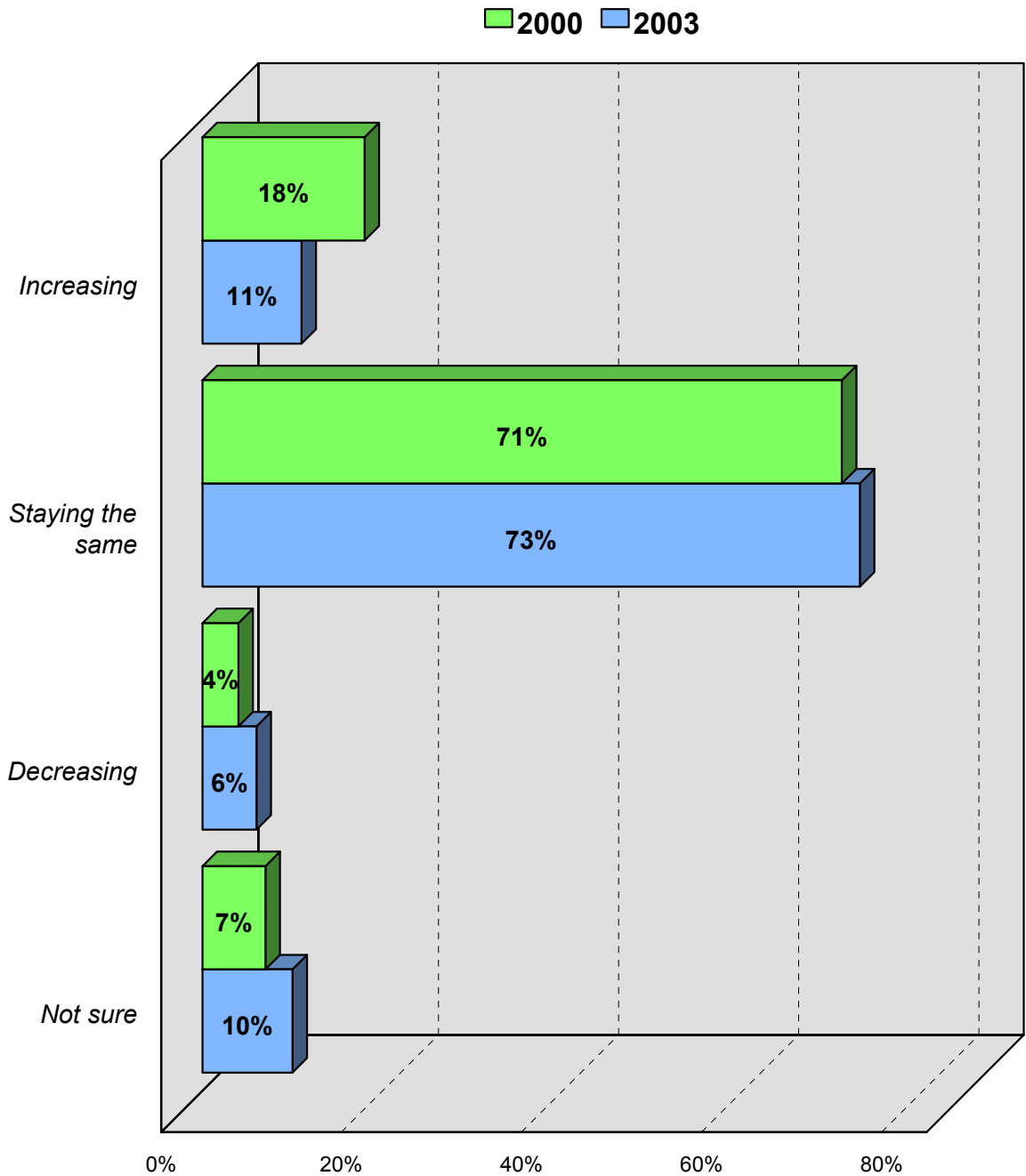


Chart 13

Outdoor Landscaping and Motivation to Reduce Size of Lawn

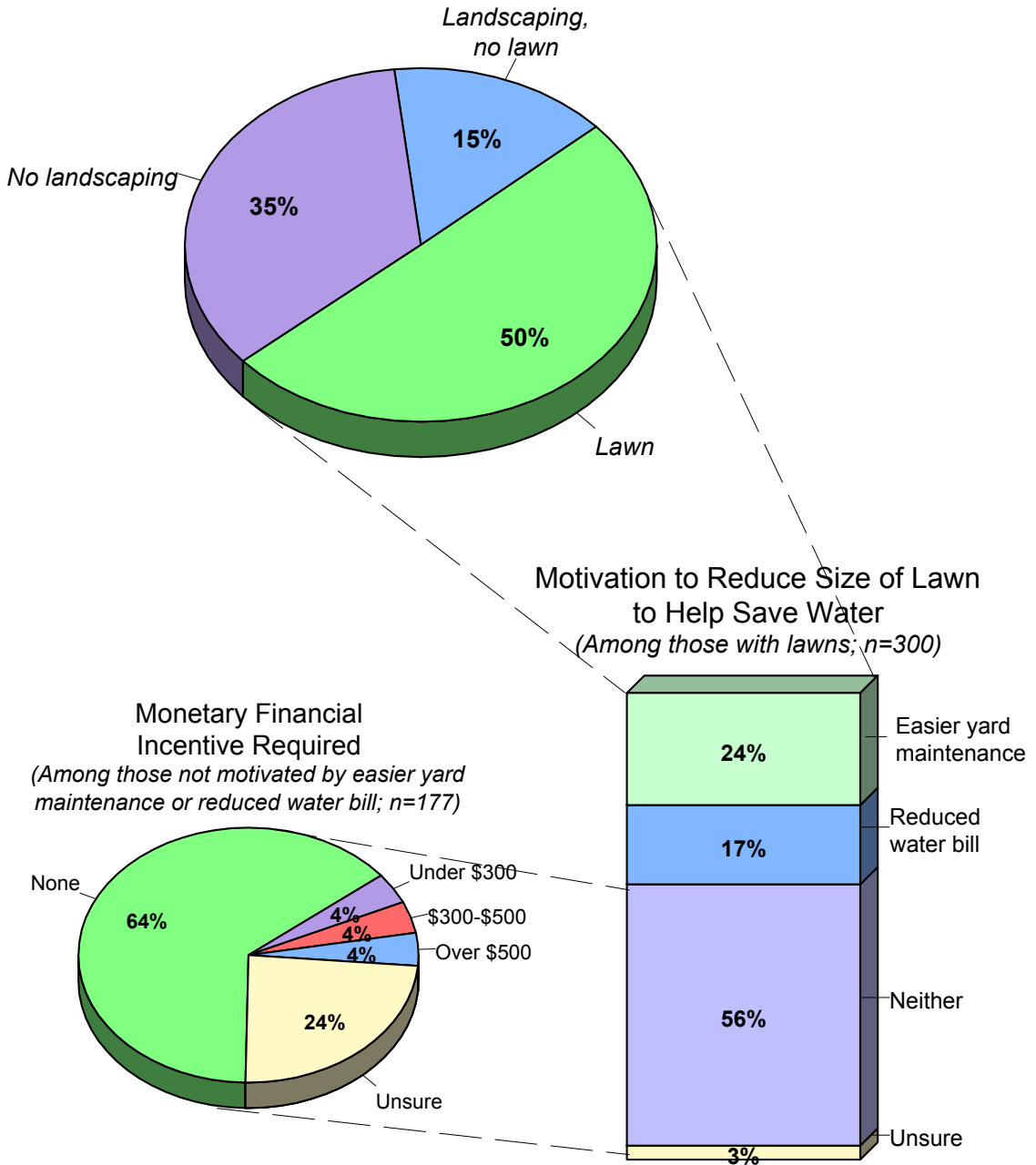


Chart 14

Outdoor Landscaping and Motivation to Replace Existing Plants

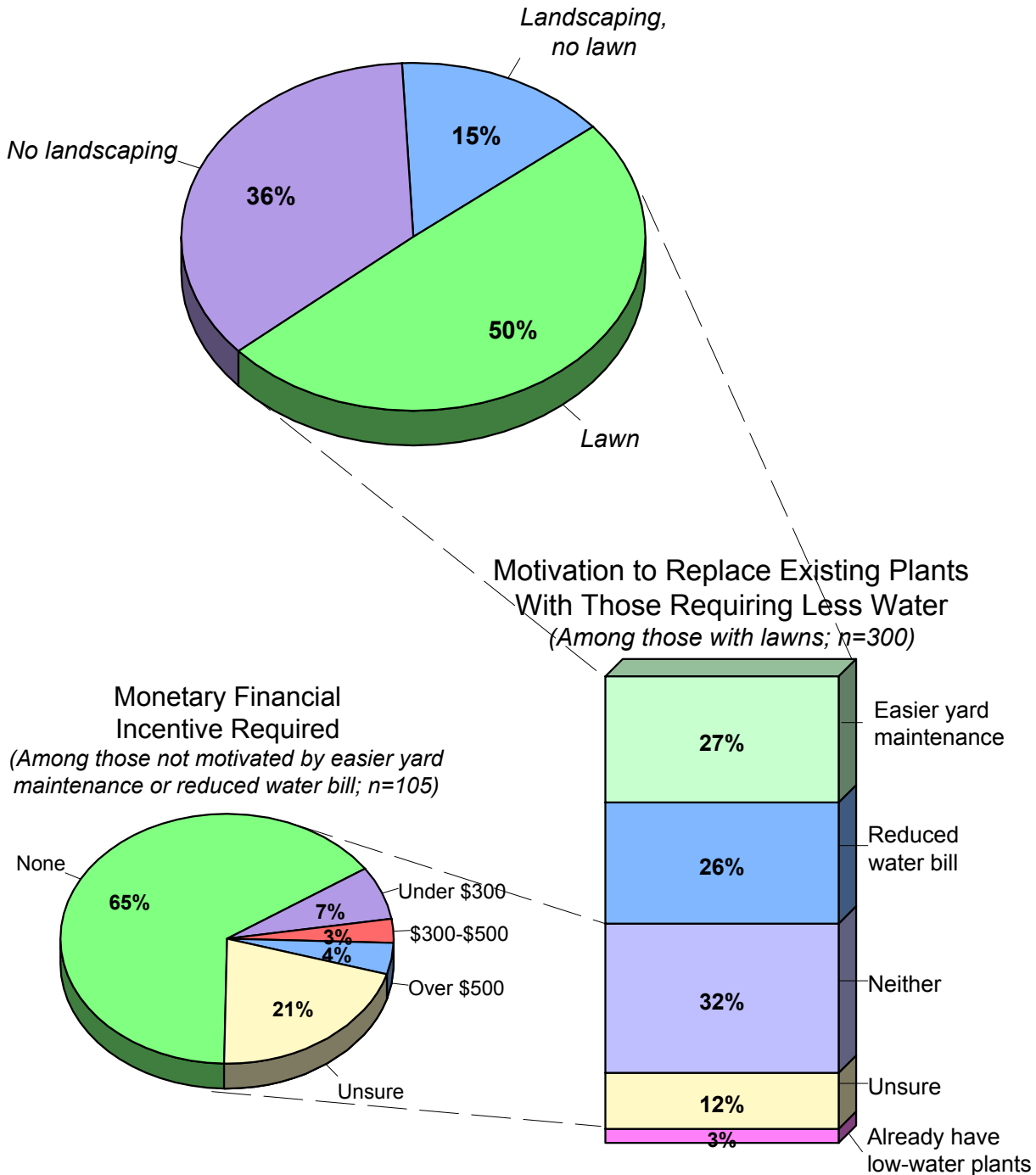


