

**Carlsbad and San Luis
Rey Watersheds:
2003 Public Awareness
Telephone Survey Report**

Prepared for

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Executive Summary

San Diego County contains nine Watershed Urban Runoff Management Plans that were developed by the County, the San Diego Unified Port District, and 18 cities in association with requisite National Pollutant Discharge Elimination System permits for discharges of urban runoff.

Two of the watersheds that are located in northern San Diego County are Carlsbad and San Luis Rey. These watersheds have conducted a public awareness survey in order to develop effective public education programs. A total of 803 residents of the two watershed were surveyed, 402 and 401 respondents from the San Luis Rey and Carlsbad watersheds, respectively (margins of error for each watershed were +/-4.9% and for the overall sample +/-3.5% @ 95% confidence).

The Carlsbad and San Luis Rey Watershed Public Awareness Survey can be divided into three essential information components: behavioral, attitudinal, and knowledge/awareness. That is to say, survey questions either determined some component of the Watershed residents' behavior pertaining to water pollution and urban runoff issues, their attitude about these issues, or their knowledge and awareness about watersheds and water pollution.

Resident Behavior

The population of these watersheds behaves in a manner that is, for the most part, relatively consistent with public policy pertaining to water runoff and pollution. This is not to say that their behavior mirrors public policy precisely and leaves no room for improvement. It is only to indicate that, with certain key exceptions, they do seem to take care to attempt to handle their waste and other refuse with responsibility.

More specifically,

- Within these watersheds, automobile wash water and cleanup water from painting and other home repairs are not disposed of as well as are animal waste, pesticides, and drained pool/spa water.
- Participation at community creek, river, lake, and beach cleanup events in San Diego County is relatively low.
- San Luis Rey residents are more rural than Carlsbad residents, and they behave as such, composting their animal waste and performing more functions themselves, often quite responsibly, vis-à-vis using professional services.

There is significant behavioral collinearity among several subgroups. That is, several subgroups, as would be expected, behave similarly either because they have similar characteristics or because they contain the same individuals. The following subgroups tend to behave a like manner on many of the issues discussed:

- Spanish language respondents
- Renters
- Residents of their community for 3 years or less
- Residents with a High School education or less
- Younger age groups

Also similar in their responses are:

- Community residents of 20 years or more
- Homeowners
- Older residents
- Residents with higher levels of education

Each subgrouping has an issue or two where it performs more in line with public policy than the other, with the latter subgroups performing generally in a more consistent manner with regard to public policy than the former subgroups.

Resident Attitudes and Preferences

Although the majority of the survey was devoted to the two major purposes of knowledge/awareness and behavior, there were questions that also sought to solicit resident attitudes, preferences, and opinions about various aspects of watershed protection.

The distinction made in the Resident Behavior section above between the two collinear subgroupings continued to hold, in general, for the attitudinal component of the survey findings in that the attitudes of residents of the watersheds who are younger, less educated, newer to the community, Spanish speaking, and/or renters tend to correlate as do those of residents who are older, longer term residents, better educated, homeowners.

- Litter, in general, and discarded cigarette butts, specifically, are viewed relatively neutrally by residents of these watersheds as to whether they are problems, and, if so, how severe.
- Public education is viewed as the most effective way to decrease the amount of litter in the community
- Residents were asked the extent to which they agreed or disagreed with the following statement: “How residents in my community maintain our yards, pools, vehicles, and other outdoor facilities significantly affects the quality of water in our rivers, bays, lagoons, and beaches.” Agreement was widespread.

Resident Knowledge and Awareness

Questions were addressed to survey respondents about their knowledge and awareness of watersheds and water pollution issues. Whereas, behavior and attitude components of the survey demonstrated a recognizable level of consciousness about water pollution issues,

that same sensitivity is less evident when knowledge and awareness of water pollution and watershed issues are tested.

Knowledge was especially lacking in the first subgrouping of newer, younger, lesser educated, Spanish speaking, and renter residents. The consistency shown by these subgroups throughout the survey represents a significant opportunity for the provision of information on a very specific, targeted basis, with considerable chance for success. It is noteworthy, however, that, in the case of knowledge and awareness, Spanish language respondents fared particularly poorly. Regarding knowledge and awareness of watershed issues, these subgroups were joined on the lower knowledge/awareness scale by female residents of the watersheds, who demonstrated significantly lesser degrees of knowledge and awareness than did men.

Regarding particular issues:

- Awareness that water that goes down the storm drains goes directly to rivers, bays, and the ocean was high compared to other issues
- Knowledge of what is a watershed and whether respondents live in one is very lacking, as is, obviously, the ability to name the watershed they live in.
- Television and newspapers are the main media for messages. Other media messages reach relatively small sections of the population.
- One water pollution slogan is known to approximately one-half of the population: “We Live Downstream.” Two others (“Think Blue” and “You are the Solution to Water Pollution”) demonstrate about a one-third recognition factor.
- Residents in the watersheds revealed quite strongly that they were very unaware of hotlines to report suspicious activities that might affect water quality.

Association Between Knowledge and Behavior

At the core of any public awareness study is an underlying assumption that knowledge leads to positive action—that the more a resident knows about water pollution and watersheds, the more his or her behavior will conform to the standards and policies set to maintain water quality in the region. The assumption makes significant inherent sense; yet merits testing, nonetheless.

In the two watersheds, there is a statistically significant relationship between what an individual knows about watersheds and water pollution and how he or she behaves, and this relationship is such that the more that is known, the more correctly he or she behaves with regard to protecting water quality. The degree of correlation is low-to-moderate, meaning that there is a relationship, and the relationship is a positive one where knowledge and correct behavior are in statistically significant lockstep on a low-to-moderate basis.

Introduction and Methodology

San Diego County contains nine Watershed Urban Runoff Management Plans (WURMPs) that were developed by the County, the San Diego Unified Port District, and 18 cities in association with requisite National Pollutant Discharge Elimination System (NPDES) permits for discharges of urban runoff.

Each WURMP must include activities that comply with all components of these permits. These WURMP activities are to include the development of a watershed-based public education program based upon sound social science and are to be supportive of the promotion and fostering of sustainable urban runoff management behavior.

Two of the watersheds that are located in northern San Diego County are Carlsbad and San Luis Rey (see map on the succeeding page). These watersheds have conducted a public awareness survey in order to develop effective public education programs that are to be founded upon community-based data that will generate locally tailored marketing strategies. This survey measured baseline knowledge of pollution prevention/source reduction activities in these two watershed communities that include portions of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, Vista, and the County of San Diego (Watershed Copermittees). Follow-up surveys are planned biannually to assess changes in awareness and behavior.

A public awareness survey was conducted in 2001, but, as a mailout survey, there existed, in that survey, certain problems with the scientific reliability of the data inasmuch as the process undertaken at that time could not assure randomness and representativeness. In 2003 the Watershed Copermittees have, therefore, chosen to conduct a scientifically valid telephone random sample survey (stratified by watershed) with the following objectives:

- Verify/reexamine results of the 2001 survey by administering duplicate questions where appropriate;

- Obtain scientifically reliable and sufficiently robust results to establish a baseline level of knowledge among residents of the watersheds;
- Determine the extent to which behaviors have been altered among activities that are known to cause water pollution and the cause of such behavioral changes;
- Obtain demographic data about the populations of the watersheds for use in descriptive analysis and crosstabulations of data that will result in optimally targeted and tailored public awareness programs.

Rea & Parker Research, through its principals, Richard A. Parker, Ph.D., Professor, School of Public Administration and Urban Studies—San Diego State University and Louis M. Rea, Ph.D., Professor and Director of the School of Public Administration and Urban Studies—San Diego State University plus Douglas Coe, Director of the Social Science Research Laboratory (SSRL)—San Diego State University, and Catherine Happersett, Research Director of SSRL were selected as the consultants to conduct this research.

Sample

It was decided to randomly sample by telephone a minimum of 400 respondents in each watershed in order to secure a margin of error not to exceed $\pm 5\%$ @ 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, paint, stucco, and tile work is performed in 52% of the Carlsbad Watershed households surveyed. This means that there is a 95% chance that the true proportion of the Carlsbad Watershed population that actually performs this work is between 47% and 57% (52% $\pm 5\%$). Ultimately, a total of 803 residents of the two watershed were surveyed -- 402 and 401 respondents from the San Luis Rey and Carlsbad watersheds, respectively (margins of error for each watershed were $\pm 4.9\%$ and for the overall sample $\pm 3.5\%$ @ 95% confidence).

Random samples were selected by random digit dialing from the zip codes listed in **Table 1** and allocated as shown for each watershed on the preceding map. The survey response rate was 29%, 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 49 questions, including 65 individual survey items (variables). The survey was pretested April 18-19, 2003 and formally administered April 21-May 19, 2003. Mean survey administration time was 13 minutes per respondent.

The survey instrument was administered in both English and Spanish. A copy of each is attached in the Appendices. Overall, 71 respondents elected to respond in Spanish (8.8%). In the San Luis Rey watershed area, 32 respondents (8.0%) chose to respond in Spanish, and in the Carlsbad watershed area, 39 respondents (9.7%) chose the Spanish version.

Table 1

North County Watershed Zip Code Breakdown for Sampling Allocation

--- = these areas too small to include	
** = majority of zip's population in this watershed, so default if respondent is not sure of boundary	
<u>SAN LUIS REY</u>	<u>CARLSBAD</u>
92003	
92004	
	92007
	92008
	92009
	92014
	92024
	92025
92026** (north of Meadow Lake Country Club (Hidden Meadows))	92026** (south of Meadow Lake Country Club (in Hidden Meadows, off of Mt. Meadow Rd and I-15))
92027	92027
92028	
	92029
92036	
92054 (north of Mission Avenue)	92054** (south of Mission Avenue)
92055	
92056 (north of Oceanside Blvd.)	92056** (south of Oceanside Blvd.)
92057	92057
92059	
92060	
92061	
92065	
92066	
	92067
92069	92069
92070	
	92075
	92078
92082	92082
92083	92083
92084 (north of Bobier; or north/east of Foothill)	92084** (south of Bobier; or south/west of Foothill)
92086	
92536	

Respondent Characteristics

Table 2 presents certain demographic characteristics of the survey respondents. The table presents the data for each watershed and for both watersheds aggregated into a combined North County watershed region. Such an aggregation, however, requires that the data be weighted inasmuch as the sample was drawn equally from each watershed but that the population of San Luis Rey is approximately one-fifth that of Carlsbad (or one-sixth of the total for the two combined)—specifically, according to the 2000 United States Census, the population of those age 18 and over in each watershed is 430,366 in Carlsbad and 84,963 in San Luis Rey. Therefore, Carlsbad respondents, in the Combined Watershed data, are weighted at 1.67 and San Luis Rey respondents at .33, thereby producing Combined Watershed information that is proportional to the actual distribution of the population by watershed. Data for Carlsbad and San Luis Rey, individually, are not weighted—they are provided directly from the survey data output. The weighting procedure applies not only to **Table 2** but also to all tables and charts throughout the balance of this report for Combined Watershed data.

Survey respondents had a median age of 48.5 years and have lived in their community for a median of 10 years. More than two-thirds of the respondents (68%) are homeowners, almost three-quarters (74%) have responsibility for maintaining a lawn or outdoor garden, and 21% have a swimming pool or spa. Dogs are owned by 36% of respondents and 7% have some form of livestock. Among these respondents, 40% possess at least a Bachelor's Degree, and, indicative of the commuting patterns existent in northern San Diego County, 96% of respondents have access to an automobile.

The two watershed respondent populations demonstrate substantial similarities to one another in the demographic characteristics identified by the survey. There is a slightly older population in San Luis Rey (50.8 years to 48.1 years) that is also somewhat more of a home ownership population (70% versus 68%), and, consistent with being younger, Carlsbad is more reliant upon the Spanish survey translation than San Luis Rey, although

neither is significantly so. Carlsbad, on the other hand, is somewhat more long term in residency (10 years in comparison to 8 years) and is slightly more educated, with 22% having done graduate work versus 18% in San Luis Rey. San Luis Rey seems to enjoy a more outdoor or rural existence, with more lawns and gardens (78% versus 73%), more dog owners (43% versus 34%), and more residents with livestock (11% versus 6%).

Table 2 also presents demographic characteristics for the Spanish language respondents to the survey, also weighted by watershed. As would be expected, the respondents who preferred to be interviewed in Spanish are younger than the general respondent population (median of 33.8 years versus 48.5 years), have been in the community for a shorter period of time (5.0 years versus 10.0), and are of lesser educational attainment (1% Bachelor's Degree or above versus 40% for the overall population). Home ownership, dog ownership, pool/spa availability, automobile access, livestock, and lawn/garden responsibility are also significantly lower for Spanish language respondents.

Table 2				
Watershed Respondent Characteristics				
	Combined North County Watersheds (weighted) n=803	Carlsbad Watershed (unweighted) n=401	San Luis Rey Watershed (unweighted) n=402	Spanish Language Respondents (weighted) n=76
Gender				
Male	50%	50%	50%	54%
Female	50%	50%	50%	46%
Major Residential Zip Codes				
92054	17%	18%	9%	20%
92056	11%	12%	5%	4%
92083	9%	11%		20%
92069	8%	9%		13%
92008	8%	9%		2%
92024	7%	9%		
92026	6%	7%	5%	7%
92028	6%		38%	5%
92084	6%	7%	3%	10%
92027	5%	6%		7%
92057	3%		19%	3%
92009	3%	4%		
92029	3%	4%		4%
92082	2%		11%	
Median Age (Years)	48.5	48.1	50.8	33.8
Median Number of Years Lived in Community	10.0	10.0	8.0	5.0
Home Ownership Percentage	68%	68%	70%	27%
Pool/Spa	21%	21%	22%	14%
Access to Motor Vehicle	96%	96%	95%	88%
Responsible for Lawn/Outdoor Garden	74%	73%	78%	45%
Dog Owner	36%	34%	43%	23%
Horses/Other Livestock	7%	6%	11%	4%
Language of Interview				
English	90.6%	90.3%	92.0%	0.0%
Spanish	*9.4%	9.7%	8.0%	100.0%
Highest Grade/Level of School Completed				
High School or Less	25%	25%	25%	96%
Some College	35%	34%	38%	3%
Bachelor's Degree	19%	19%	19%	1%
Some Grad. School	21%	22%	18%	0%

*The 9.4% differs from the 8.8% overall discussed in the report because the 8.8% discussed above is an unweighted total of 71 Spanish responses in contrast to the weighted equivalent of 76 responses, which equates to 9.4%. In either case (weighted or unweighted), it is reasonable to consider the percentage of Spanish language respondents to be approximately 9%.

Survey Findings

The balance of the Carlsbad and San Luis Rey Watershed Public Awareness Survey can be divided into three essential information components: behavioral, attitudinal, and knowledge/awareness. That is to say, all further survey questions either determined some component of the Watershed residents' behavior pertaining to water pollution and urban runoff issues, their attitude about these issues, or their knowledge and awareness about watersheds and water pollution. The balance of this report will address these three components in detail, beginning with the behavioral component.

Charts have been prepared for each of these components that depict the survey results for the combined, weighted watersheds and for both of the individual watersheds. Each component will include a discussion of the findings from the weighted combined North County watersheds; however, the individual watersheds of San Luis Rey and Carlsbad will be not be discussed beyond the charts unless they differ from the overall in a statistically significant manner. This means that, when there is no discussion of the individual watersheds, there is no statistical difference between them, individually, and no statistical difference between them and the overall weighted total distribution. Detailed statistical frequency distributions and lists of open-ended responses to survey questions are contained in the Appendices.

Lastly, subgroup analyses for Spanish language interviewees, different age groups, various levels of education, gender, home ownership/rental status, and residential tenure in the community will be presented in a boxed and bulleted format when statistical significance and relevance warrants such treatment.

Resident Behavior

SUMMARY: *The population of these watersheds behaves in a manner that is, for the most part, relatively consistent with public policy pertaining to water runoff and pollution. This is not to say that their behavior mirrors public policy precisely and leaves no room for improvement. It is only to indicate that, with certain key exceptions, they do seem to take care to attempt to handle their waste and other refuse with responsibility.*

In general, within these watersheds, automobile wash water and cleanup water from painting and other home repairs are not disposed of as well as are animal waste, pesticides, and drained pool/spa water. San Luis Rey residents are more rural than Carlsbad residents, and they behave as such, composting their animal waste and performing more functions themselves, often quite responsibly, vis-à-vis using professional services.

There is significant behavioral collinearity among several subgroups. That is, several subgroups, as would be expected, behave similarly either because they have similar characteristics or because they contain the same individuals. For example, if low-income respondents and renters behave similarly, that would not be unexpected because the same individuals are likely members of both groups. With that having been said, the following subgroups tend, in the analysis that follows, to behave in a like manner on many of the issues discussed:

- *Spanish language respondents*
- *Renters*
- *Residents of their community for 3 years or less*
- *Residents with a High School education or less*
- *Younger age groups*

Also similar in their behavioral responses were:

- *Community residents of 20 years or more*
- *Homeowners*
- *Older residents*
- *Residents with higher levels of education*

Each subgrouping has an issue or two where it performs more in line with public policy than the other, with the latter subgroups performing generally in a more consistent manner with regard to public policy than the former subgroups.

Automobiles are washed (**Chart 1**) more frequently at car washing facilities (57%) than they are at home (40%). San Luis Rey residents wash their cars less frequently at car wash facilities than do Carlsbad residents (46% versus 39%). When cars are washed at home, the residue wash water usually (65%) goes into the less preferred alternative of the street, gutter, driveway, or parking area, with only 28% going into dirt or lawn/garden areas (**Chart 2**). Carlsbad residents are much more inclined to have their wash water go into the street (69%) than are residents of San Luis Rey (46%), where residents are divided equally between the street and dirt and lawn areas (45%).