Chart 15

Perceived Allocation of Residential Water Use

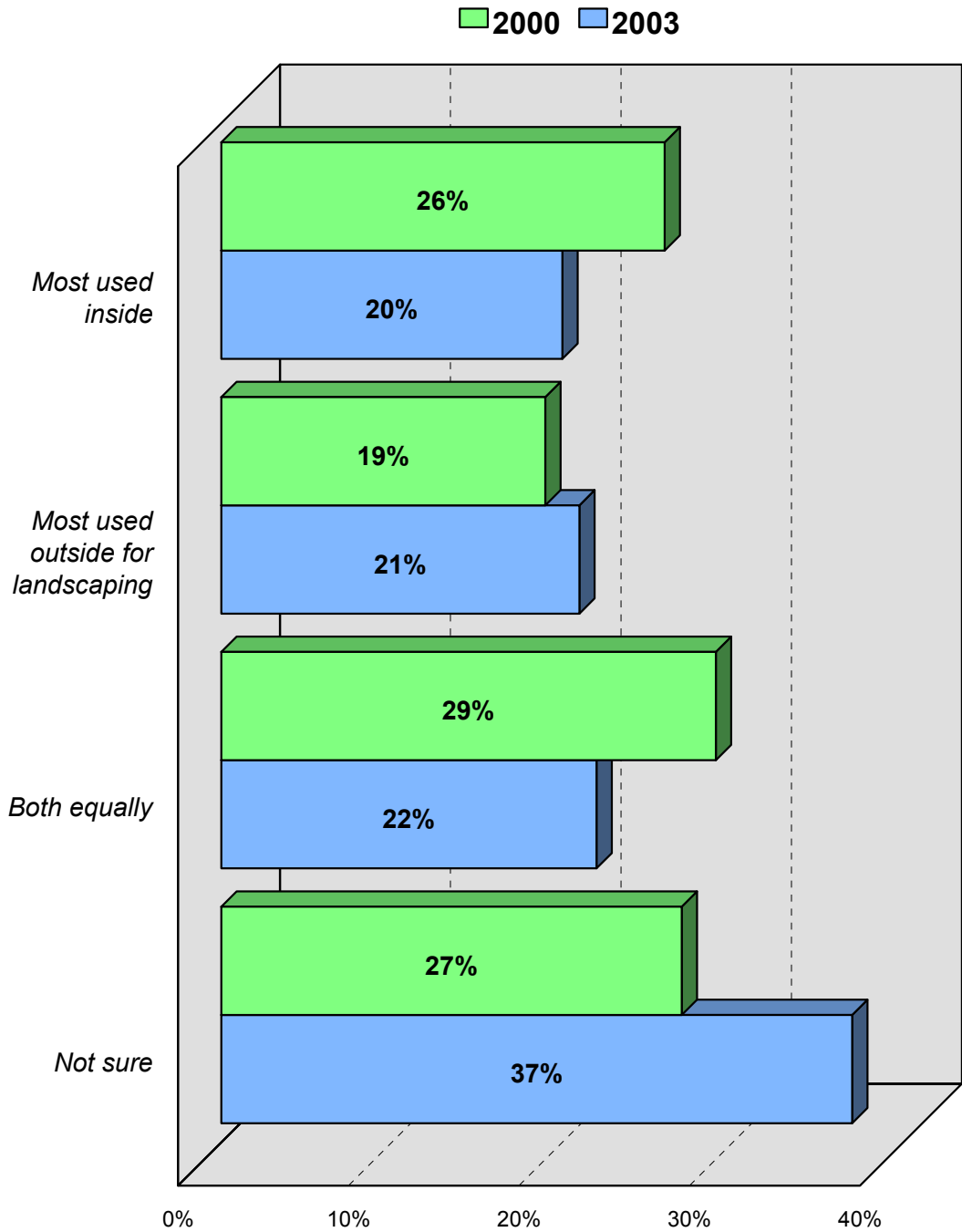


Chart 16

**Primary Source
of San Diego County's Water Supply**

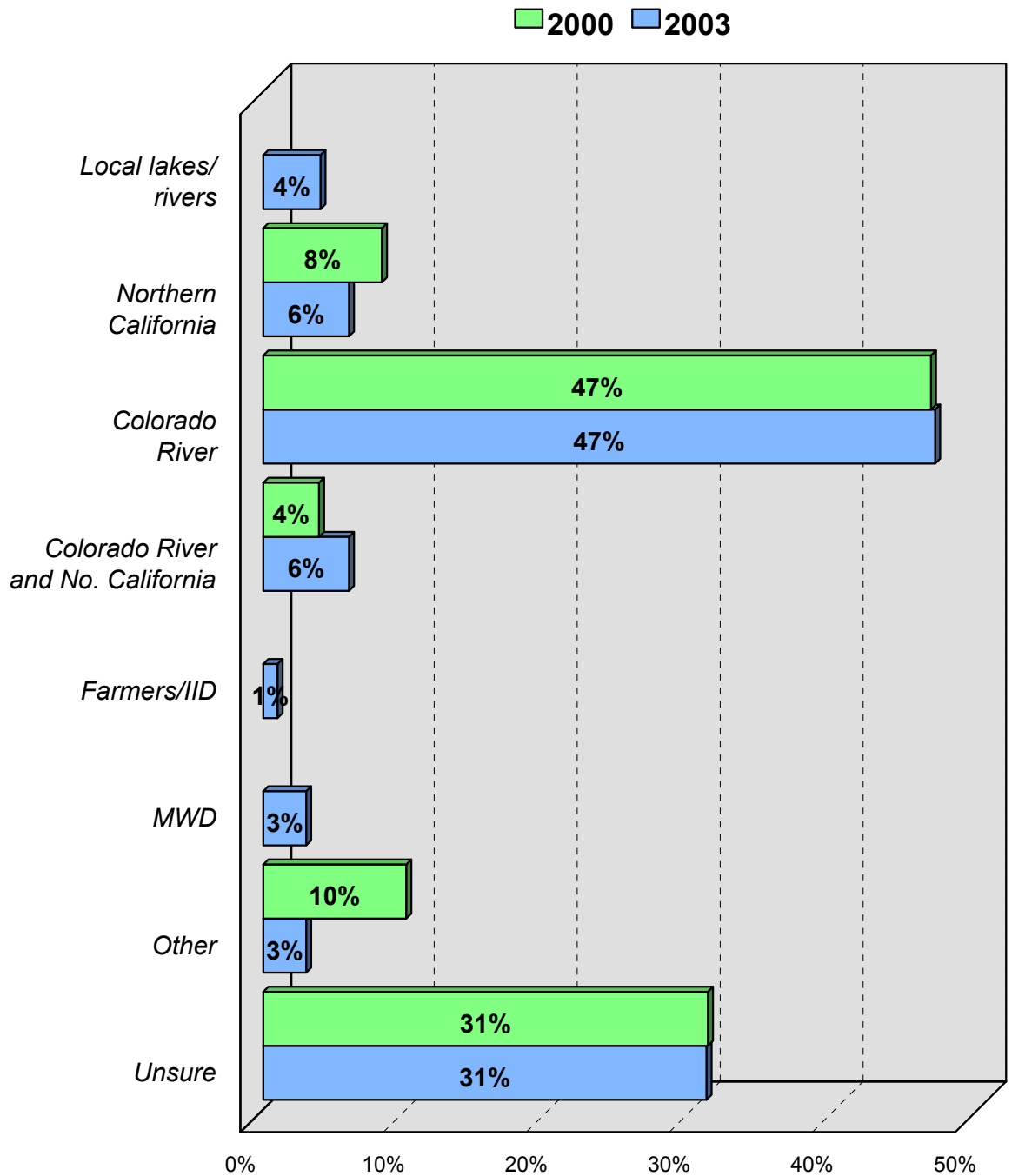


Chart 17

Aware of Increasing Demands on Colorado River