Among those subgroups that tend to wash their automobiles at car wash facilities more often are the following:

- Spanish language respondents (72%)
- Renters (68%)
- Residents of their community for 3 years or less (67%)
- Women (65%)

Additionally, runoff of automobile wash water into dirt and lawn areas is more common among Spanish language respondents (54%) than among the overall survey population or any other identified survey subgroup.

Among the almost three-fourths of all households with lawns or gardens (**Table 2**), a substantial majority (88% of those with lawns/gardens--or 65% of all households) are responsible, themselves, in whole (62% with lawns/gardens--or 46% of all households) or part, in conjunction with a professional service (26% and 19%, respectively), for maintaining that lawn and garden (**Chart 3**). San Luis Rey residents tend to rely upon themselves for this work more so than Carlsbad residents (68% versus 61%). Most residents (74%) of these watersheds with lawns or gardens fertilize their lawns and gardens at least once or twice per year (**Chart 4**). When watering their lawns, 74% indicate that excess water neither hits their pavement nor runs off of their lawn or garden (**Chart 5**).

Subgroups that fertilize once or twice per year to a greater degree than do other groups are:

- Residents over 55 years of age (83%)
- Residents who have completed some Graduate work (80%)
- Homeowners (79%)

Pesticides, herbicides, or fungicides are used on lawns, gardens, or otherwise outside the house by 53% of watershed residents (**Chart 6**). Among those 53% who use pesticides, professional pest control services are employed by 34% of them—or 18% of the total population (**Chart 7**). Frequently, after use of pesticides by those who do not use a professional service, there are no pesticides left over (29%), and of the remaining 71%, 23% is taken to a waste site, 18% is placed in the trash, and 18% is disposed of in a manner unknown to the residents (**Chart 8**). San Luis Rey residents indicate that they have a lesser amount of pesticides left over than Carlsbad residents (37% versus 28%). Instructions for using pesticides are followed very carefully by 67% of those residents who use them without professional help (**Chart 9**), especially in San Luis Rey (76%), and use is mostly made through measurement (62%), rather than estimation (28%)—**Chart 10**.

<p>Subgroups that use pesticides, herbicides, fungicides outside their homes to a lesser degree than do other groups are as follows:</p> <ul style="list-style-type: none"> ▪ Spanish language respondents (19%) ▪ Residents with a High School education or less (29%) ▪ Renters (33%) ▪ Ages 18-34 (37%) ▪ Community residents of 3 years or less (45%)
<p>Professional pest control services are employed less often by:</p> <ul style="list-style-type: none"> ▪ Spanish language respondents (14%) ▪ Renters (26%)
<p>Professional pest control services are employed very often by those residents age 65 and over (48%).</p>
<p>Waste Sites are used more for left over pesticides by:</p> <ul style="list-style-type: none"> ▪ Community residents for 20 years or more (36%) ▪ Ages 35 and over (30%)
<p>Waste Sites are used less for left over pesticides by:</p> <ul style="list-style-type: none"> ▪ Spanish language respondents (3%) ▪ Ages 18-34 (6%) ▪ Residents with a High School education or less (14%)

Among the relatively small proportion of households with pools and/or spas (21%--**Table 2**), 36% employ a professional pool service to maintain their pool or spa (**Chart 11**). Although there is no statistical difference between the percentage of pools and spas in each watershed, there is a significant difference in the use of professional pool care, with 39% of Carlsbad pool/spa households utilizing professional pool/spa services and only 26% of San Luis Rey households. Those who take care of the pool or spa themselves tend, quite strongly, not to use algaecide (67%--**Chart 12**) and drain their pool or spa mostly into landscaped areas or dirt (48%), with an additional 20% into the street or gutter and 20% never draining them at all (**Chart 13**). Those who drain their pools do so, for the most part (64%), once every year (**Chart 14**) and a majority allow the chlorine level to drop to a low level before draining (57%), especially in San Luis Rey (70%)—**Chart 15**.

As indicated in **Table 2**, over one-third of the residents of these watersheds are dog owners. When asked the extent to which they pick up their dog's droppings when taking their dog for a walk, 70% indicated that they always pick up **after** their dog and another 14% indicated that they usually do (**Chart 16**). These proportions were lower in San Luis Rey (58% always and 13% usually), with 19% never picking up in San Luis Rey versus only 5% in Carlsbad. As a reliability check, all respondents (not just dog owners) were asked to indicate their best estimate of what they have experienced in their community regarding people picking up after their dogs. The total population estimated that a mean of 59% and median of 75% pick up after their dog (**Chart 17**), percentages slightly lower than indicated in **Chart 16**, but, in general, quite consistent with a conclusion that people in these watersheds do, in fact, pick up their dogs' droppings on their walks. Consistent with their own behavior, Carlsbad and San Luis Rey watershed residents offered differing estimates of how often others pick up after their dogs, with Carlsbad residents estimating a mean of 62% and median of 75% picking up and San Luis Rey a much lower mean of 43% and median of 40%.

Subgroups that indicated that they pick up their dog droppings more frequently (always and usually) are as follows:

- Residents with some Graduate School work (95%)
- Ages 55 and over (87%)
- Community residents of less than 20 years (87%)

Subgroups less likely to do so are:

- High School Diploma or less (68%)
- Community residents of 20 years or more (77%)
- Ages 18-24 (78%)

Regarding dog droppings in the yard (**Chart 18**), 57% of the residents of these watersheds indicate that they pick up these droppings at least every few days and 82% at least once per week. Again, San Luis Rey is lower than Carlsbad on this account with 50% at least every few days, in contrast to 63% for Carlsbad, and 70% at least once per week in contrast to 89% for Carlsbad. Among those who pick up their pet's waste, 78% said that they discard it by flushing it down the toilet and 15% compost it (**Chart 19**). Consistent with the more rural living environment of San Luis Rey, 65% (81% Carlsbad) flush the dog waste and 25% (13% Carlsbad) compost it. Livestock waste, among the very few with livestock (**Table 2**), on the other hand, is generally discarded into the trash (58%), but is treated very differently by the two watersheds, with Carlsbad residents ridding themselves of the livestock waste in the trash (71% compared to 23% in San Luis Rey) and San Luis Rey residents composting their livestock waste more so than do Carlsbad residents (30% versus 13%)—**Chart 20**.

Yard droppings by dogs are picked up most frequently by:

- Residents age 65 and older (67% everyday and 16% every few days)
- Spanish language respondents (64% everyday and 19% every few days)

Yard droppings by dogs are picked up least frequently by those residents age 18-24 (4% everyday and 32% every few days).

Paint, tile, stucco, and/or concrete work are performed by a member of 52% of the households in the watersheds (**Chart 21**). Among those 52% of the households where such work is performed, water that is used to clean the tools and equipment is disposed of

relatively equally between being poured onto the dirt or grass in the yard (42%) or poured down the sink or toilet (38%)—**Chart 22**. San Luis Rey residents are much more oriented toward disposing of the cleanup water in the yard vis-à-vis the sink or toilet (54% and 30%, respectively) than are Carlsbad residents, who are more equally split (40% yard and 39% sink/toilet).

<p>Paint/tile/stucco/concrete work is done more often by the following subgroups of residents:</p> <ul style="list-style-type: none"> ▪ Community residents of 20 years or more (66%) ▪ Homeowners (63%) ▪ Ages 45-64 (63%) ▪ Bachelor’s Degree or above (61%)
<p>Spanish language respondents perform very little paint/tile/stucco/concrete work in their households (22%), likely because there are so few homeowners among this group of watershed residents (27%--Table 2).</p>
<p>Homeowners dispose of their cleanup water in the yard (45%) more than do renters (29%).</p>

As a final behavioral question, residents were asked if, during the past year, they had attended any community creek, river, lake, or beach cleanup event in San Diego County. A relatively small percentage (10%) indicated that they had (**Chart 23**).

<p>Significant differences among subgroups in event participation are noted below:</p> <p><u>Higher Participation</u></p> <ul style="list-style-type: none"> ▪ Community residents of 20 years or more (15%) ▪ Bachelor’s Degree or above (15%) <p><u>Lower Participation</u></p> <ul style="list-style-type: none"> ▪ Spanish language respondents (5%) ▪ Some College or less (6%) ▪ Community residents of 3 years or less (7%)

Resident Attitudes and Preferences

SUMMARY: Although the vast majority of the survey was devoted to the two major purposes of knowledge/awareness and behavior, there were a few questions that also sought to solicit resident attitudes, preferences, and opinions about various aspects of watershed protection. This section of the report will summarize this attitudinal component of the survey, particularly as these attitudes impact issues pertaining to awareness and watershed behavior.

The distinction made in the Resident Behavior section above between the two collinear subgroupings continues to hold, in general, for the attitudinal component of the survey findings in that the attitudes of residents of the watersheds who are younger, less educated, newer to the community, Spanish speaking, and/or renters tend to correlate as do those of residents who are older, longer term residents, better educated, homeowners.

Litter, in general, and discarded cigarette butts, specifically, are viewed relatively neutrally by residents of these watersheds as problems. The level of litter is seen as a major problem by only 10% of the population, with another 41% seeing it as a minor problem (**Chart 24**). Approximately one-half (49%) of North County watershed residents, therefore, do not see the level of litter in their community as a problem at all. Discarded cigarette butts are seen as a slightly more major problem (16%), but not really much more of an overall problem (46% not a problem)—**Chart 25**. San Luis Rey residents are significantly less disturbed by discarded cigarette butts than are Carlsbad residents (11% major problem and 53% not a problem versus 17% major problem and 45% not a problem).

Litter is seen a major problem by:

- Spanish language respondents (25%)
- High School Diploma or less (19%)
- Renters (14%)

Litter is seen as an overall major and minor problem by those in the age group 18-24 (59%).

Litter is not a problem to:

- Ages 65 and over (60%)
- Those with Graduate School work (58%)

Discarded cigarette butts are a major problem for:

- Spanish language respondents (48%)
- Those with a High School Diploma or less (31%)
- Ages 18-34 (26%)
- Renters (24%--and a minor problem for an additional 45%)

Discarded cigarette butts are not a problem for:

- Graduate School work (69%)
- Ages 65 and above (66%)

Public education is viewed as the most effective way to decrease the amount of litter in the community by 47% of all residents (**Chart 26**), with allocating more resources to removing litter obtaining support from 31%, and 9% wanting both to be done. Carlsbad residents are more in favor of the allocation of additional resources (32%) than are San Luis Rey residents (26%).

Subgroups that particularly favor educational programs to reduce litter are:

- Ages 65 and over (72%)
- Homeowners (60%)
- All educational levels above High School Diploma (56%)

Subgroups that particularly favor additional resources to reduce litter are:

- Ages 18-34 (49%)
- Renters (45%)
- Some college or less (39%)

Residents were asked the extent to which they agreed or disagreed with the following statement: “How residents in my community maintain our yards, pools, vehicles, and other outdoor facilities significantly affects the quality of water in our rivers, bays, lagoons, and beaches.” Agreement was widespread, with 46% indicating strong agreement and 36% agreeing somewhat (**Chart 27**). Only 13% indicated that they either somewhat or strongly disagreed. On a 5 point scale, with 1 being agree strongly and 5 being disagree strongly, the mean agreement score is 1.89, which lies between “somewhat agree” and “strongly agree.”

Significant differences between and among subgroups regarding agreement with the statement are found with:

- Homeowners (mean=1.83) were more in agreement than renters (mean=2.04)
- Bachelor's Degree or more (1.68) were more in agreement than Some College (1.88), who were more in agreement than High School Diploma or less (2.25)
- Within San Luis Rey only, women (1.86) were more in agreement than men (2.12), but this did not extend to Carlsbad or overall
- Spanish language respondent agreement is very low (2.47)

Residents were also asked what bodies of water they considered to be important parts of their community. They were provided the opportunity to name up to two such bodies of water. Not to the surprise of any resident of San Diego County, the majority of residents cited the Pacific Ocean 57% of the time (**Chart 28**), with Lake Hodges (10%), Batiquitos Lagoon (7%), Dixon Lake (7%), the San Luis Rey River (5%), and Oceanside Harbor (5%) next in order. Many residents cited a widespread selection of other bodies of water (17%) and another 17% thought that no body of water is important to their community. Because of the relative populations of the Carlsbad and San Luis Rey watersheds, this distribution was essentially the same for Carlsbad Watershed residents (with the addition of San Elijo Lagoon--5%). San Luis Rey residents, however, were somewhat different. The Pacific Ocean received only a 46% mention, with the San Luis Rey River (14%), Lake Hodges (8%), Lake Wohlford (7%), Lake Henshaw (6%), the Santa Margarita River (6%) and Oceanside Harbor (5%) heading the list. Furthermore, 22% of San Luis Rey residents think that no body of water is important to their community in contrast to 16% of Carlsbad Watershed residents.

A very large proportion of Spanish language respondents indicated that no body of water was important to their community (54%)

For recreational purposes, the Pacific Ocean was again cited as the body of water visited most often (64%), followed distantly by Oceanside Harbor (3%), Dixon Lake (3%), and Mission Bay (2%)—**Chart 29**. Among these residents, more than one-fifth (21%) does not visit water for recreational purposes. Again, the ocean is less important to San Luis Rey (54% versus 65% in Carlsbad), and San Luis Rey residents visit water less for

recreation than do Carlsbad residents (28% do not visit versus 19%). The type of recreational activity that these watershed residents most enjoy (**Chart 30**—respondents could select more than one response) at these locations is swimming/water skiing/jet skiing/surfing (60%) and non-water activities, such as sightseeing, hiking, and biking (44%). Carlsbad and San Luis Rey differ only in regard to the swimming/skiing/surfing response, which was cited by 62% of Carlsbad respondents who visit the water for recreational purposes but by only 48% of San Luis Rey recreational water visitors.

A large proportion of Spanish language respondents indicated that they visit no body of water for recreational purposes (43%)

Resident Knowledge and Awareness

SUMMARY: *Questions were addressed to survey respondents about their knowledge and awareness of watershed and water pollution issues. Whereas, behavior and attitude components of the survey demonstrated a recognizable level of consciousness about water pollution issues, that same sensitivity is less evident when knowledge and awareness of water pollution and watershed issues are tested.*

Knowledge was especially lacking in the first subgrouping of newer, younger, lesser educated, Spanish speaking, and renter residents. The consistency shown by these subgroups throughout the survey represents a significant opportunity for the provision of information on a very specific, targeted basis, with considerable chance for success. It is noteworthy, however, that, in the case of knowledge and awareness, Spanish language respondents fared particularly poorly. Regarding knowledge and awareness of watershed issues, these subgroups were joined on the lower knowledge/awareness scale by female residents of the watersheds, who demonstrated significantly lesser degrees of knowledge and awareness than did men.

Questions took one of two general approaches: 1) specific knowledge-based questions about watersheds and water pollution; 2) awareness of public information about watersheds and water pollution. As to the first of those approaches—specific knowledge about watersheds and water pollution, 52% of the residents indicated correctly that they thought that water that goes down the storm drains goes directly to rivers, bays, and the ocean (**Chart 31**). Another 12% answered incorrectly that it goes to a sewage treatment plant and 35% were not certain what the correct answer was.

Another knowledge-based question concerned the posting of warning signs at San Diego area beaches and whether these postings were due to sewage spills or runoff (**Chart 32**). The correct response is that postings are due to runoff; closures are due to sewage spills. This distinction is likely a difficult one, and literal interpretation of the results confirms that, with 53% of the respondents answering incorrectly that these postings are caused by sewage spills and only 23% correctly identifying the cause as runoff from homes and businesses.

Subgroups that demonstrated the poorest levels of knowledge regarding where water runoff flows were as follows:

- Spanish Language respondents (27% correct—directly to rivers, bays, ocean--and 53% unsure. General population pattern reversed 52% correct and 35% unsure)
- Ages 18-24 (33% correct versus 35-54 59% and 55-64 70%)
- Renters (39% correct versus Homeowners 59%--majority of difference is in “unsure” not incorrect response)
- High School or less (41% correct versus 52% for Some College and 60% for Graduate School)
- Ages 65+ (41% correct versus 35-54 59% and 55-64 70%)
- Residents of the community for 3 years or less (42% correct versus 62% correct for 20 years or more—Percentage incorrect is the same for the two groups—difference is in the numbers of respondents who are unsure of the correct answer)
- Women (45% correct versus Men 60%)

Subgroups that demonstrated the poorest levels of knowledge regarding causes of postings for beach contamination were as follows:

- Ages 65 and over (15% versus 18-24 41%)
- Women (21% versus Men 32%)
- Homeowners (23% versus 34% for Renters)

Spanish language respondents demonstrated a higher level of correctness than any subgroup analyzed (42%).

It is noteworthy that Spanish language respondents, renters, and younger age groups have repeatedly demonstrated, throughout this survey, levels of behavior and knowledge that are somewhat lower than other groups as they pertain to water pollution and watershed issues. It is possible to view this question as an explainable anomaly due to the more frequent beach usage by younger residents, except that Spanish language respondents have already revealed their relative disinterest in the beach—see discussion of Charts 28-30 above. It is the opinion of Rea & Parker Research that there is much confusion within the population concerning the distinction between beach postings and beach closures and that, therefore, reliance upon these subgroup results for this particular question, literally, is not recommended.

Respondents were also asked to select the correct definition of a watershed from four choices offered to them: 1) an area that retains water like a swamp or a marsh (incorrect); 2) a land area that drains into a specific water body (correct); 3) a water intake area that feeds a water treatment plant (incorrect); 4) none of the above (incorrect). **Chart 33** shows that 35% of the watershed residents were able to correctly define a

watershed, with the balance of responses fairly evenly split among the other three answers and an “unsure” response. When asked if they lived in a watershed, 60% of the residents incorrectly responded that they did not, with only 19% correctly responding in the affirmative (**Chart 34**).