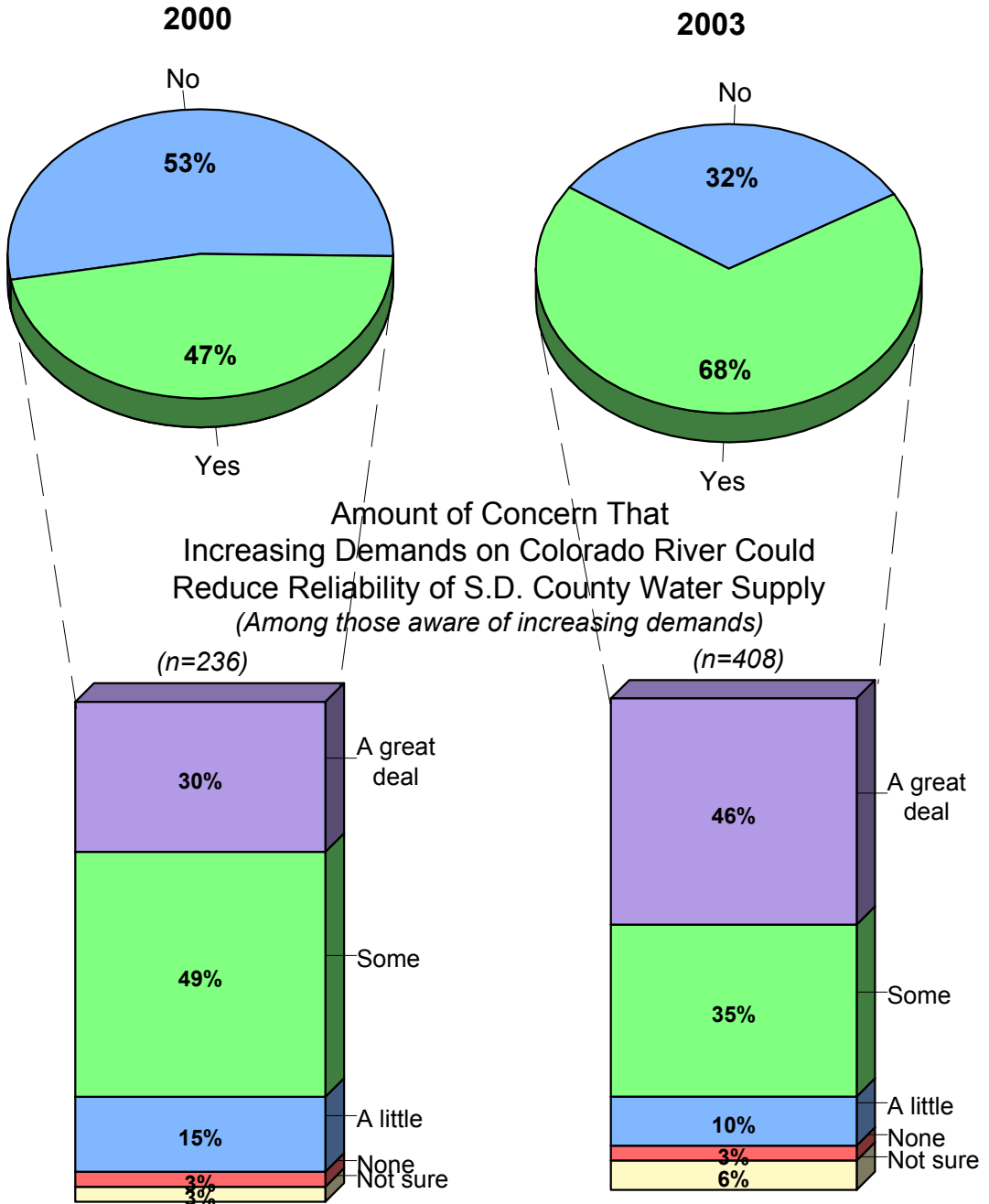


Chart 18

Aware of Water Authority-IID Water Transfer

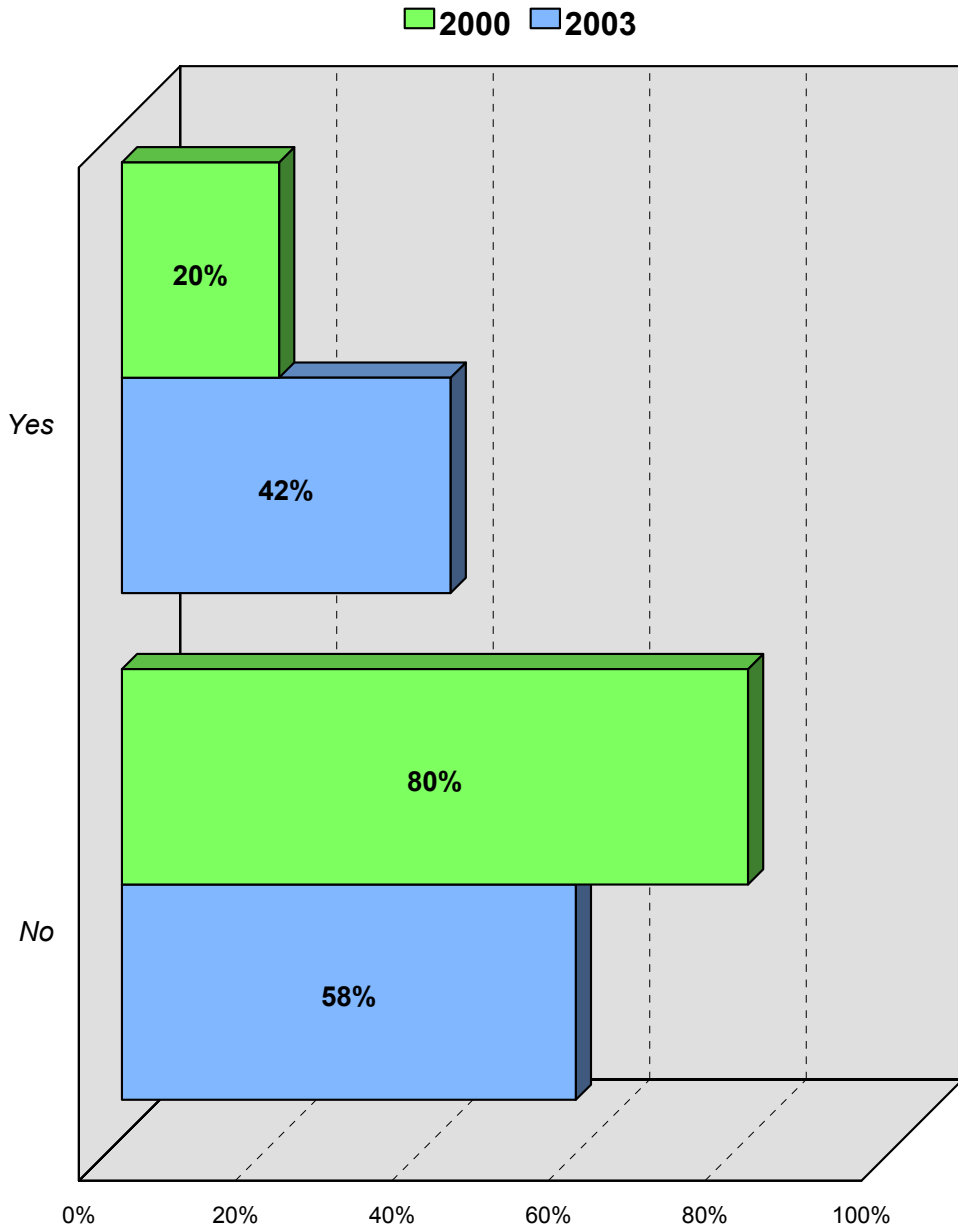


Chart 19

Importance of Imperial Irrigation District Water Transfer to Reliability of San Diego County Water Supply

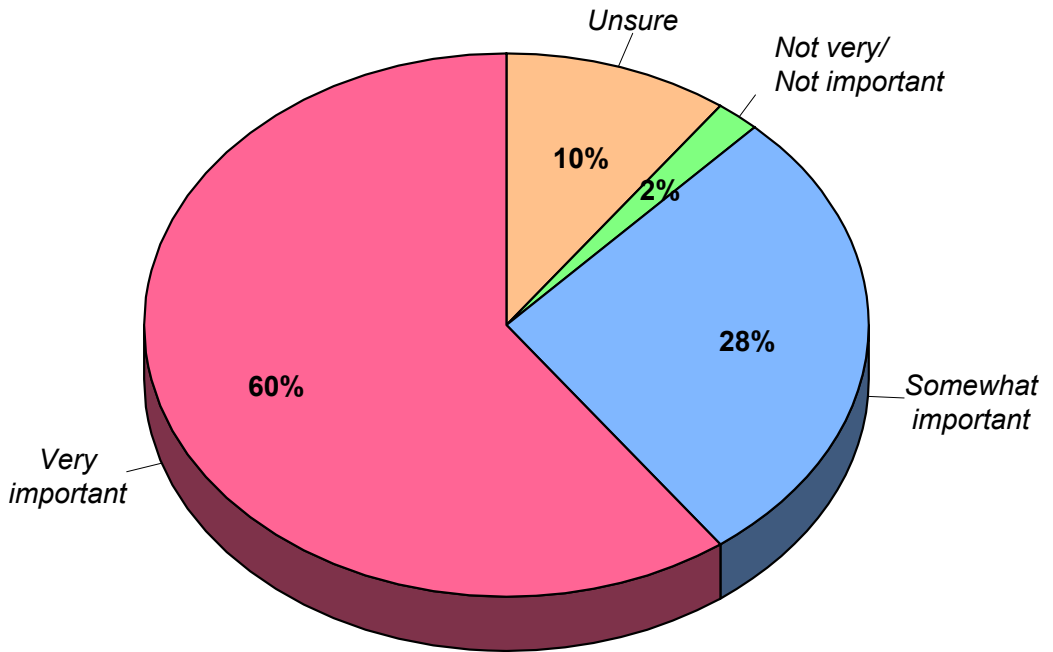


Chart 20

Aware of Competing Demands on Sacramento/San Joaquin Bay-Delta Water System

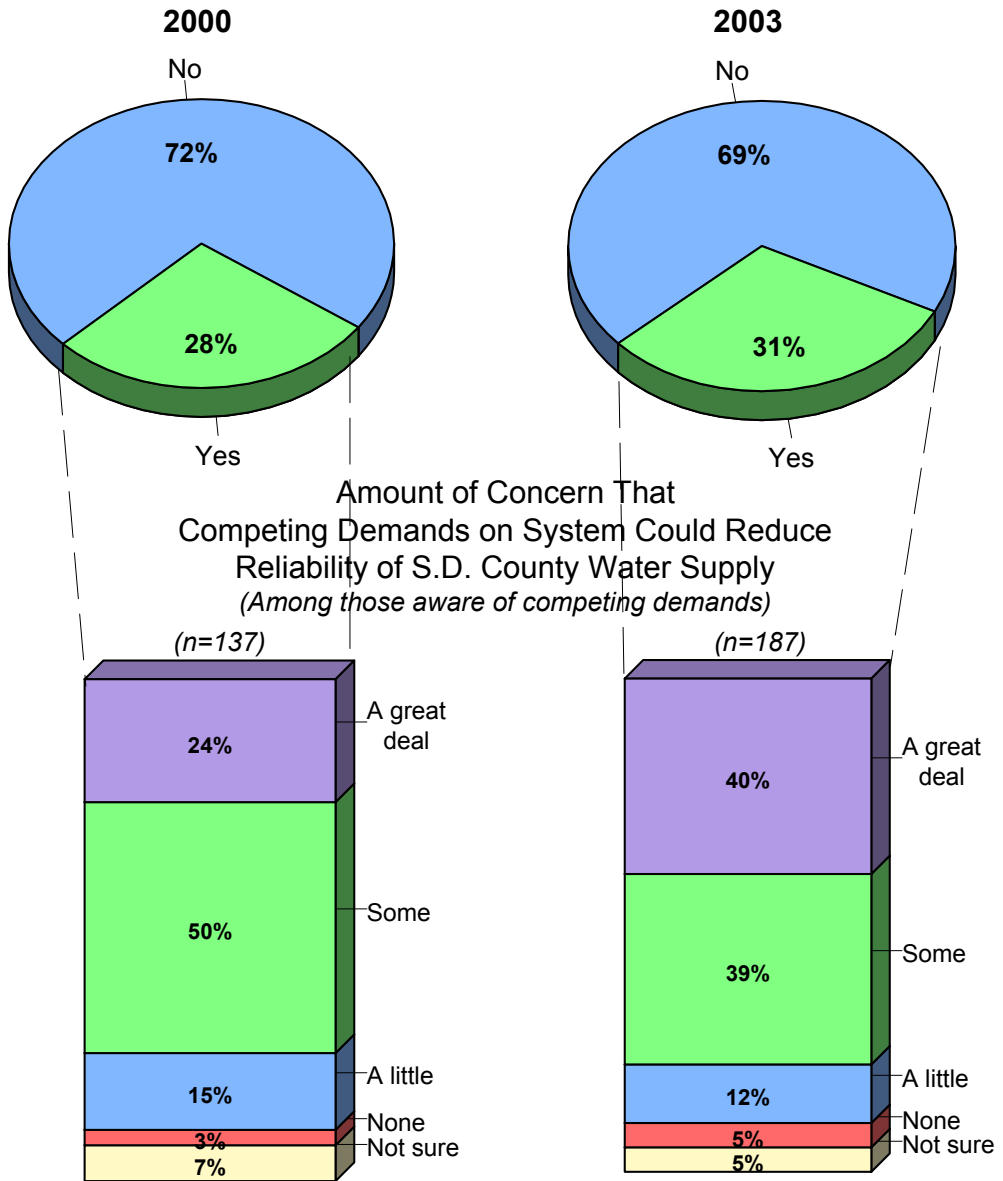


Chart 21

Reliability of Current Water Supply