Those residents who correctly knew the definition of a watershed did considerably better than the general population in identifying whether or not they lived in a watershed. Among those who correctly defined a watershed, 47% knew that they lived in a watershed in contrast to 8% of those who did not define watershed correctly.

Among those 19% who believe that they do live in a watershed, the majority (58%) was unsure what was the name of their watershed (**Chart 35**). Within San Luis Rey, 25% of the 22% who correctly said that they lived in a watershed (5% of the total watershed population) did, in fact, identify San Luis Rey as the name of their watershed. Another 23% of the 22% (5% of the total) provided a variety of names, foremost among which was Santa Margarita River. Within Carlsbad, 20% of 18% (4% of the total) identified Carlsbad or one of its sub-watersheds (Batiqitos, Buena Vista, San Elijo). Another 6% of 18% (1%) incorrectly thought they were part of San Luis Rey, and 16% of 18% (3%) provided a variety of names, in particular, San Dieguito River.

Subgroups that demonstrated the poorest ability to define a watershed were:

- Spanish Language respondents (12% correct)
- High School or less (19% correct versus 37% for Some College or Bachelor’s Degree and 50% for Graduate School)
- Ages 18-34 (20% correct versus 29% for ages 35-44 and 44% for ages 45 and over)
- Renters (22% correct versus Homeowners 41%)
- Women (32% correct versus Men 40%)

Subgroups that were least correct in identifying whether or not they lived in a watershed were:

- Spanish Language respondents (2% correct)
- Ages 25-34 (5% correct versus 30% for ages 45-64)
- Renters (8% correct versus Homeowners 23%)
- High School or less (9% correct versus 17% for Some College or Bachelor's Degree and 33% for Graduate School)
- Women (11% correct versus Men 25%)
- Community residents for less than 10 years (15% versus 22% for 10 years or more)

Telephone hotlines exist for residents to report activities that may adversely affect water quality. When asked if they knew about it, residents in the watersheds revealed quite strongly that they were not aware of them, with 74% never having heard of them, 22% having heard of them but never used them, and only 2% having made any use of them at all (**Chart 36**).

Subgroups least familiar with the water pollution hotlines are:

- Ages 18-24 (88% not familiar)
- Ages 65+ (87% not familiar)
- Spanish Language respondents (84% not familiar)
- Community residents for less than 3 years (83% not familiar)
- Women (80% not familiar)

The second awareness/knowledge approach undertaken by the study was to identify resident familiarity with messages and information about watersheds and water pollution. Survey respondents were asked if they had seen, heard or read anything during the past year about preventing storm water runoff pollution, and 66% of the watershed residents replied that they had (**Chart 37**).

A smaller proportion of Spanish language respondents indicated that they had heard these messages (43%)

These messages are overwhelmingly noticed in two media, in particular—55% of residents have seen messages on television and 47% have read about runoff pollution in the newspapers (**Chart 38**). Newspapers are more important sources of information in

Carlsbad (48%) than they are in San Luis Rey (42%). Radio and flyers/posters follow at 13%, with curb signs (11%) and word of mouth via friends and family (8%) next. Other responses also garnered 8% of the responses and can be characterized in part as school and work related classes.

Statistically significant differences among subgroups pertaining to media are as follows:

- Newspapers are more powerful media among longer-term residents than shorter term ones (52% of those who have resided in the community for 10 years or more have seen messages in newspapers in contrast to 40% of those under 10 years in the community).
- Homeowners have seen messages in newspapers (53%) more than have Renters (30%)
- Residents with Graduate School work have, not unexpectedly, received information from newspapers more than those with less education (60% versus 48% for Bachelor’s Degree and Some College and 25% for High School or less)
- Those residents age 55 and over receive this information more from newspapers than do other age groups (62% versus 41% for ages 35-54 and 26% for ages 18-34)
- Television is a huge source of this information for ages 25-34 (74%), in contrast to both younger groups (37% for 18-24) and older groups (54% for ages 35 and above)
- Only 1% of Spanish language respondents obtained this information from newspapers. This is likely due to three reasons: 1) Many mono-lingual Spanish speakers are not literate even in Spanish, 2) Culturally, in heavily Latino cultures, information is distributed orally—word of mouth and radio loom larger in importance, 3) Daily cost.
- 18% of Spanish language respondents obtained this information from friends and family

Six water pollution public education slogans, four correct ones and two fabricated for the survey, were posed to respondents, who were asked if they recognized them. Recognition was greatest for “We Live Downstream” (49%), “Think Blue” (35%), and “You are the Solution to Water Pollution” (30%)—three of the correct slogans (**Chart 39**). Next, in order, however, was one of the incorrect slogans—“Keep our Lawns Green” (21%). Carlsbad’s recognition of “We Live Downstream” (52%) and “Think Blue” (63%) were significantly greater than demonstrated in San Luis Rey (39% and 33%, respectively).

In order to attempt to control for the errors made on the two fabricated slogans, all respondents who indicated that they recognized either one of the fabricated ones were eliminated from this question entirely and recognition percentages were re-determined. That is to say, the effect of pure guessing was attempted to be removed, and after having done so, **Table 3** reflects the new lower percentages of those who are more likely to recognize the slogan and are less likely to be offering a guess. The most significant impact is upon the two lesser recognized slogans, each of which lost 6% of its recognition from **Chart 39**—“Only Rain in the Storm Drain” losing a full one-third of its original tally. “We Live Downstream” lost 3% and “Think Blue” lost a minor 1%, indicating that those slogans attracted fewer guesses than did the other two and confirming the solidity of their recognition factor.

Spanish language respondents had particular difficulty with this part of the survey, demonstrating very high recognition percentages for both of the fabricated slogans (45%--“Keep Our Drains Squeaky Clean” and 39%--“Keep Our Lawns Green”) and very low percentages for the two most recognized ones (14%--“We Live Downstream” and 12%--“Think Blue”). The language and literacy problems loom very large here apparently.

Table 3	
Recognition of Correct Public Education Slogans (Controlling for Incorrect Answers to Fabricated Slogans)	
Slogan	%
We Live Downstream	46%
Think Blue	34%
You are the Solution to Water Pollution	23%
Only Rain in the Storm Drain	13%

Using these corrected recognition percentages from **Table 3**, the following subgroup differences are worthy of note:

- Homeowners recognize “We Live Downstream” more than do Renters (49% versus 37%)
- All educational levels other than High School and less demonstrate higher recognition of “We Live Downstream” (48% versus 33%)
- “We Live Downstream” is recognized more by all age groups under age 65 (52%) than by those 65 and over (22%)
- Women recognize “Think Blue” (39%) more than Men do (28%)
- “You are the Solution to Water Pollution” is recognized most by the 45-64 age group (32%) and least by 65 and over (11%) and 18-24 (13%).
- “Only Rain in the Storm Drain” is recognized more by residents with Graduate School (19%) than by those at all other levels of education (11%)

Association Between Knowledge and Behavior

At the core of any public awareness study is an underlying assumption that knowledge leads to positive action. That is to say, the more a resident knows about water pollution and watersheds, the more his or her behavior will conform to the standards and policies set to maintain water quality in the region. The assumption makes significant inherent sense; yet merits testing, nonetheless.

As such, a test of association was designed for this study where knowledge was defined as correct responses to questions on the survey concerning the following: (NOTE: survey question reference in parentheses—“correct” answer(s) follow dashes)

- what happens to the water that goes into the gutters and storm drains (q18--1)
- how residents maintain yards, pools, vehicles, etc. affects quality of water (q19—1, 2)
- correct recognition of slogans (q21—parts 1, 3, 4, 6—1.....parts 2, 5--2)
- beach contamination (q22--2)
- heard of hotlines (q23—2, 3)
- definition of watershed (q26--2)
- live in a watershed (q27--1)

Correct behavior was defined as the following question/answer combinations:

- wash vehicle at car wash facility (q1a—2, 3)
- where car wash water goes (q1b—2, 3, 4)
- how often fertilize (q2b—4, 5)
- lawn sprinkler overspray (q2c—4)
- use pesticides (q3—2)
- dispose of leftover pesticides (q3b—4)
- follow pesticide instructions (q3c—1, 2)
- measure pesticide (q3d—1)
- where drained pool water goes (q4c—1, 3, 5)
- how often drain pool (q4d—4, 5)
- chlorine level (q4e—1)
- pick up dog droppings on walk (q6a—1, 2)
- pick up dog droppings in yard (q6b—1, 2)
- dispose of pet waste (q6c—1, 2)
- dispose of paint, etc. cleanup water (q13a—1)
- attended community cleanup event (q28—1)

The frequencies of “correct” responses to the knowledge and behavior questions are shown in **Table 4** and **Table 5**.

Table 4 Number of Watershed Knowledge Questions Answered Correctly		
Number of Correct Responses	f	%
0	2	0.3
1	7	0.9
2	45	5.7
3	104	13.0
4	154	19.2
5	146	18.2
6	134	16.7
7	94	11.8
8	50	6.3
9	45	5.6
10	10	1.3
11	6	0.7
12	3	0.4
Total	803	100.0

The mean number of correct knowledge responses (**Table 4**) given by residents of the two watersheds was 5.26 questions, with the greatest number of respondents answering 4 correctly, and the mean number of correct behavioral responses (**Table 5**) was 3.58, with the greatest number of respondents answering 3 correctly. This does not imply that knowledge exceeds behavior, in contrast to the findings discussed in the above sections, because respondents were screened out of many behavioral questions when they did not have a dog or pool, or they did not paint or stucco their house, or they did not wash their automobile. The findings in the above sections stand on their own merit that behavioral patterns are better than demonstrated knowledge and awareness. The purpose of this particular test, rather than to compare, is to correlate behavior with knowledge, and to do

so, Pearson's r measure of association was used to test the relationship between knowledge and behavior.

Table 5 Number of Watershed Behavioral Questions Answered Correctly		
Number of Correct Responses	f	%
0	9	1.1
1	103	12.9
2	172	21.4
3	153	19.1
4	131	16.3
5	97	12.1
6	58	7.3
7	48	6.0
8	19	2.4
9	9	1.1
10	2	0.2
11	0	0.0
12	2	0.2
Total	803	100.0

Pearson's r was determined to be statistically significant and measured at $+0.28$, which is characterized as a "low-to-moderate" positive association. This means that there is a statistically significant relationship between what an individual knows about watersheds and water pollution and how he or she behaves, and this relationship is such that the more that is known, the more correctly he or she behaves with regard to protecting water quality. The degree of correlation is low-to-moderate, meaning that there is a relationship, and the relationship is a positive one where knowledge and correct behavior are in statistically significant lockstep on a low-to-moderate basis. Within the Carlsbad watershed Pearson's r is $+0.29$, and in San Luis Rey it is a less strong, but still statistically significant, $+0.23$.

Carlsbad and San Luis Rey Watersheds Public Awareness Survey Coastal vs. Inland Zip Codes Addendum

The 2003 Carlsbad and San Luis Rey Watersheds Public Awareness Survey interviewed 803 respondents by telephone who resided within these watersheds. Among these respondents were 293 respondents (36%) who live in zip codes that border the Pacific Ocean (92007, 92008, 92009, 92024, 92054).

A request has been made by the Copermittees that, in addition to the full report that has been prepared by Rea & Parker Research, analysis be conducted to determine what, if any differences of significance exist between residents of coastal zip codes and residents of inland zip codes. This addendum summarizes those differences in the same Behavioral, Attitudinal/Preference, and Knowledge/Awareness categories as were utilized in the full report.

Behavioral Differences:

- 83% of coastal residents indicate that they always pick up their dog droppings when walking their dogs in contrast to 61% of inland residents.
- 67% of all coastal residents estimate that people tend to pick up their dogs' droppings versus 55% of inland residents who make that estimate.
- 14% of coastal residents have attended a cleanup event in the past year versus 8% of inland residents

Opinion/Preference Differences:

- 55% of coastal residents strongly agree, "How residents in my community maintain our yards, pools, vehicles, and other outdoor facilities significantly affects the quality of water in our rivers, bays, lagoons, and beaches." Only 41% on inland residents strongly agree with that statement.
- Regarding bodies of water that are important to the community, the ocean was important to 70% of coastal residents in contrast to 50% of inland residents.

Knowledge/Awareness Differences:

- 69% of coastal residents know that the destination of storm water in the storm drains is directly to rivers, bays, or the ocean in contrast to 43% of inland residents.
- 42% of coastal residents correctly defined a watershed versus 32% of inland residents.
- 27% of coastal residents thought that they live in a watershed, but only 14% of inland residents thought the same.
- Although hotlines to report suspicious activities affecting water quality are not well known, coastal residents are less unaware (70% have not heard of these hotlines) than are inland residents (79% have not heard).
- Among those who have seen or heard messages about polluted storm water runoff during the past year, inland residents have seen messages on television (59%) more than have coastal residents (49%).
- “We Live Downstream” is much more recognized by coastal residents (56%) than by inland residents (39%).

Association Between Knowledge and Behavior:

- There exists a stronger correlation between knowledge and behavior in the inland zip codes ($r=.31$) than in the coastal zip codes ($r=.23$).

Chart 1

Where Vehicles Usually Washed
(Among those with vehicles)

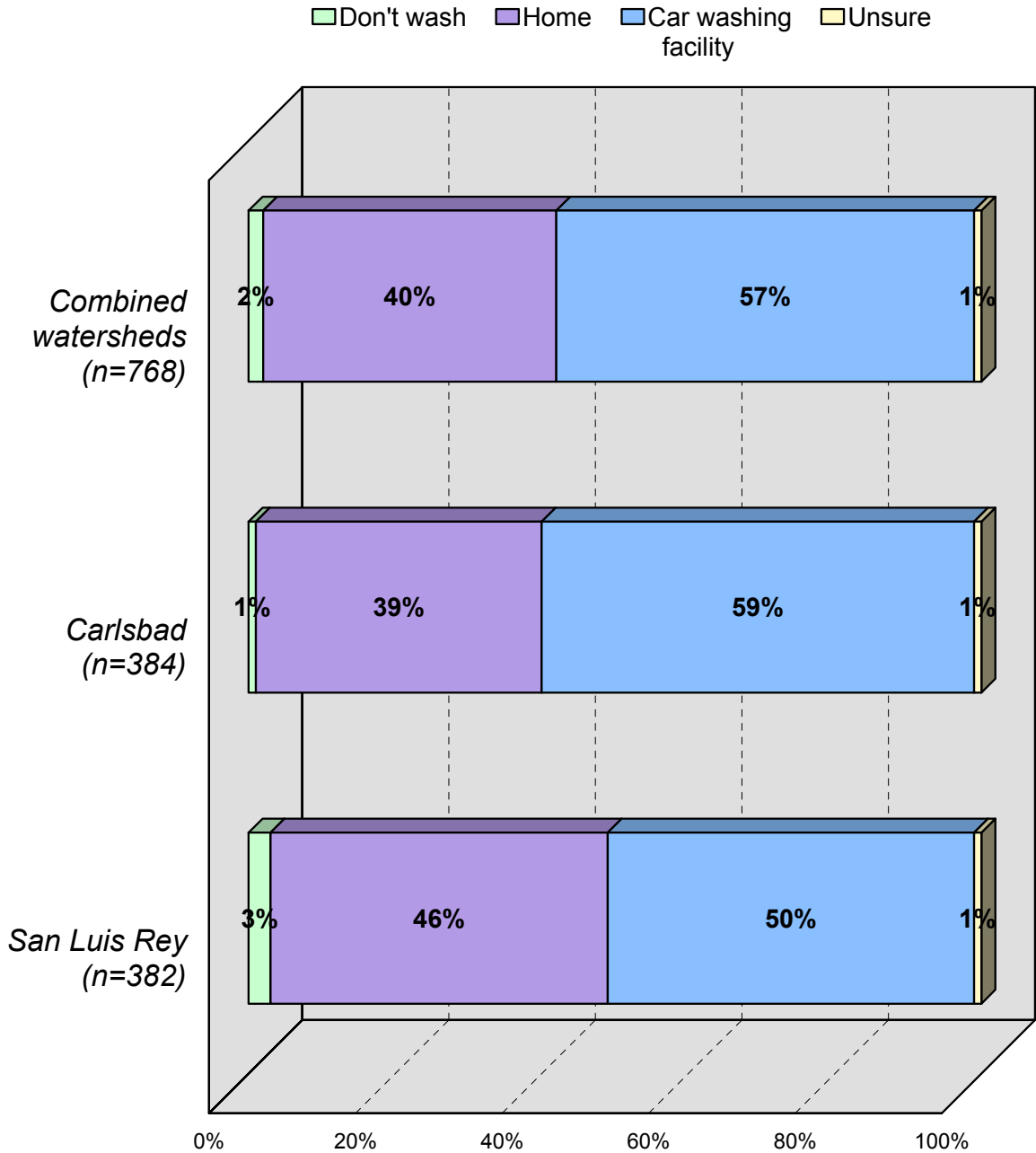


Chart 2

Where Most Wash Water From Vehicle Usually Goes
(Among those who wash their vehicles at home)