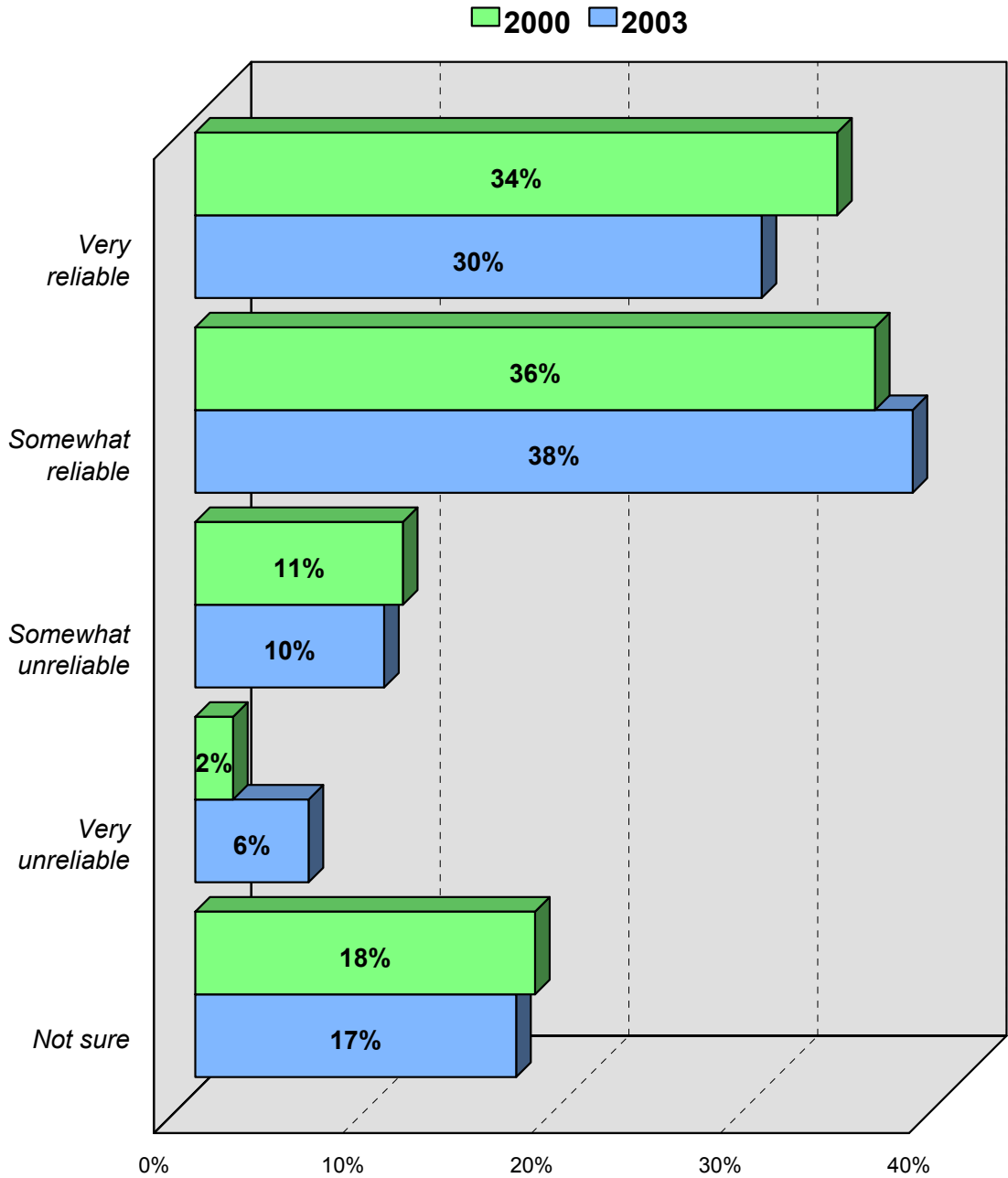


Chart 22

**Ability of Water Agencies to Provide
a Reliable Water Supply By Year 2020**

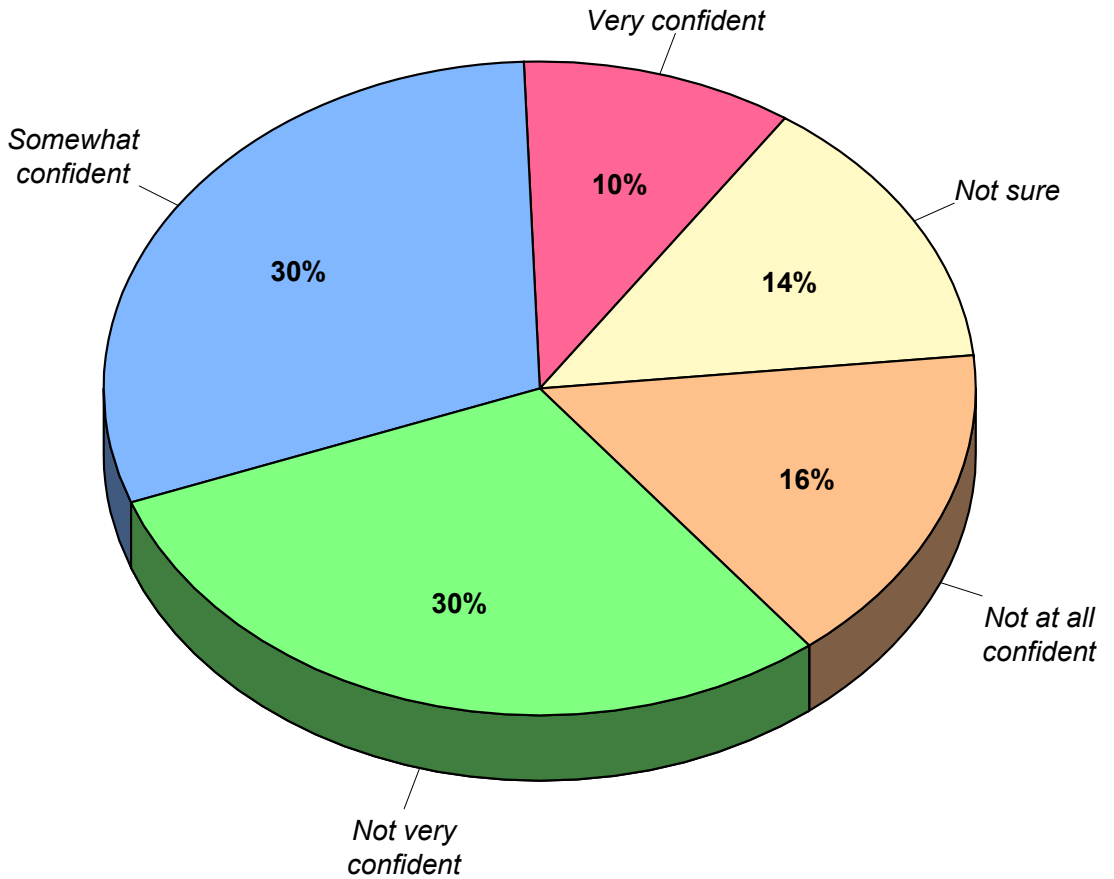
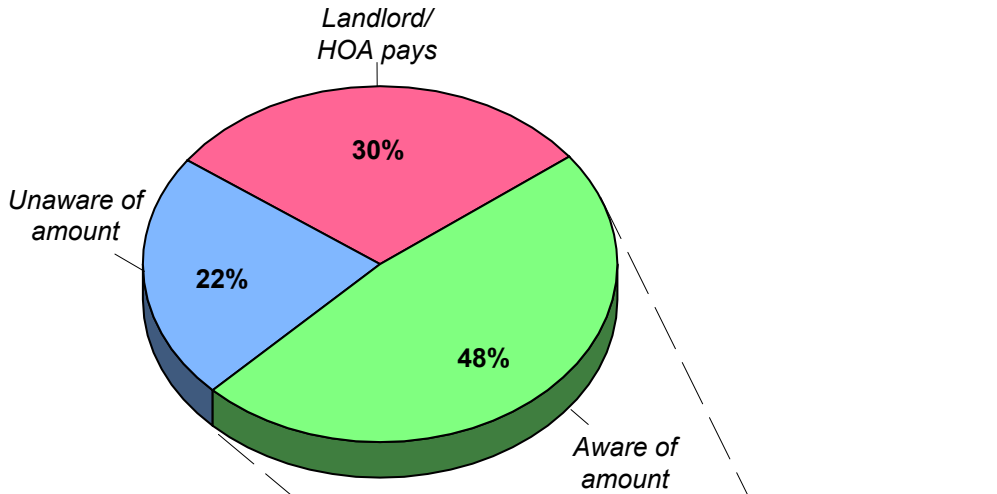