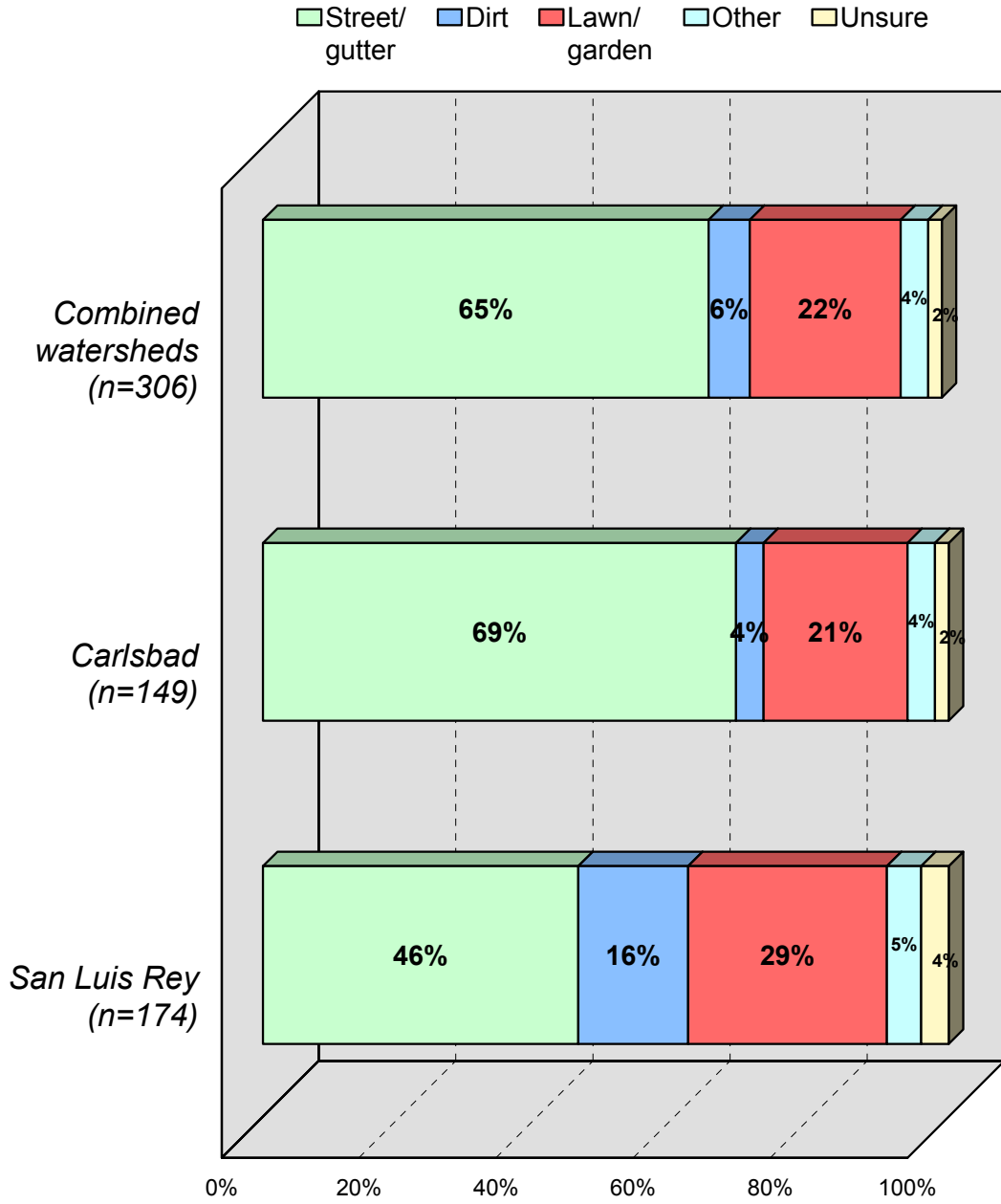


Chart 3

Party Responsible for Maintaining Lawn or Garden
(Among those with a lawn or garden)

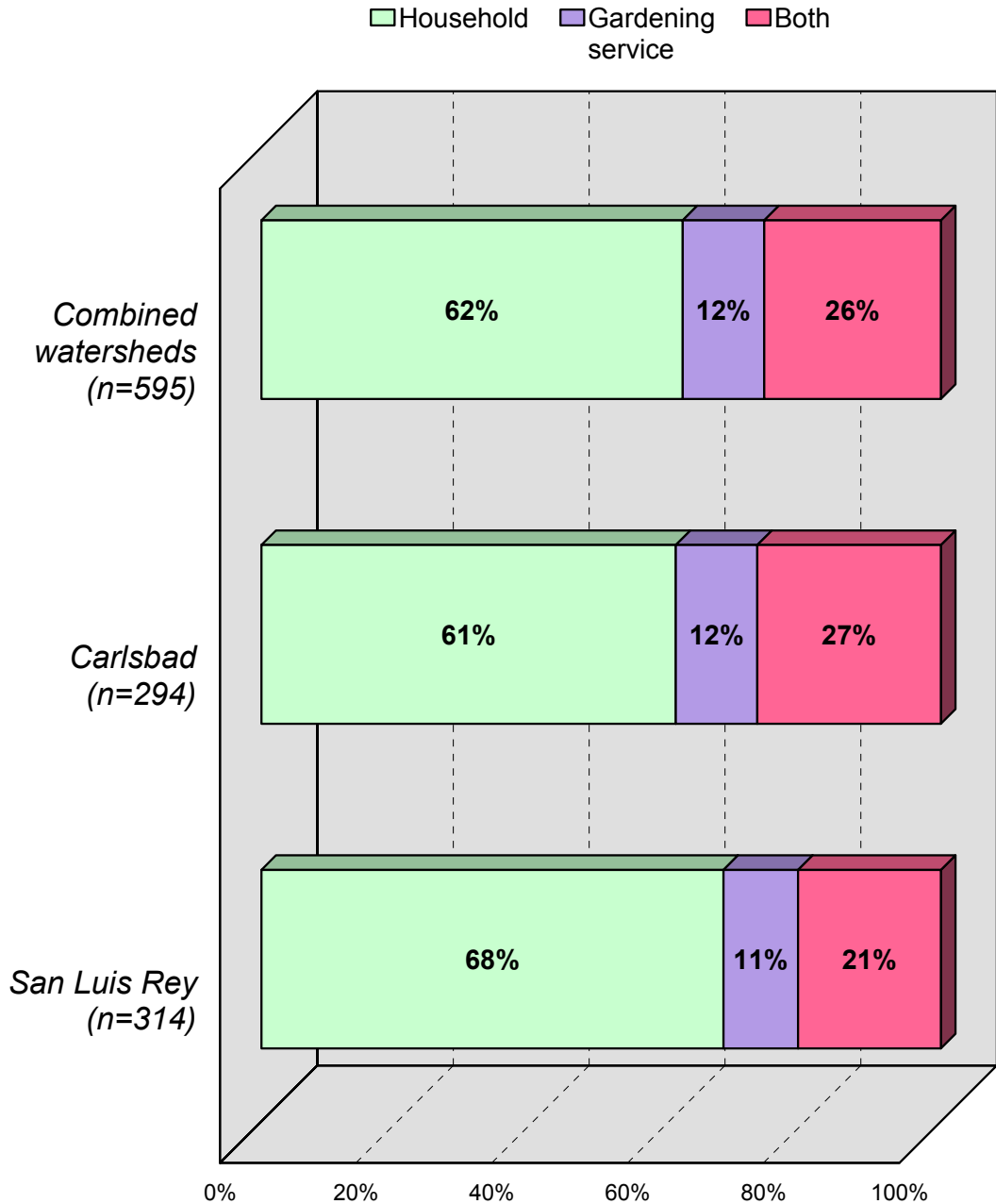


Chart 4

How Often Fertilize Lawn or Garden
(Among those with a lawn or garden)

Once a month Several times a year Once or twice a year Less than once a year Never Unsure

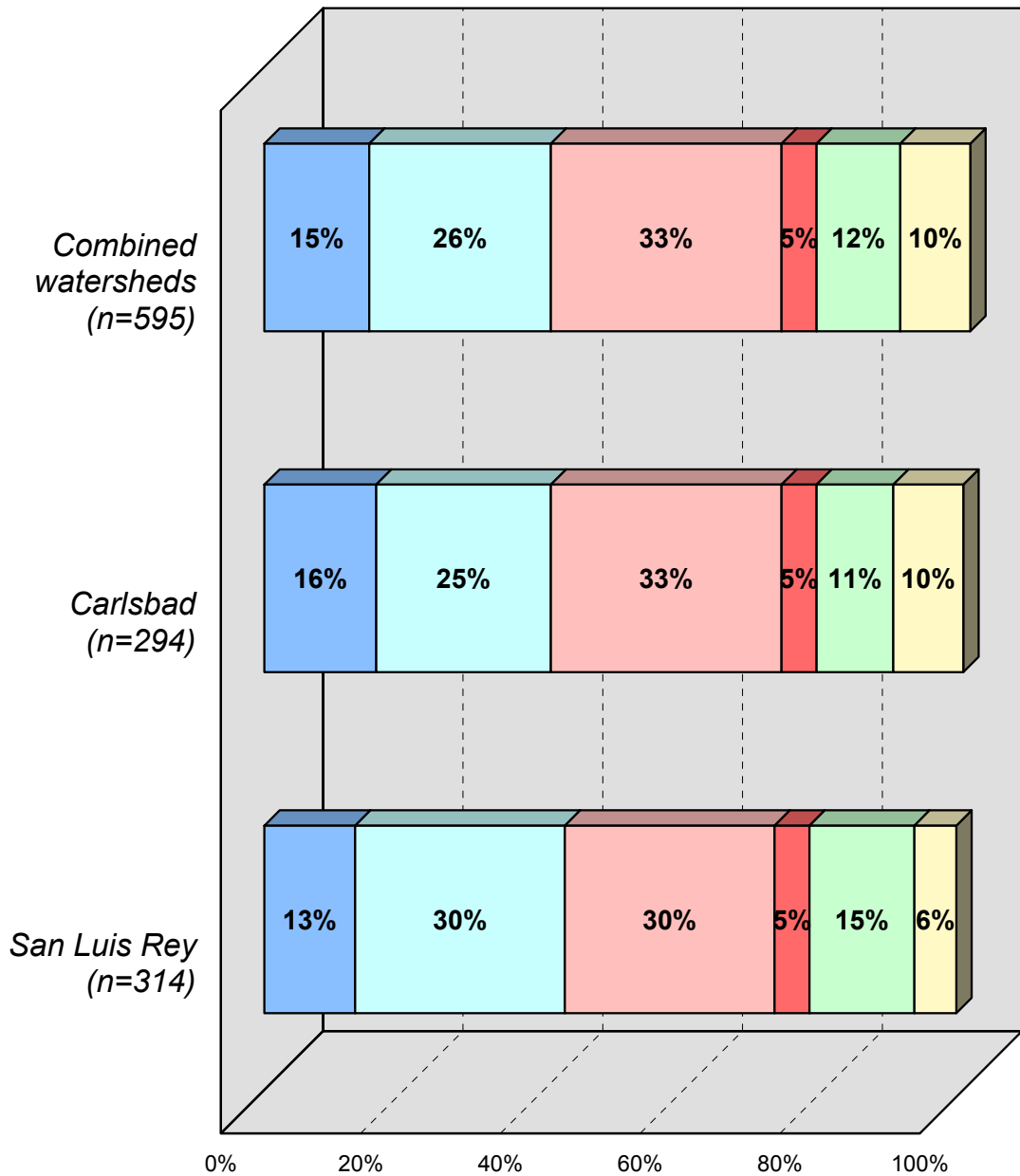


Chart 5

When Watering, Noticeable Amount of Water Hits Sidewalk/Driveway or Runs Off Lawn/Garden
(Among those with a lawn or garden)

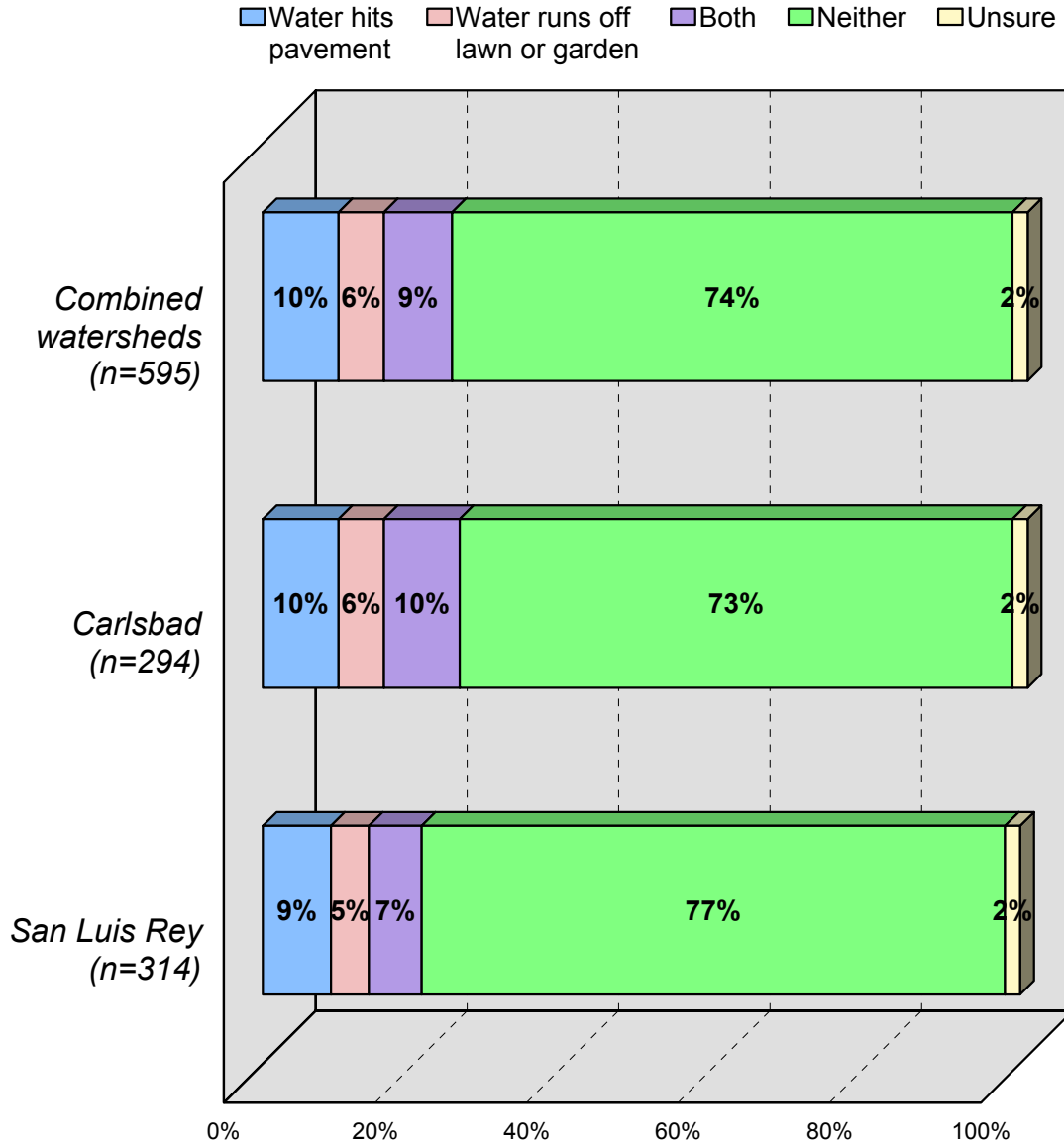


Chart 6

Any Pesticides, Herbicides or Fungicides Used on Lawn,
Garden, or Outside House

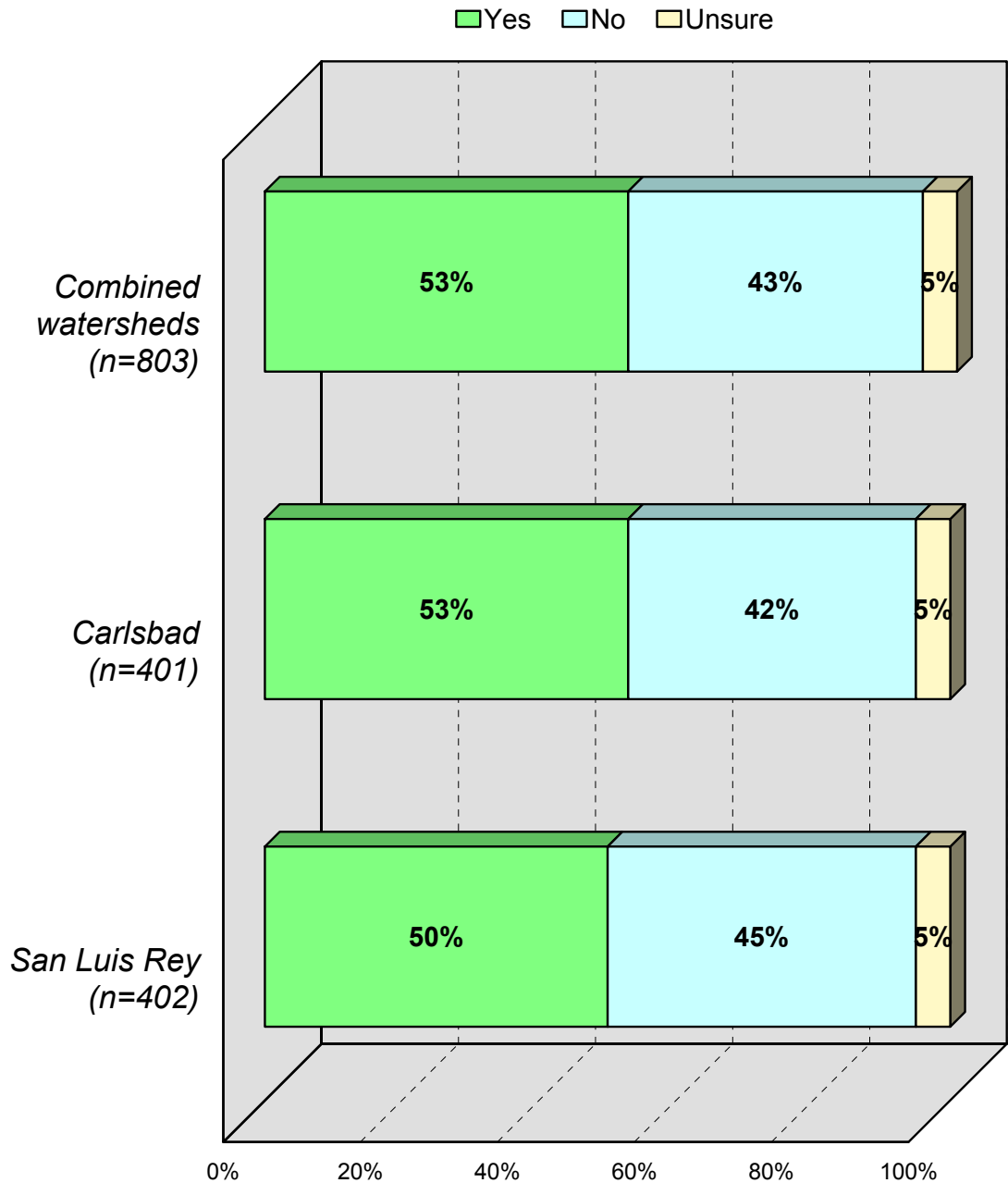


Chart 7

**Employ Professional Pest Control Service
for Outdoor Pest Control**
(Among those who use pesticides, herbicides or fungicides)