Chart 23

Monthly Water Bill: Additional Amount Willing to Pay for More Reliability



Additional Amount Would Pay Monthly to Ensure More Reliable Supply
(Among those aware of amount paid; n=291)
(mean=\$19.00; median=\$10.00)

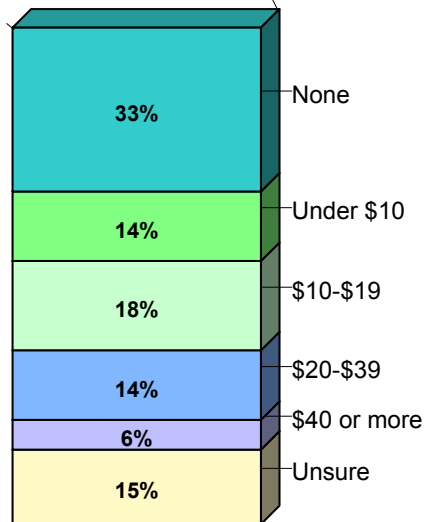


Chart 24

**Agreement With SDCWA Goal of Developing
Alternative Water Sources**

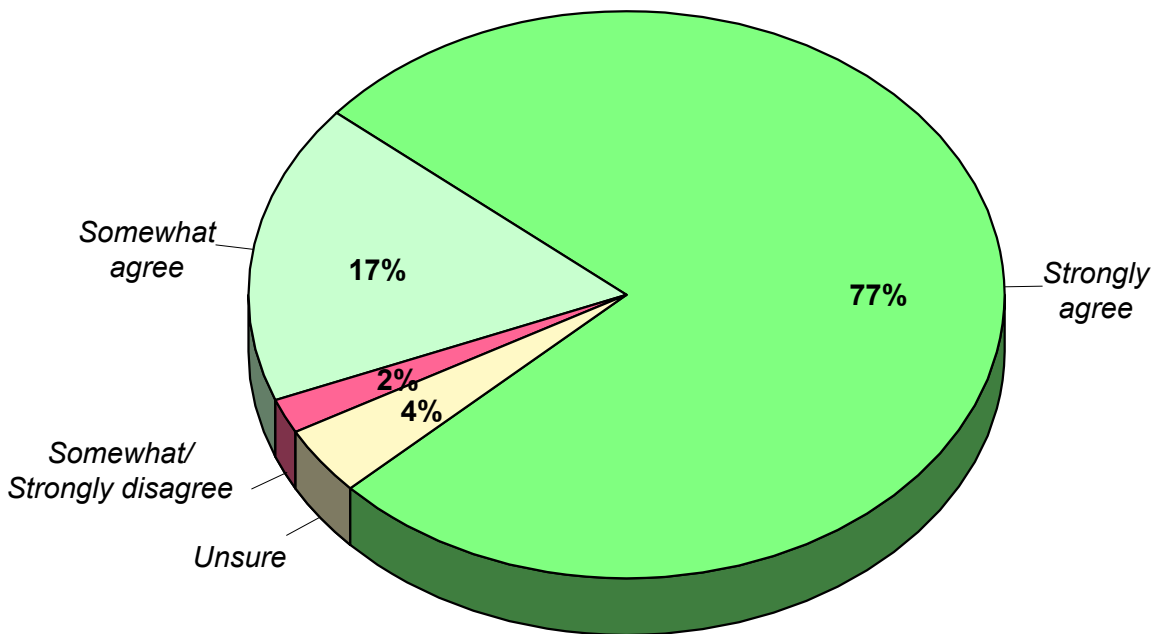


Chart 25

Opinion of Recycled Water for Non-Residential Purposes

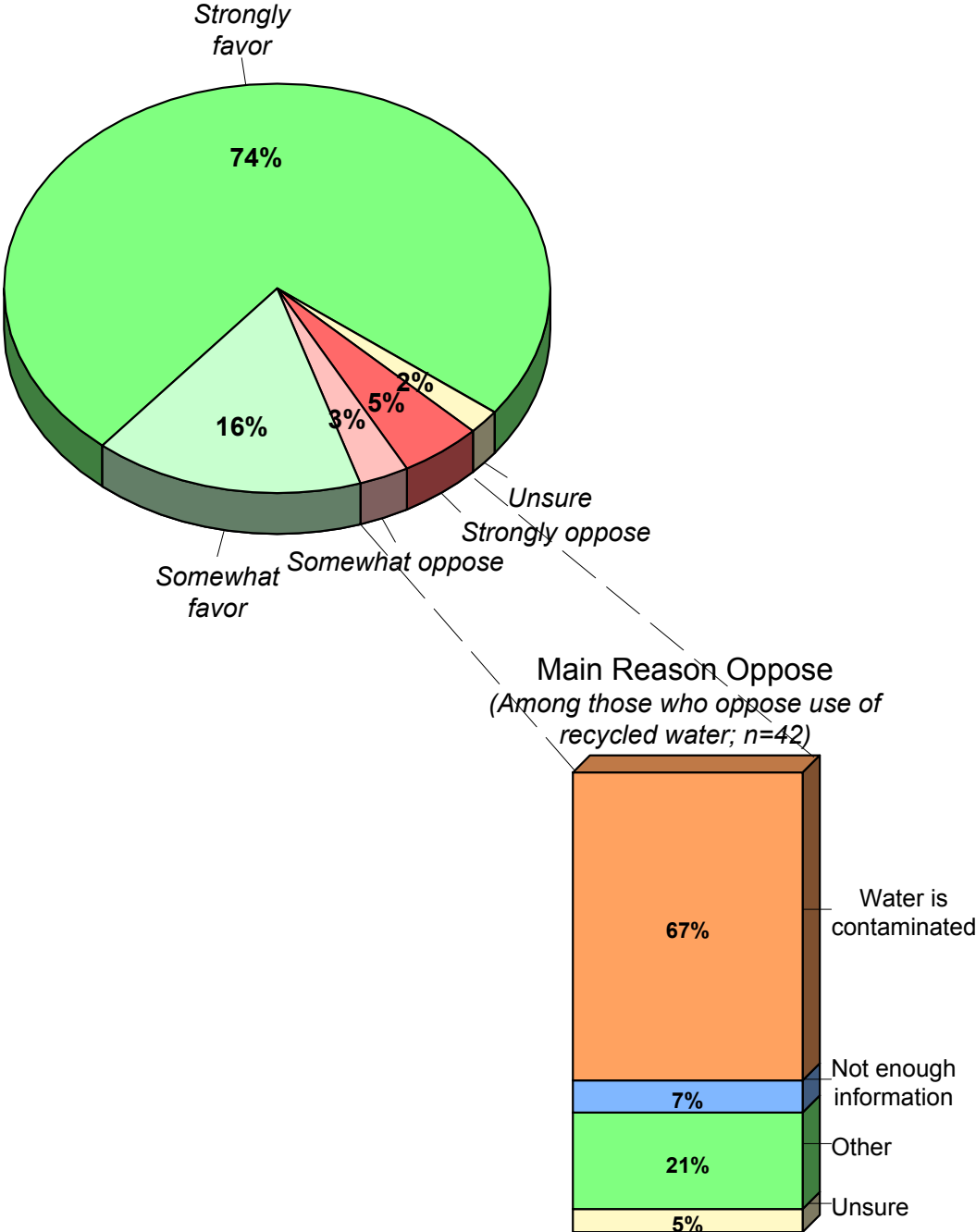


Chart 26

Opinion of Seawater Desalination

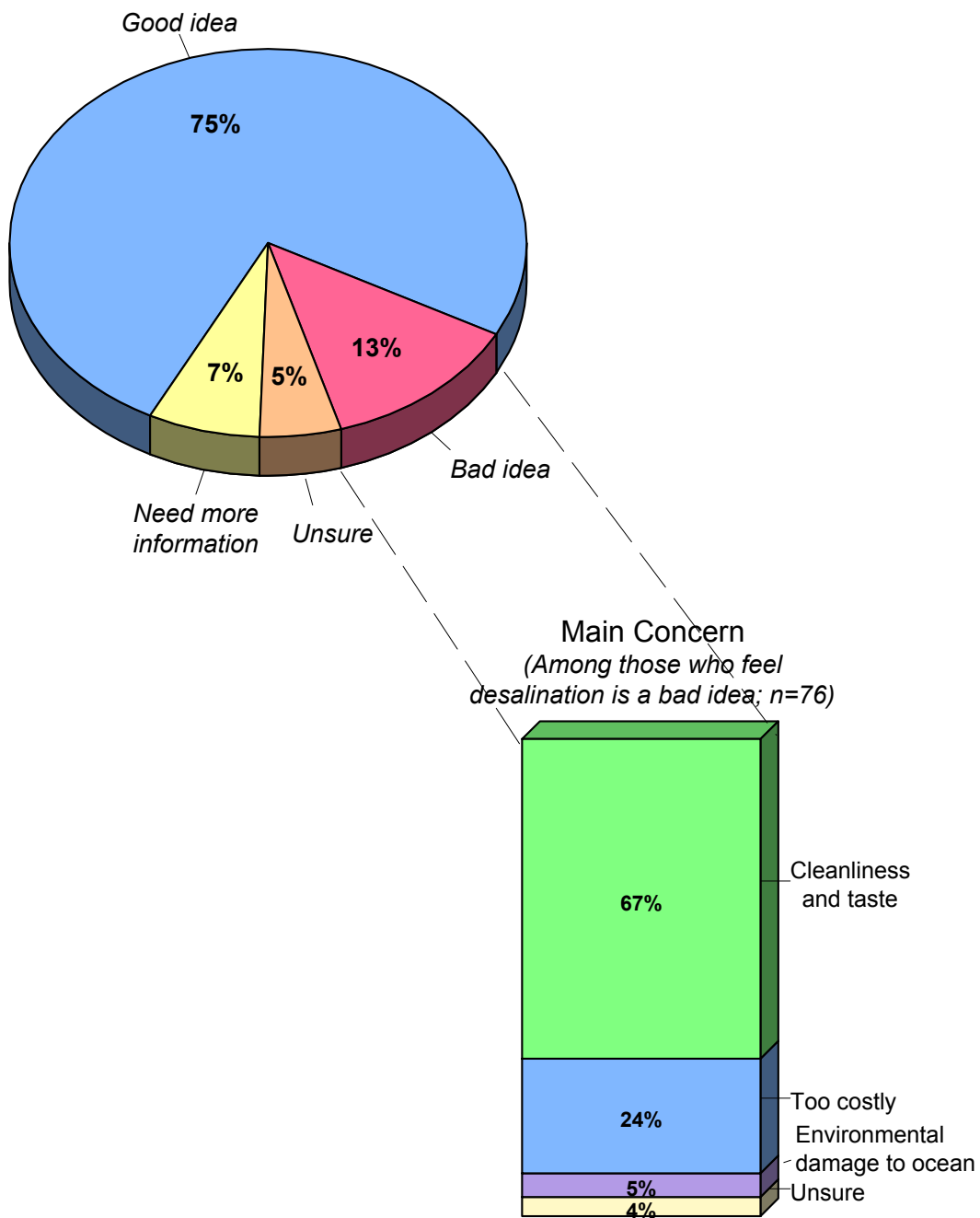


Chart 27

Favor or Oppose New Desalination Plant Next to Existing Encina Power Plant in Carlsbad

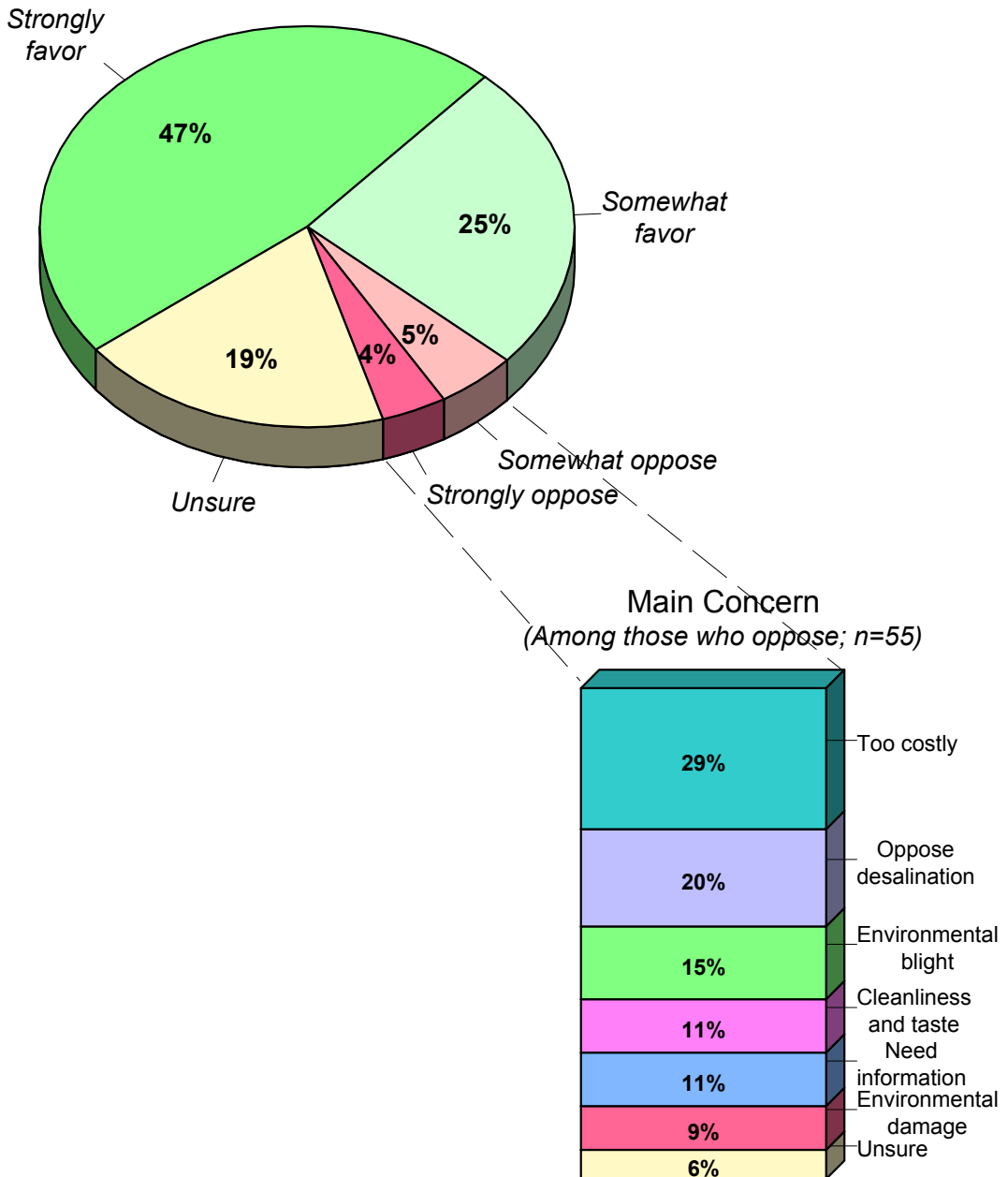


Chart 28

Monthly Water Bill: Additional Amount Willing to Pay for Desalination

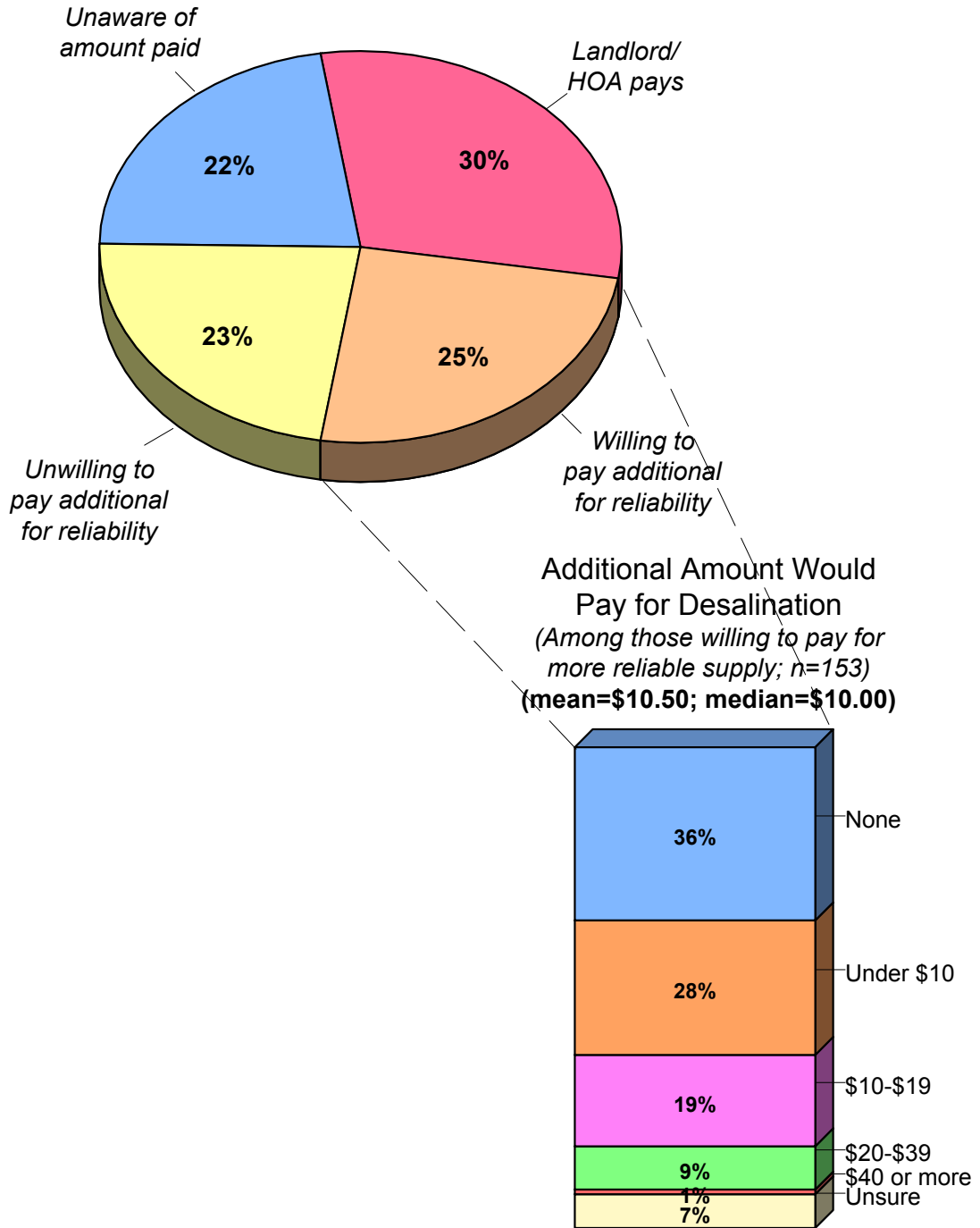
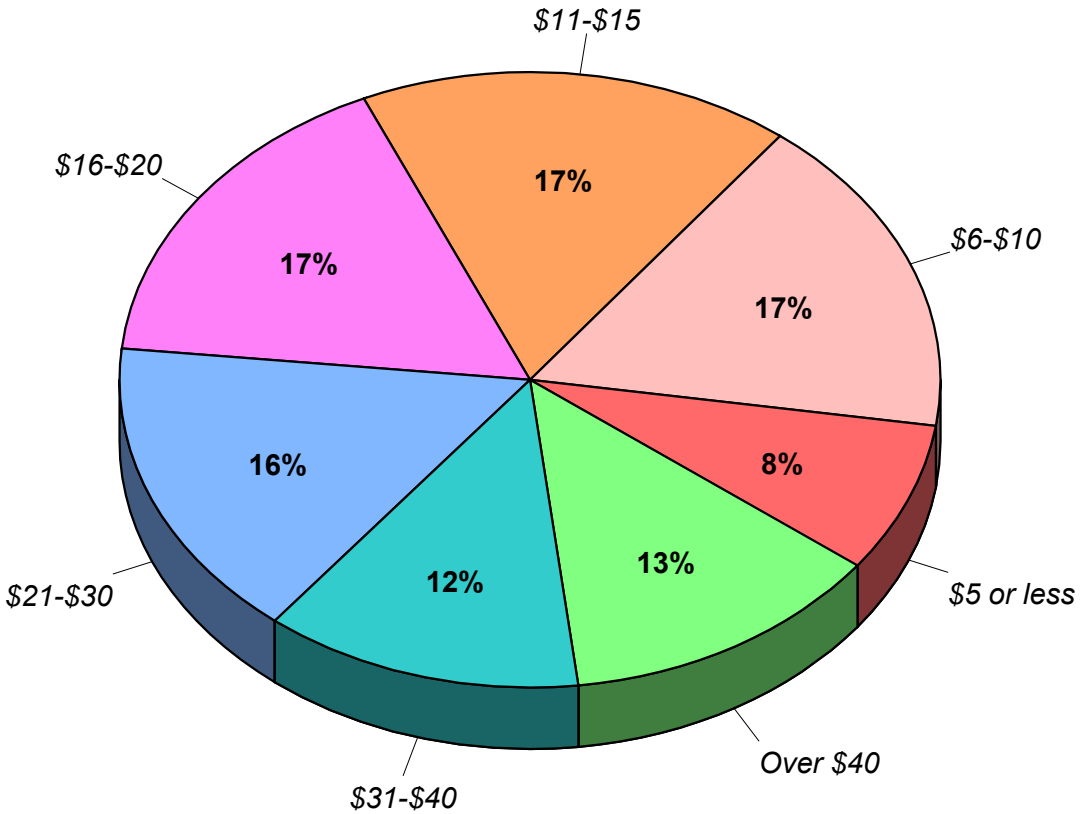


Chart 29

**Combined Additional Amount Willing to Pay Per Month
to Ensure Reliability and for Desalination**

*(Among those who pay their water bill and who were willing
to pay any additional for both; n=87)*



Mean = \$26.70

Median = \$20.00