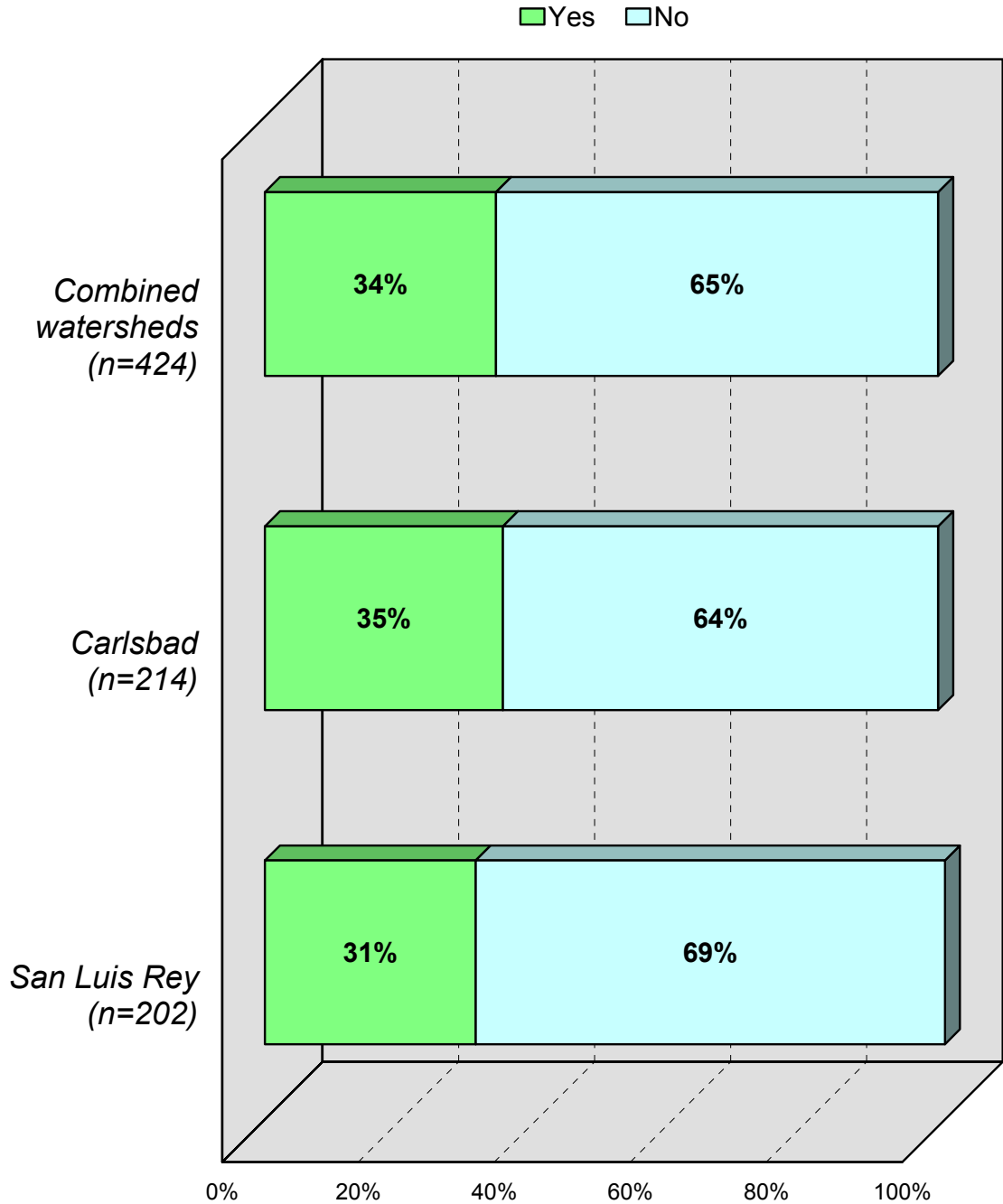


Chart 8

How Leftover Pesticides Disposed Of

(Among those who do not employ a professional pest control service)

Put into trash Taken to waste site Stored None left over Other Unsure

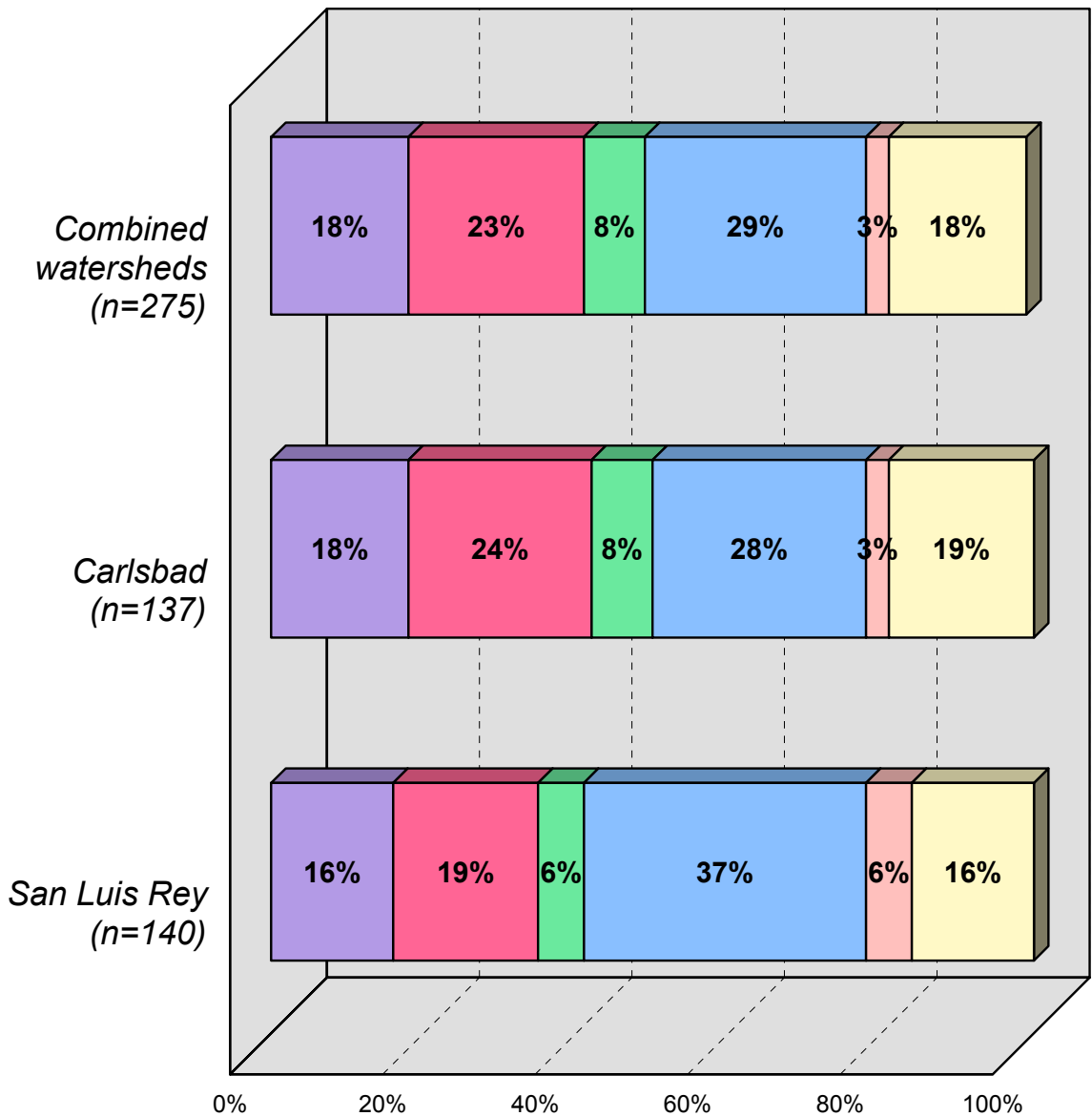


Chart 9

How Carefully Manufacturers' Instructions Followed When Using Pesticides, Herbicides and Fungicides in Yard
(Among those who do not employ a professional pest control service)

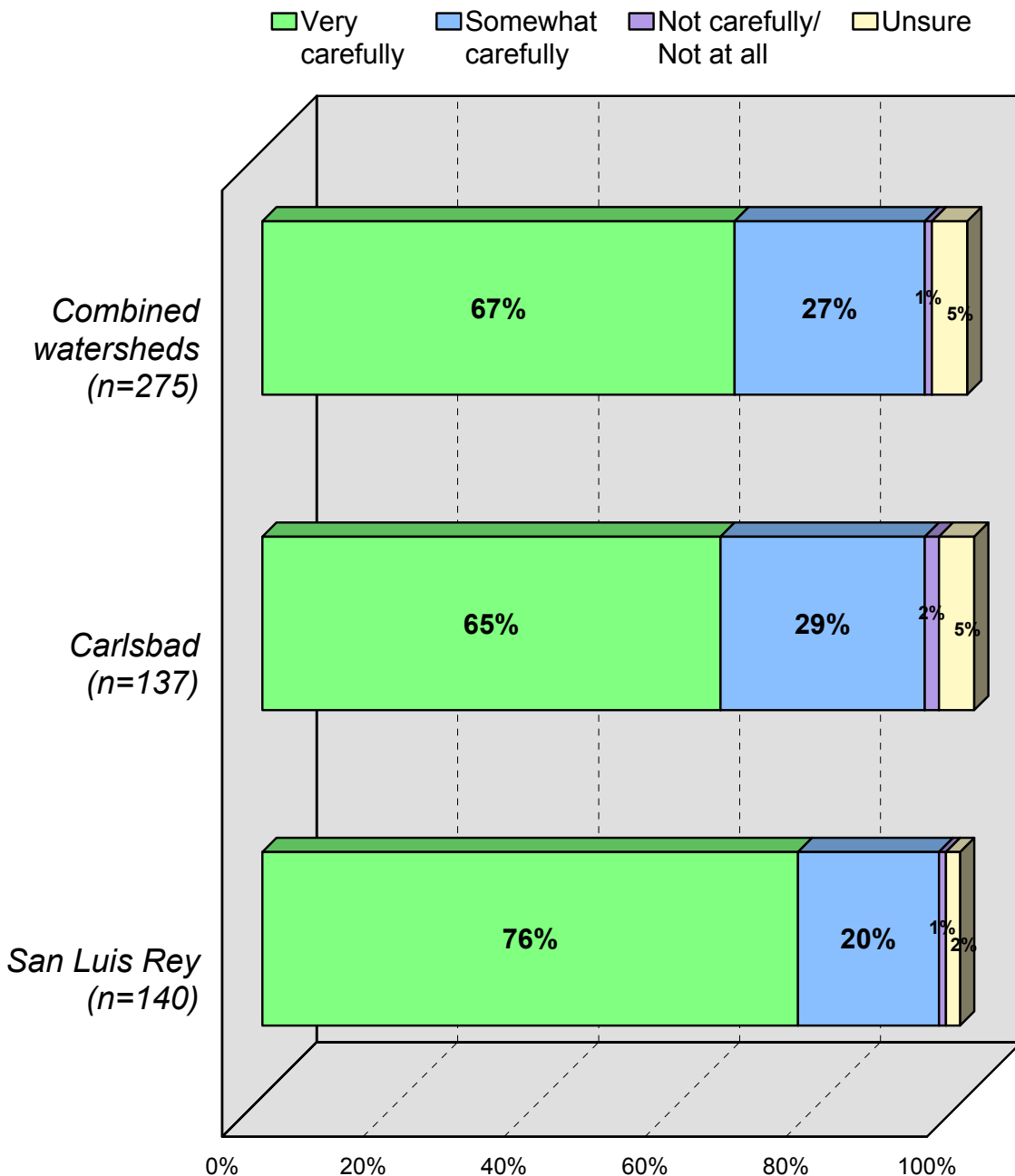


Chart 10

Amount of Pesticides Typically Measured or Estimated
(Among those who do not employ a professional pest control service)

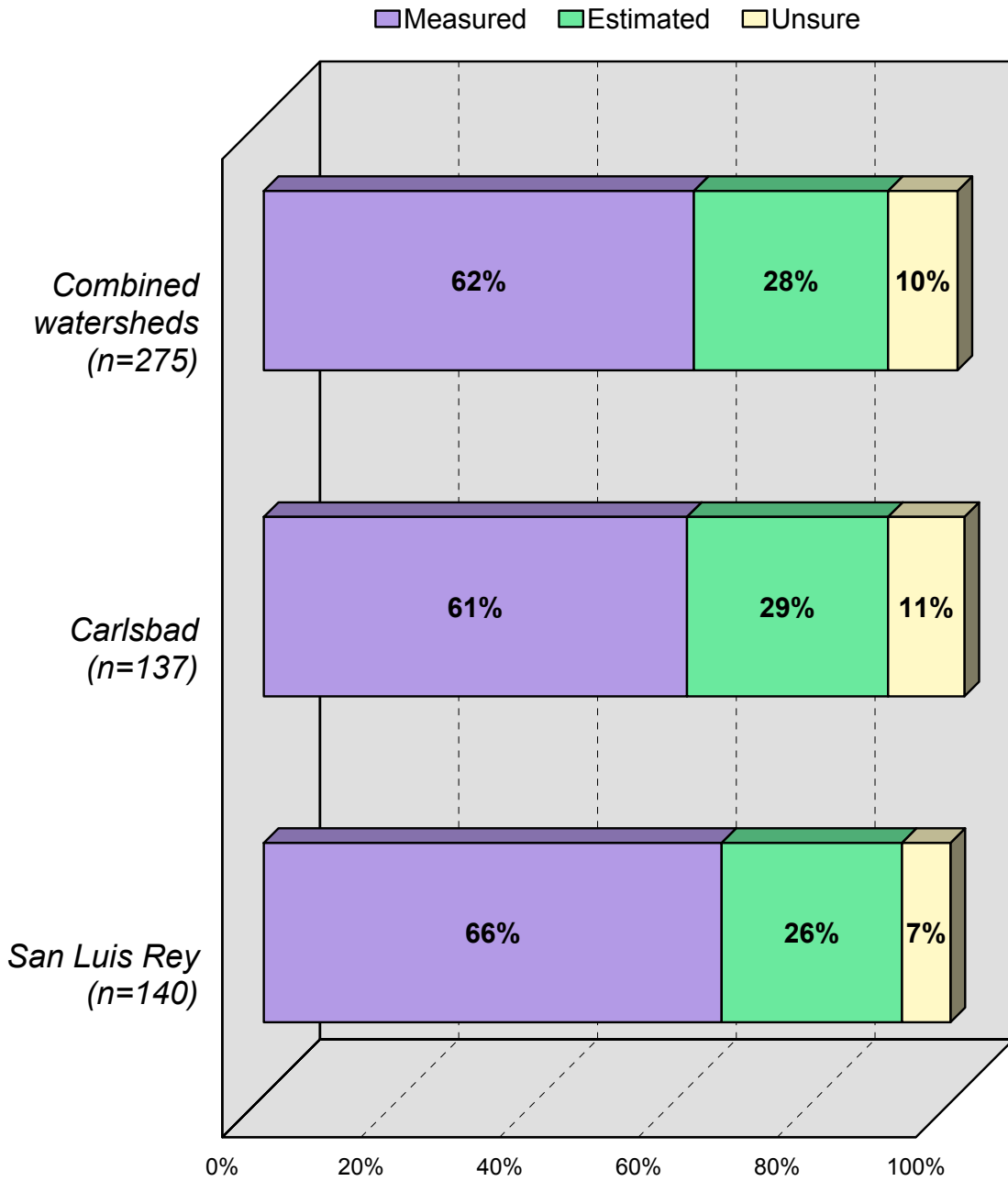


Chart 11

Employ Professional Pool Service for Maintenance
(Among those who have pool/spa)

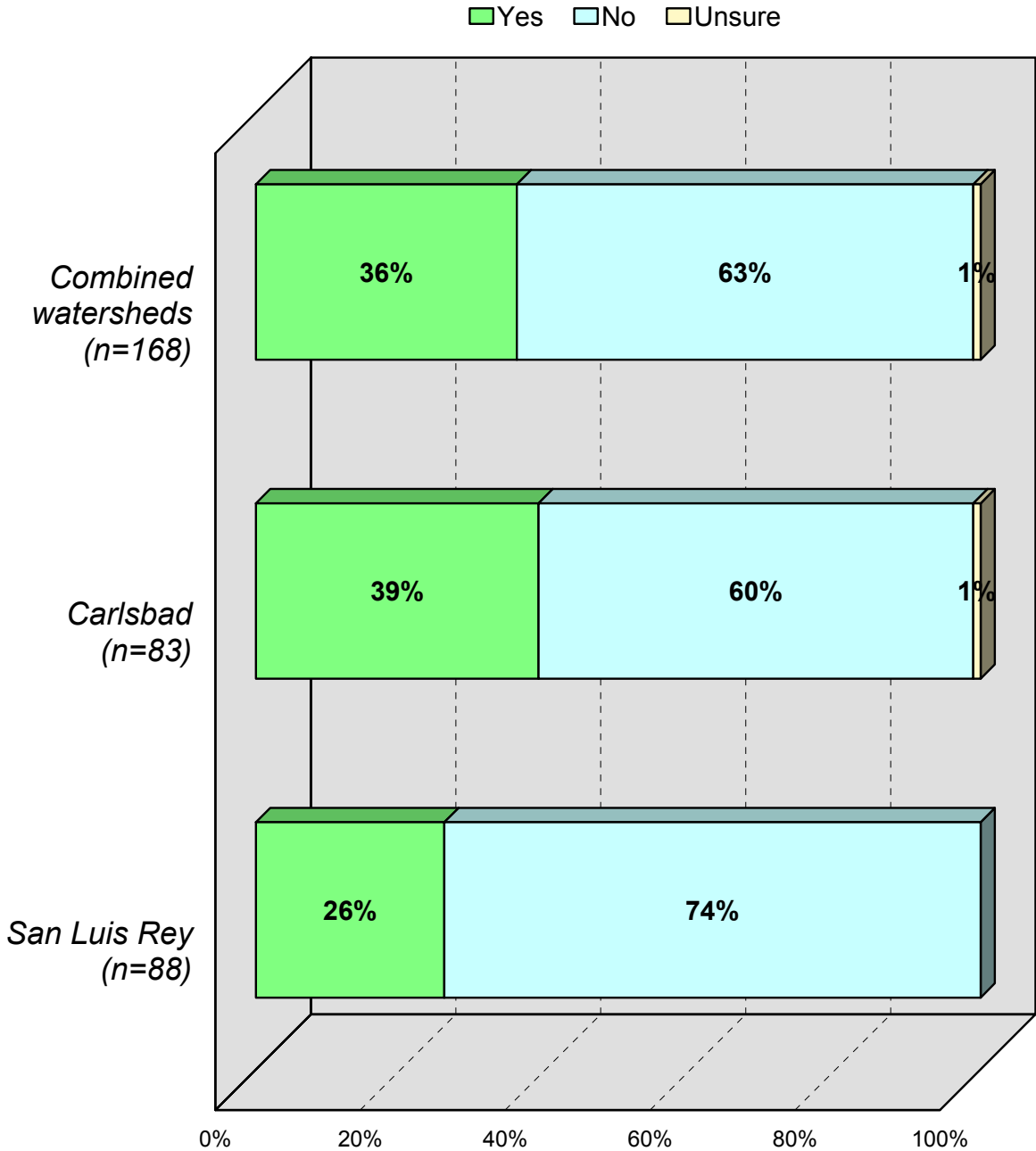


Chart 12

Ever Use Algaecide in Pool or Spa
(Among those who do not employ a professional pool service)

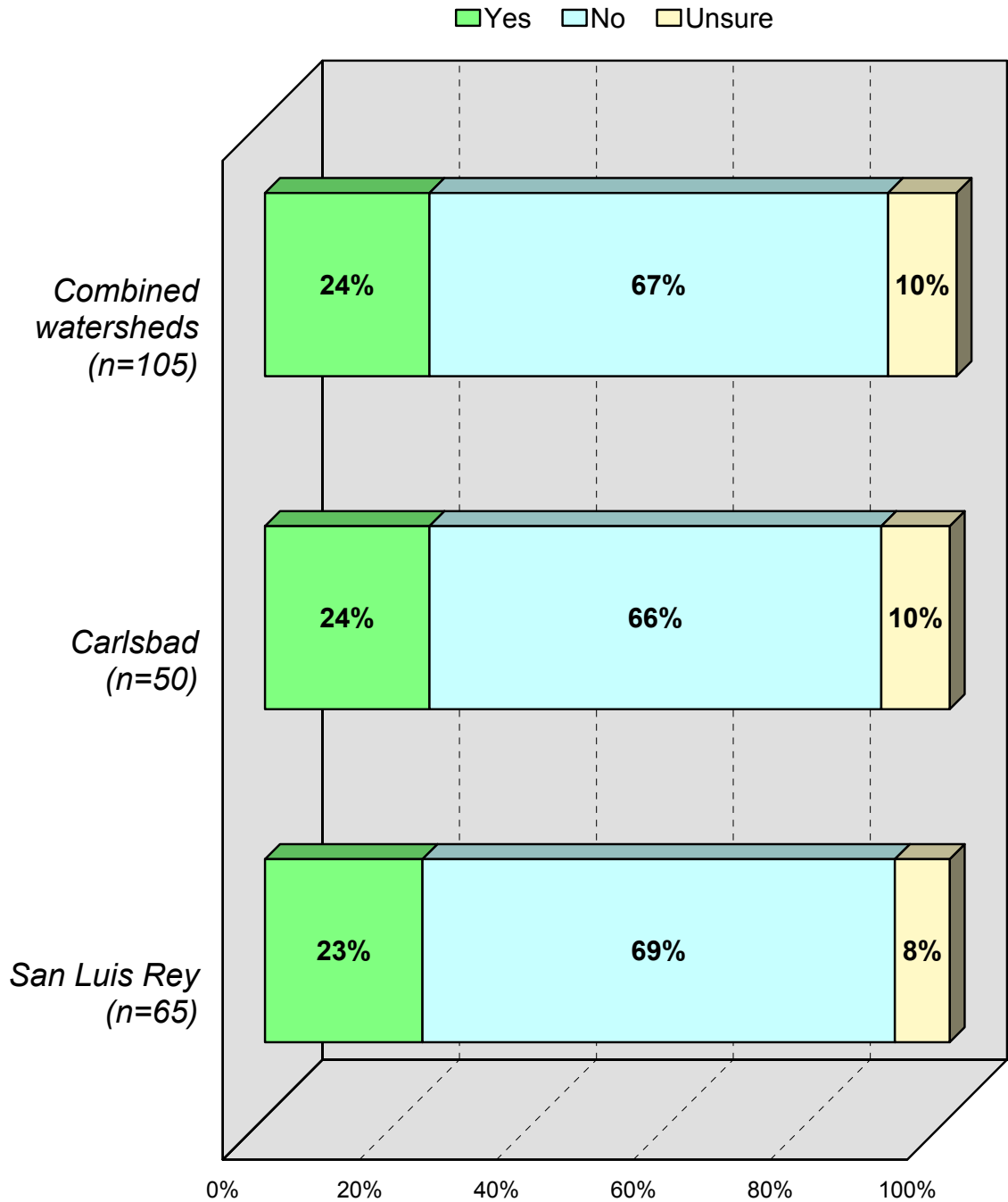


Chart 13

Where Water Goes When Pool or Spa is Drained
(Among those who do not employ a professional pool service)

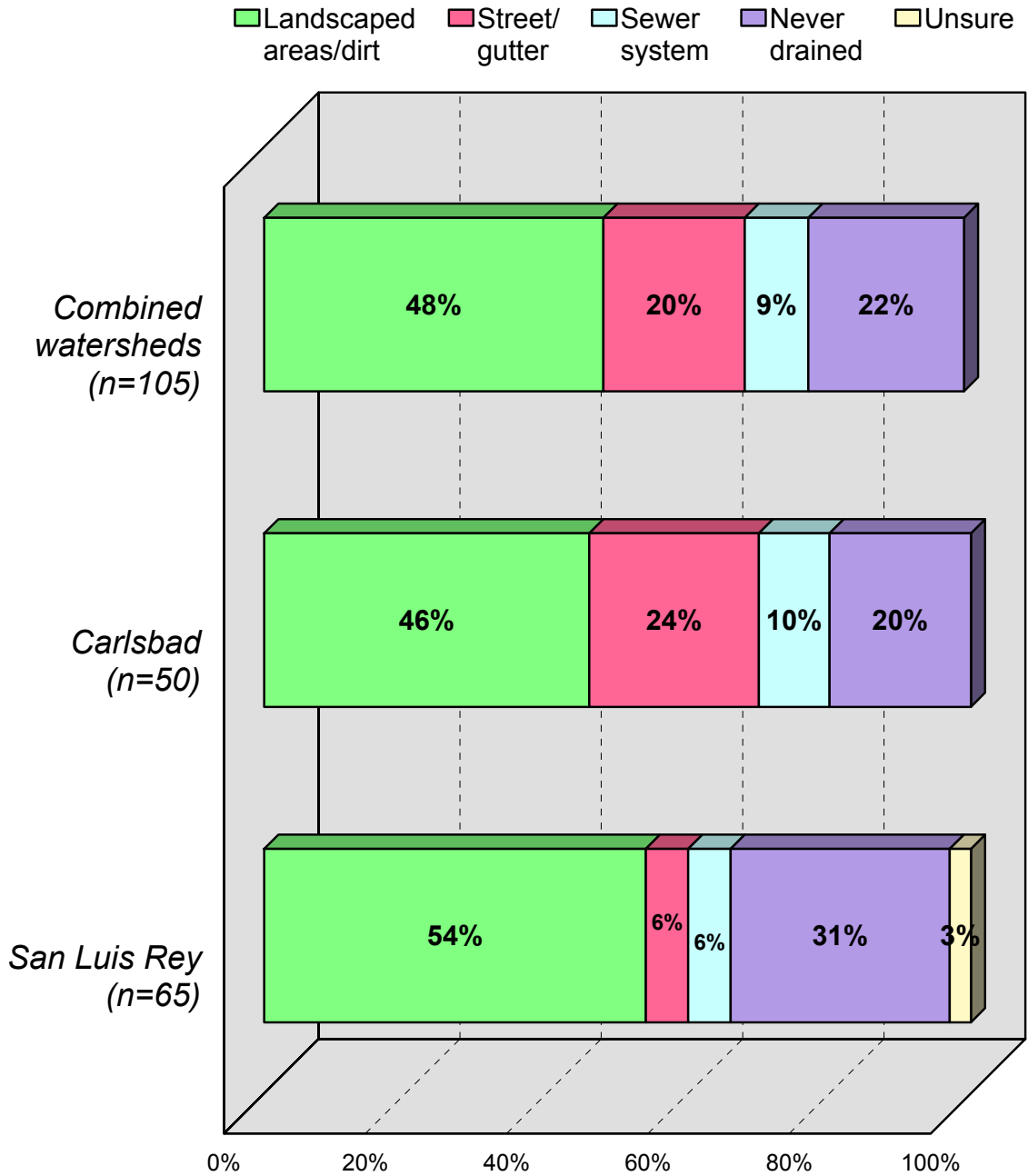


Chart 14

How Often Pool or Spa is Drained
(Among those whose pool is ever drained)

Once a year Every 2-3 years Every 4-5 years Less than every 5 years Never Unsure

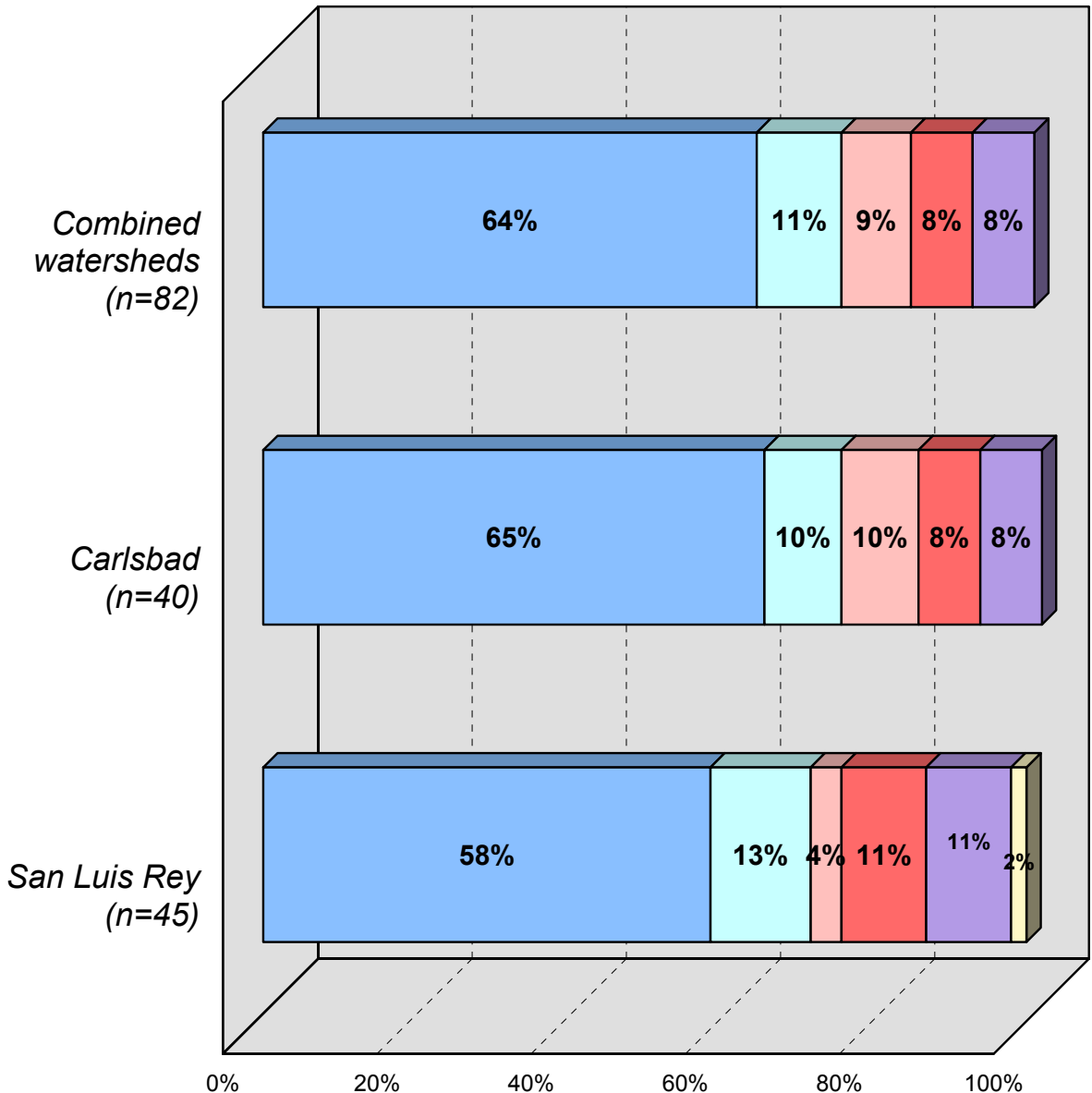


Chart 15

How Handle Chlorine Level Before Draining Pool or Spa
(Among those who drain pool/spa)

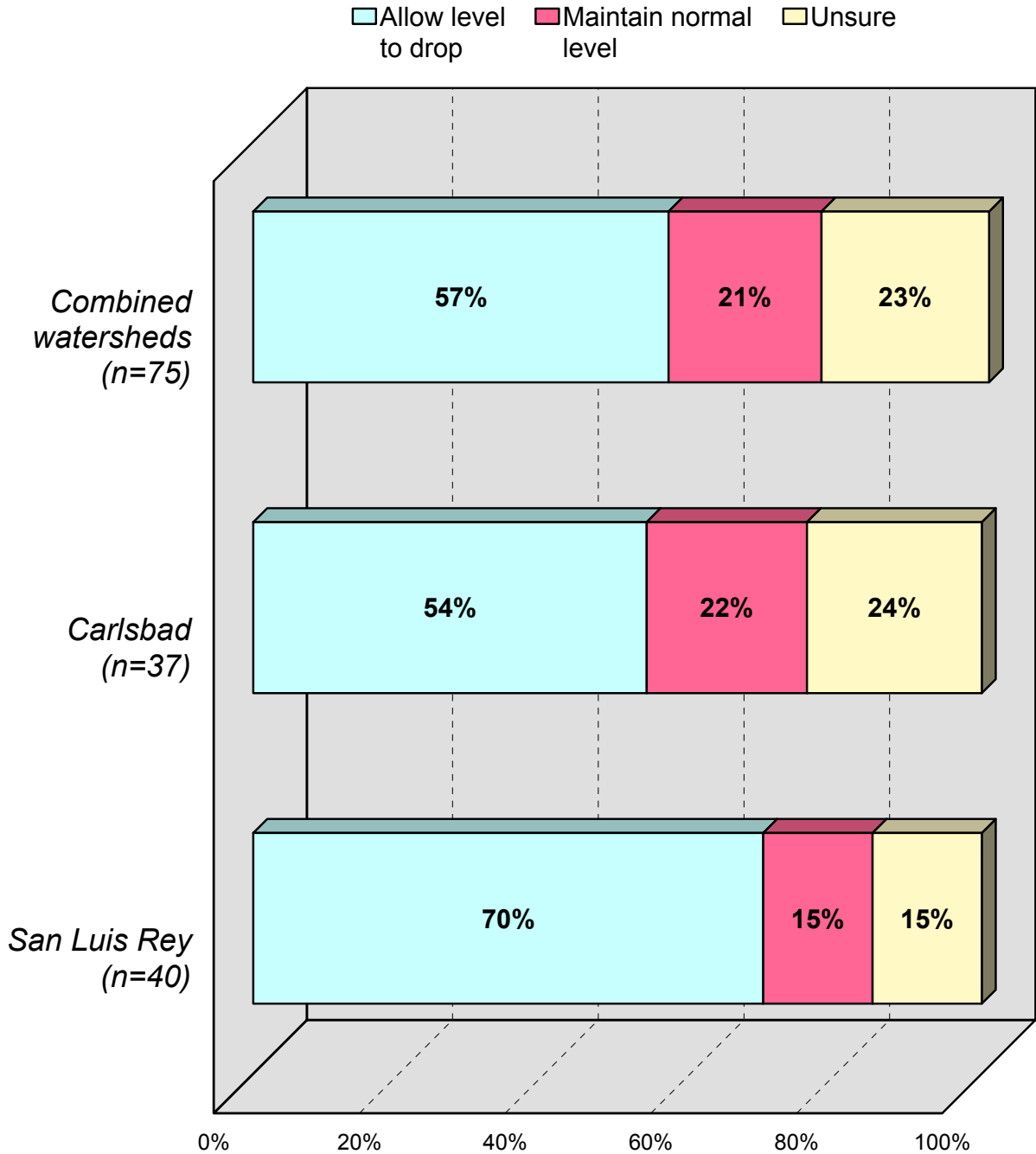


Chart 16

**Frequency Household Dog's Droppings Picked Up
When Dog is Walked**
(Among those who walk their dog)

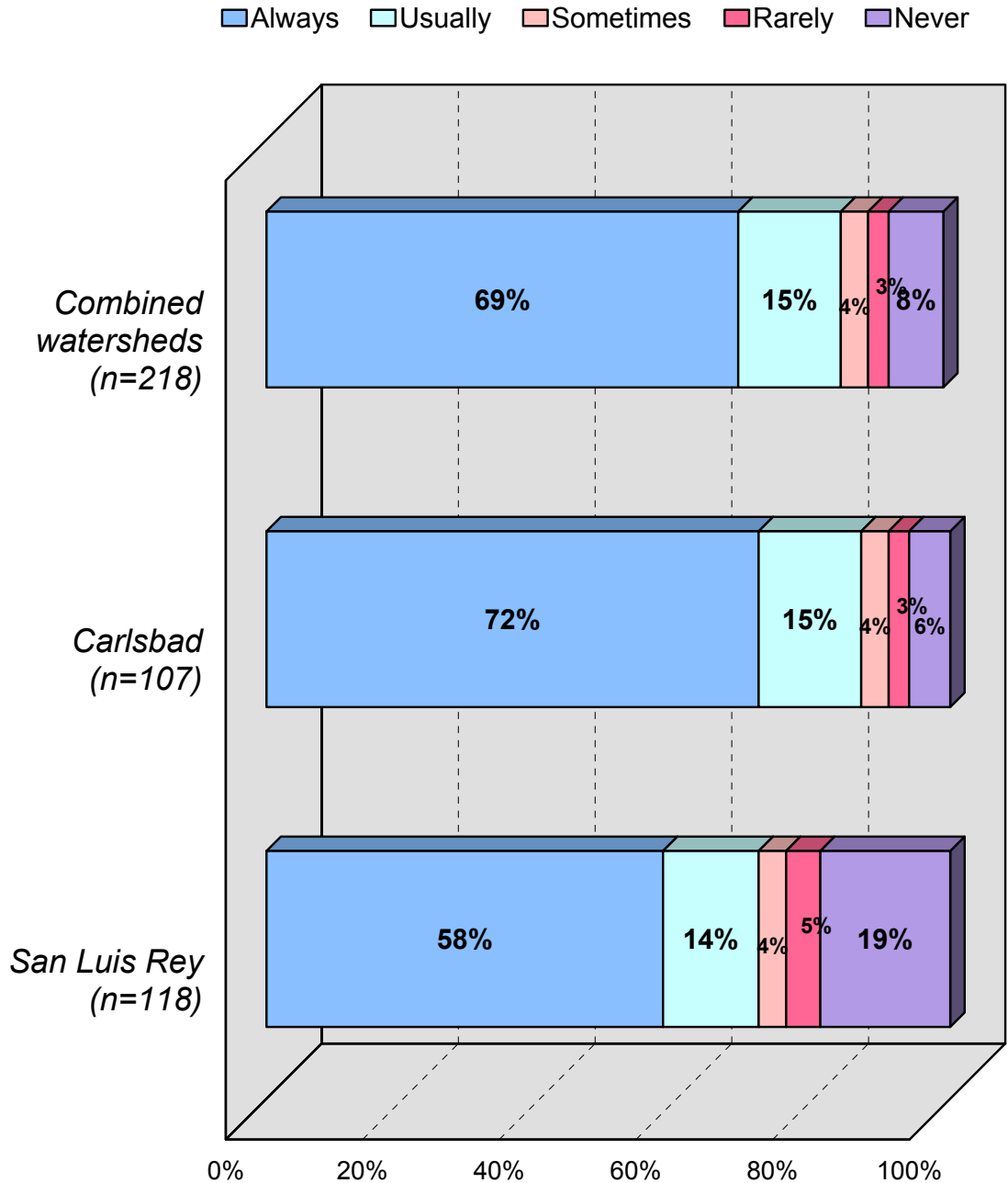


Chart 17

**Percentage of People in Community
Who Pick Up Dogs' Droppings**

None 1-24% 25-49% 50-74% 75-99% 100% Unsure

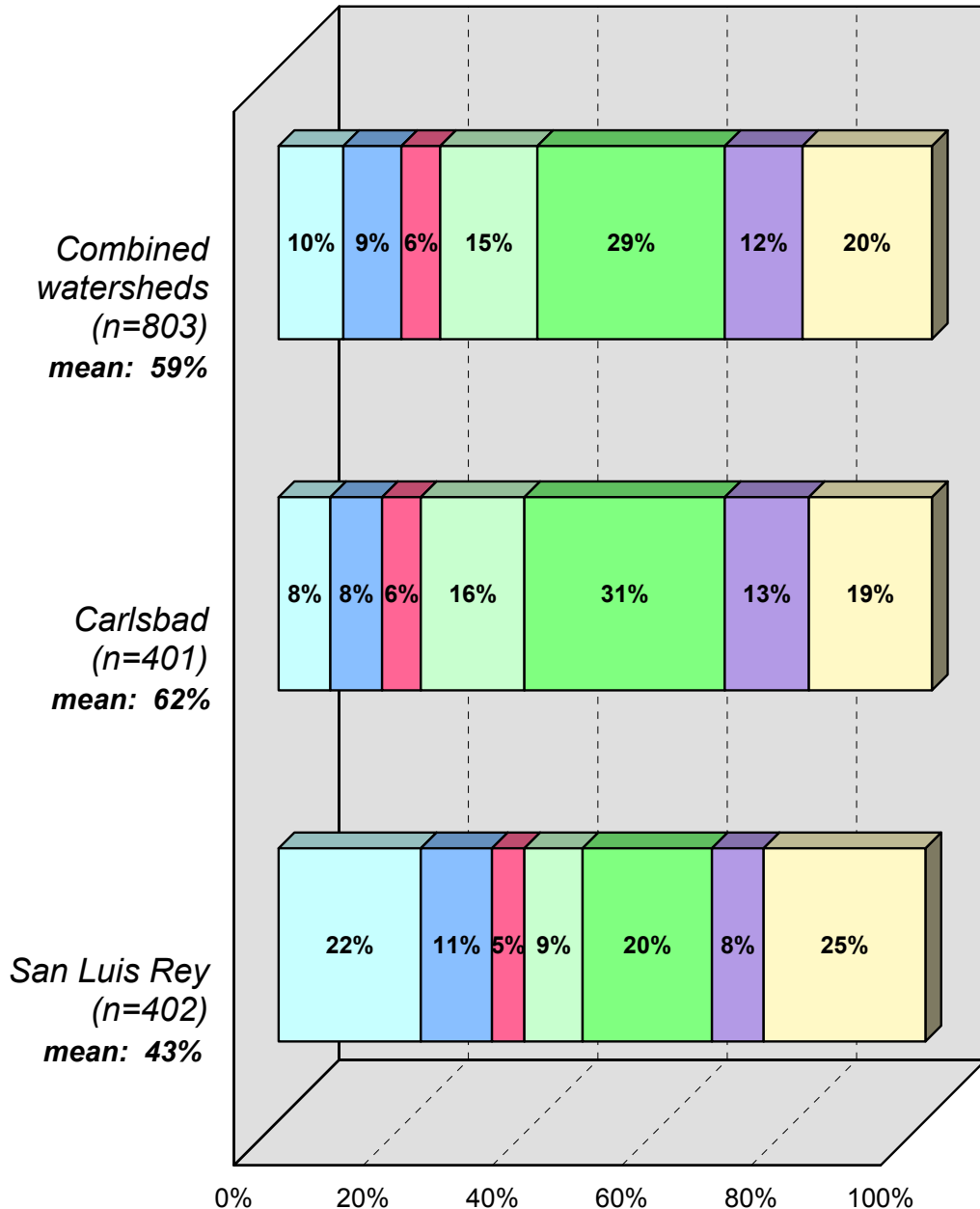


Chart 18

Frequency Dog's Droppings in Yard Cleaned Up
(Among those who have a dog)

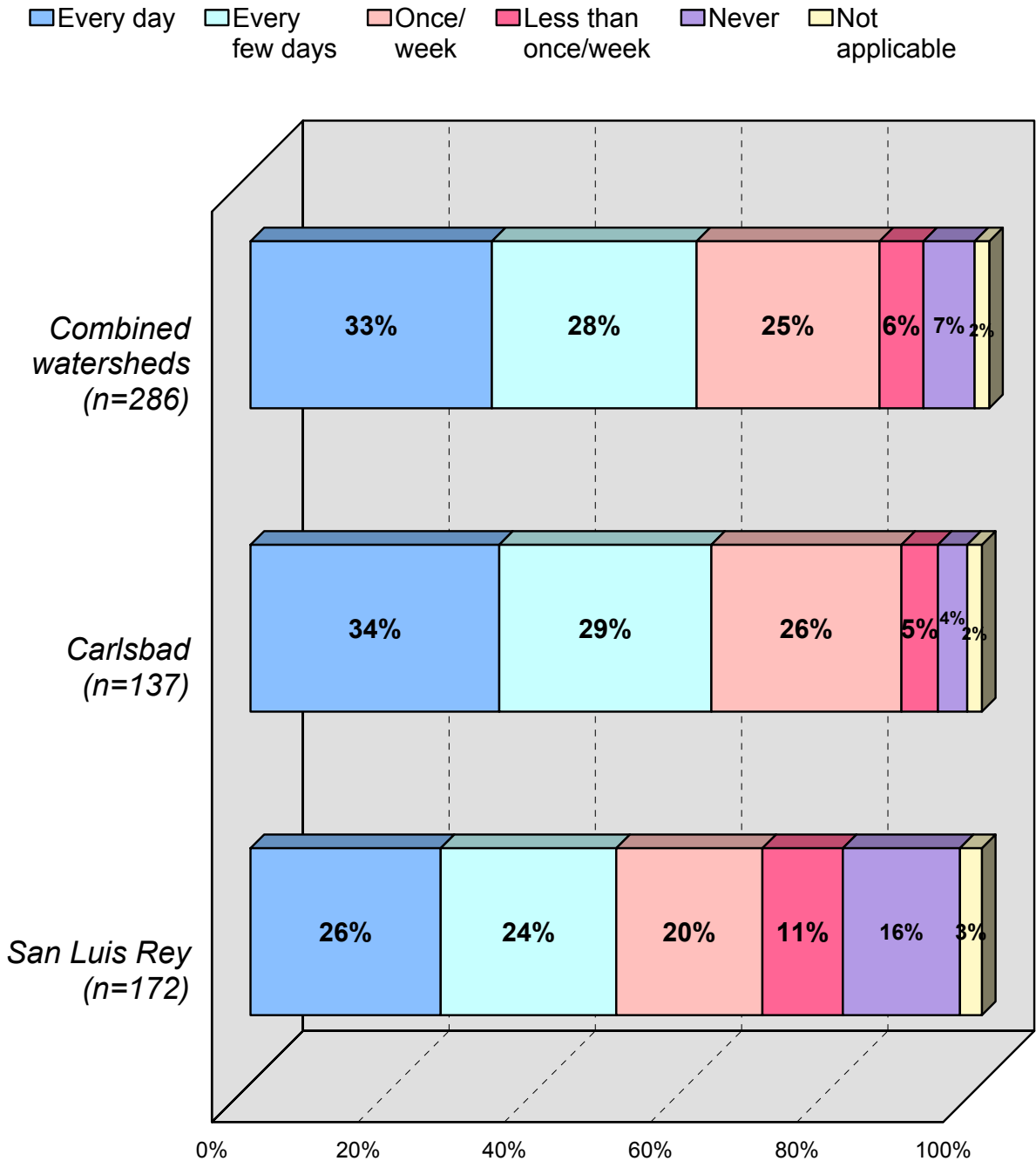


Chart 19

How Pet Waste Usually Disposed Of
(Among those who pick up droppings)

Trash Toilet Composted Street/gutter/ Other Unsure

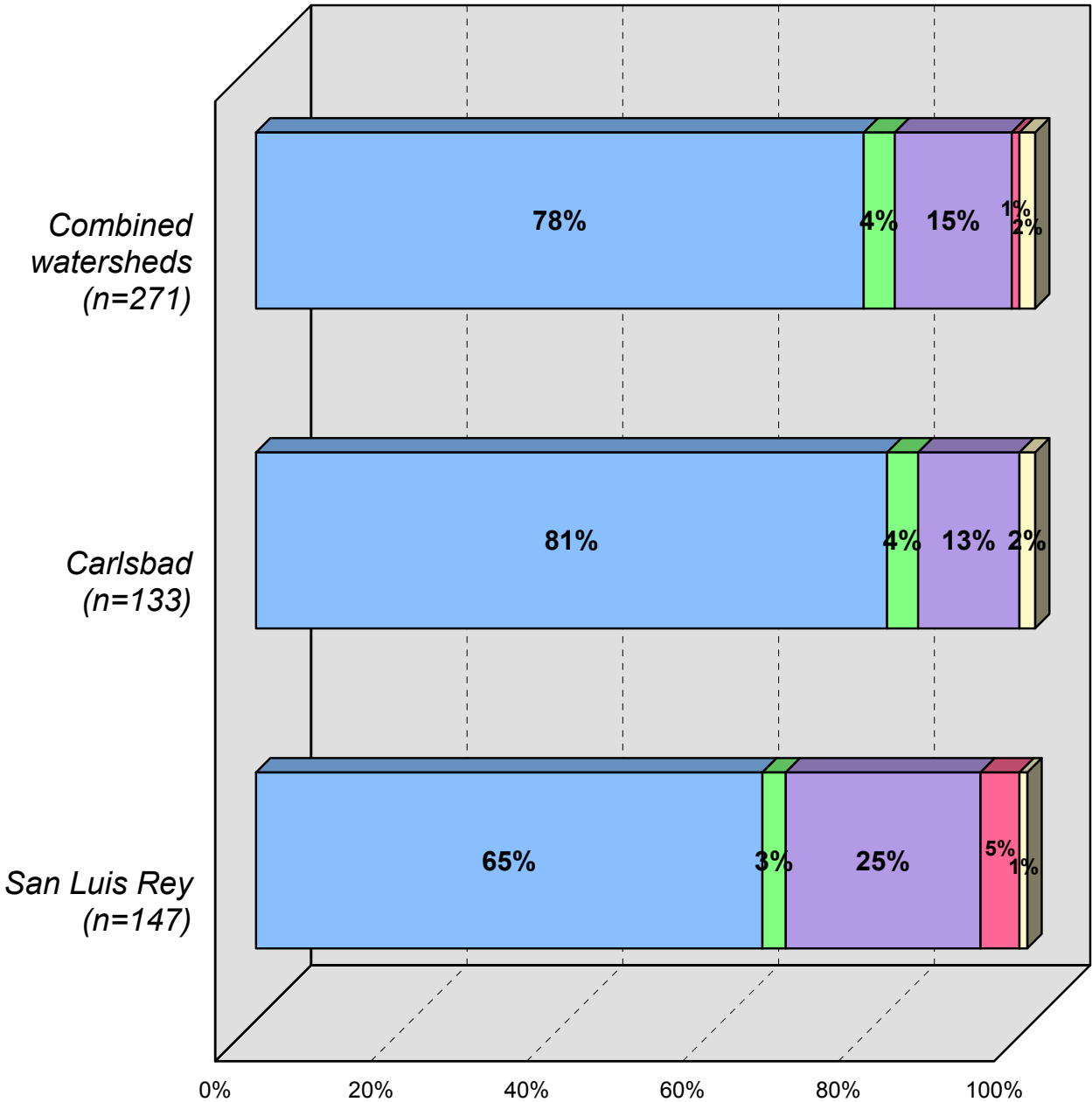


Chart 20

What Happens to Livestock Waste
(Among those who keep livestock on property)

■ Left alone ■ Used as fertilizer ■ Composted ■ Trash ■ Landfill ■ Other

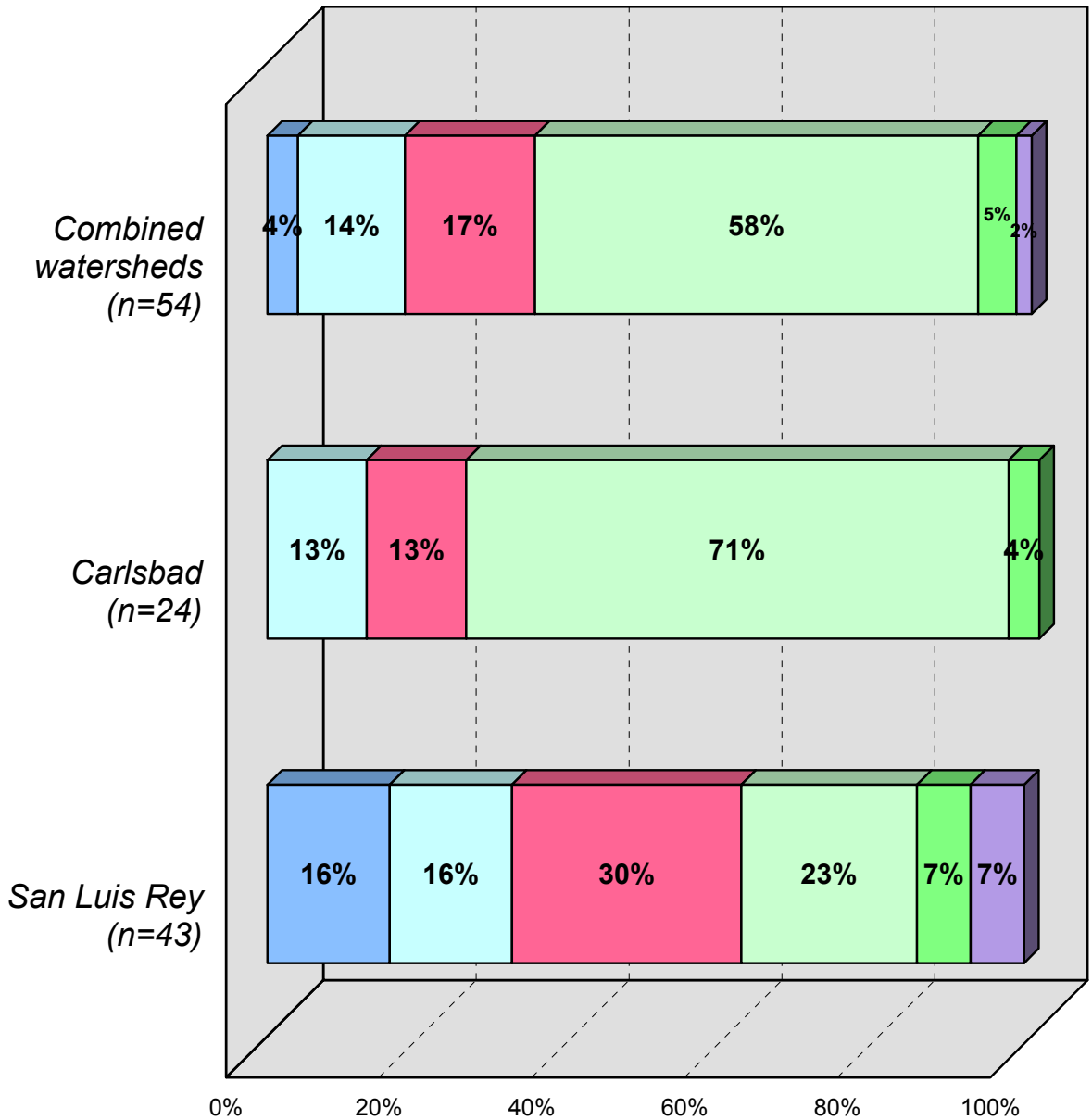


Chart 21

Anyone in Household Do Painting, Tiling, Stucco or Concrete Work

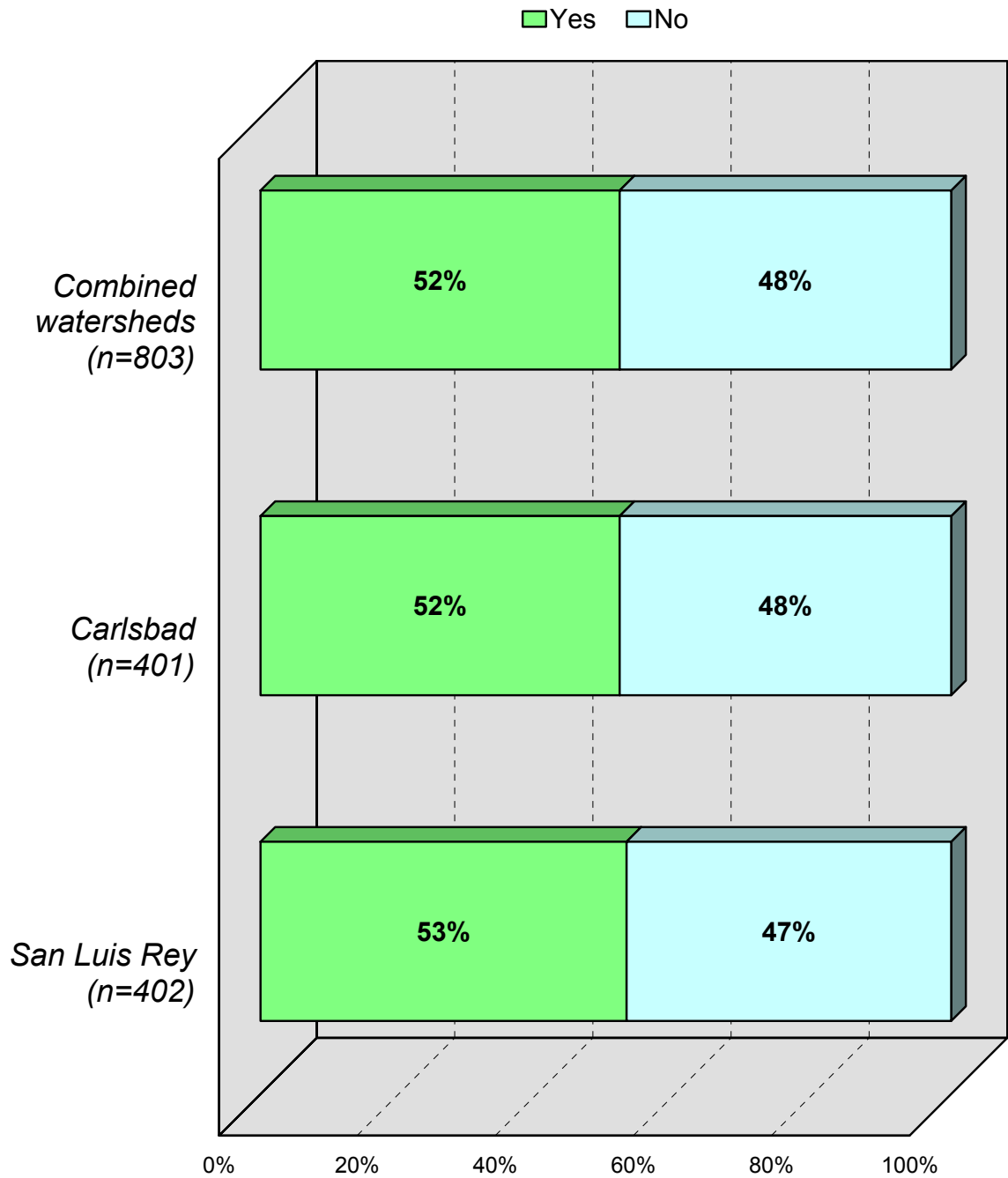


Chart 22

How Home Repair Cleanup Water Disposed Of
(Among those who paint/tile/stucco)

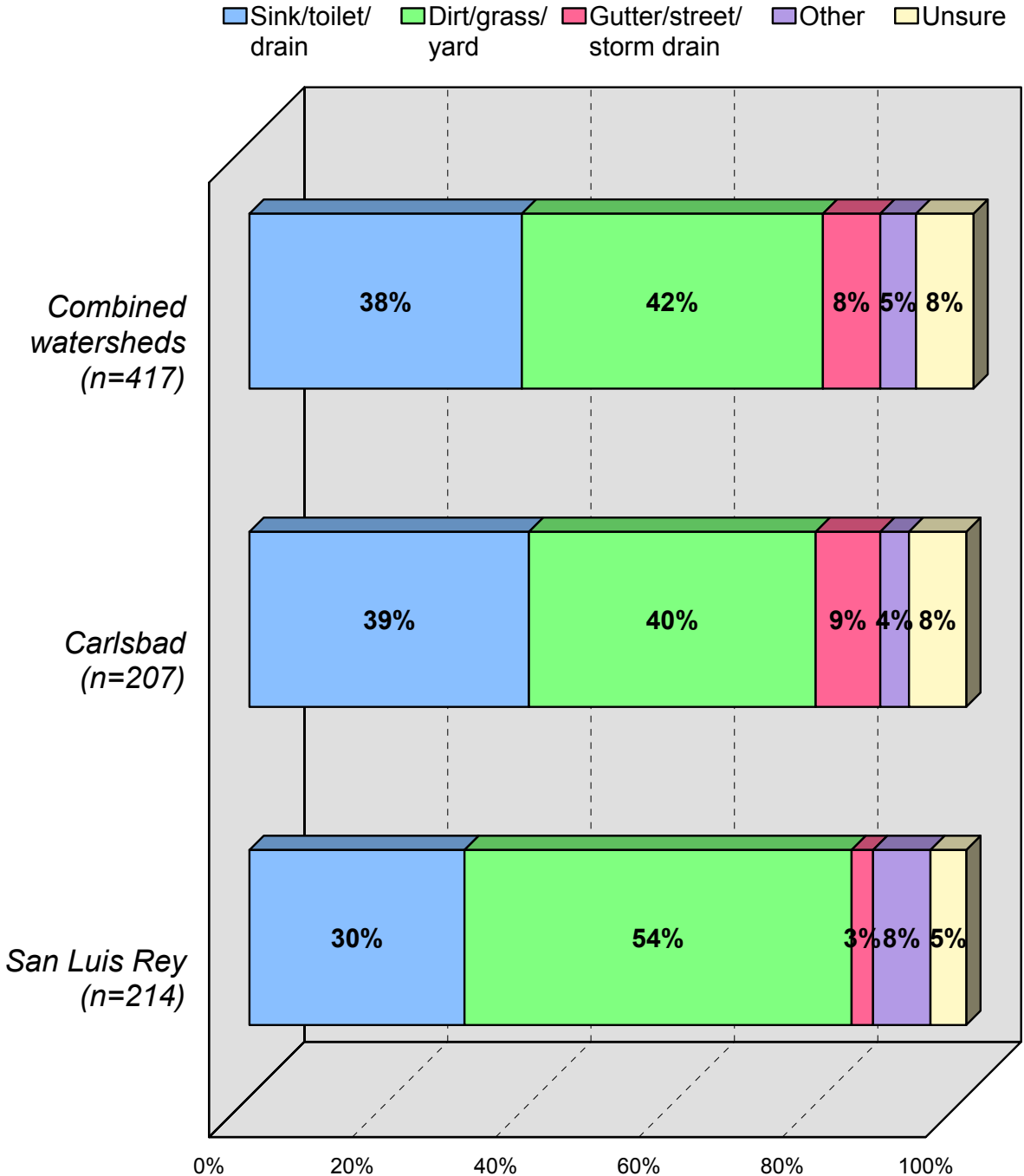


Chart 23

Attended Any San Diego County Creek, River, Lake, or Beach Cleanup Events in Past Year

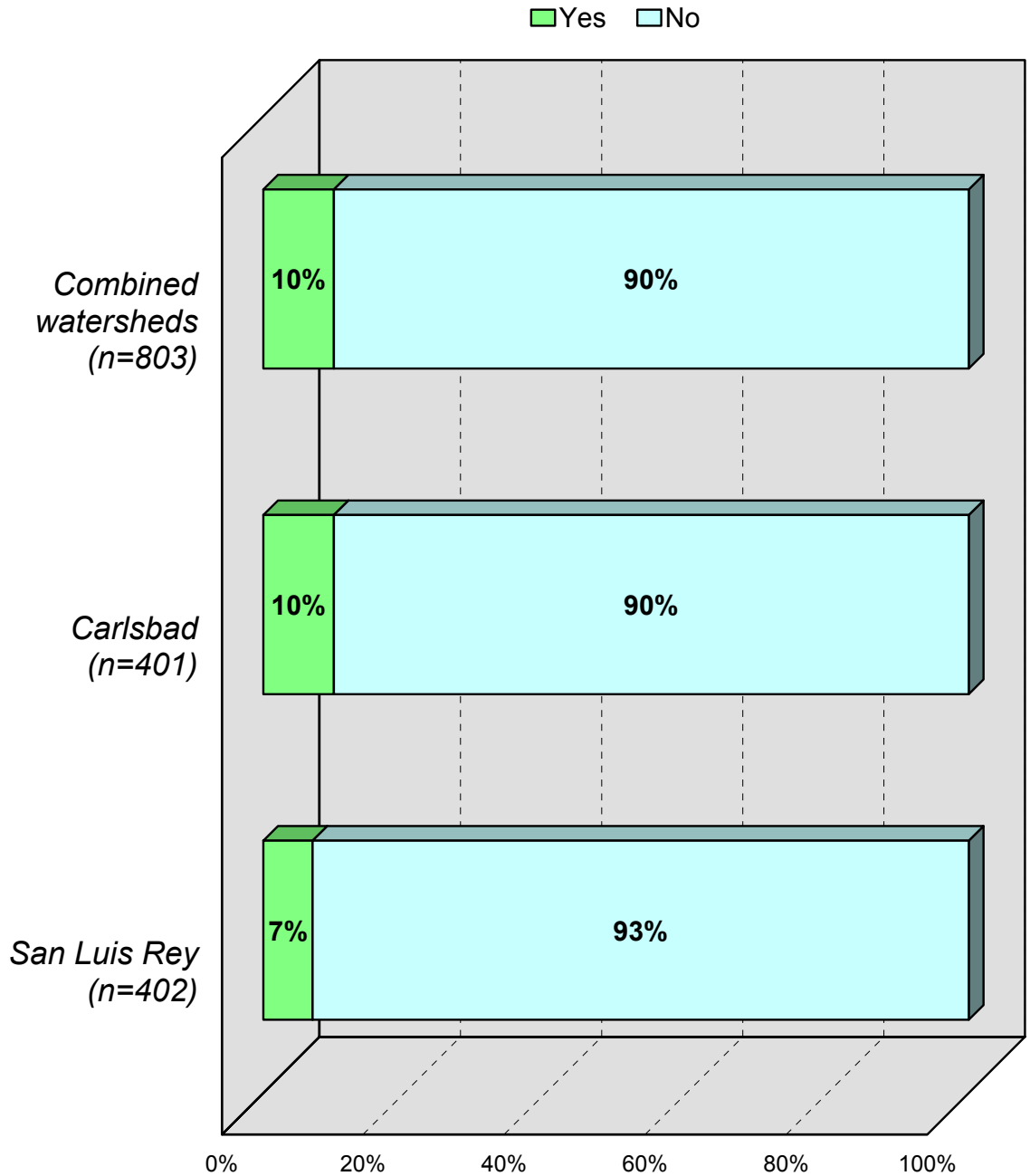


Chart 24

Level of Litter Problem in Community

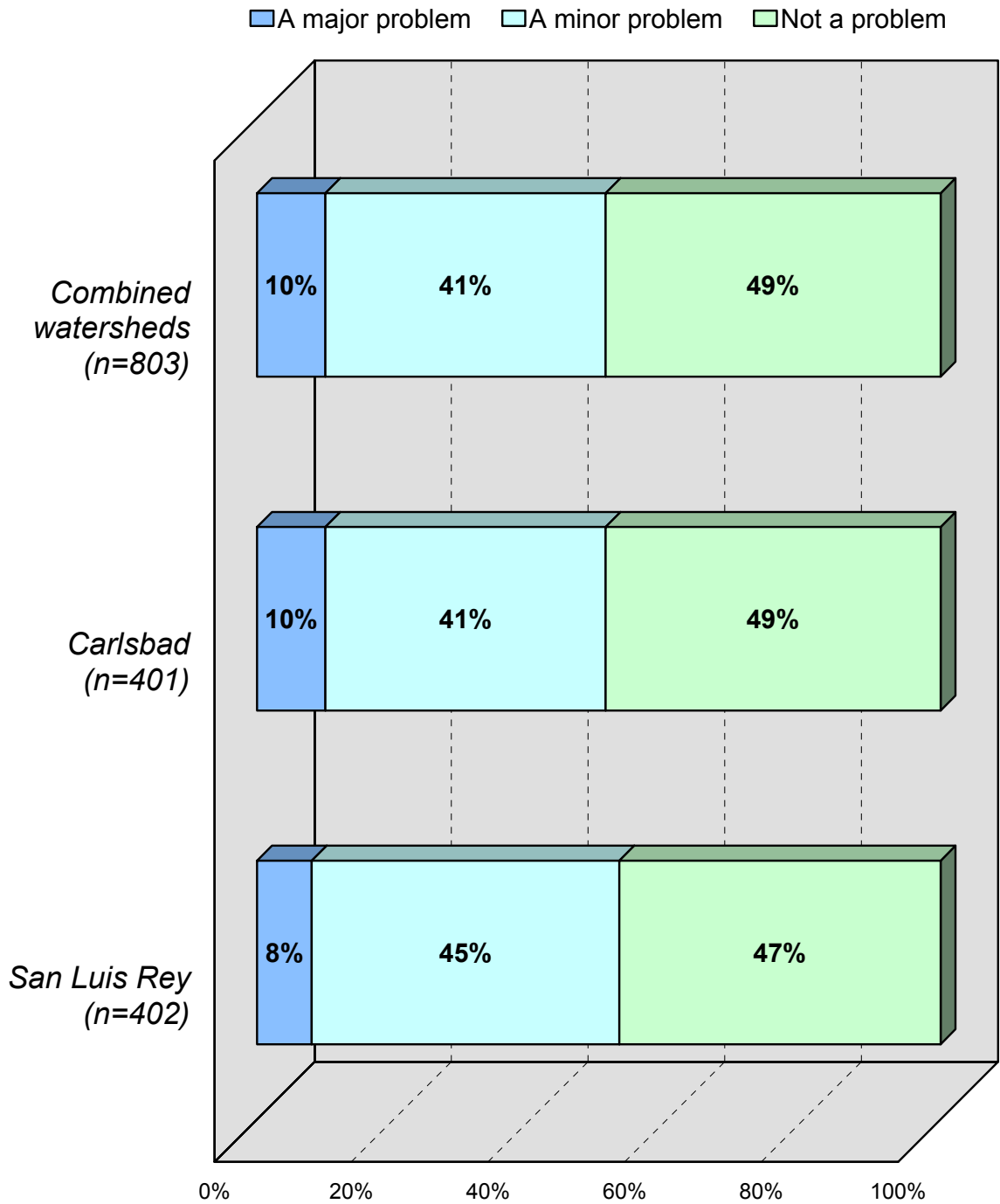


Chart 25

Discarded Cigarette Butts in Community

■ A major problem ■ A minor problem ■ Not a problem ■ Unsure

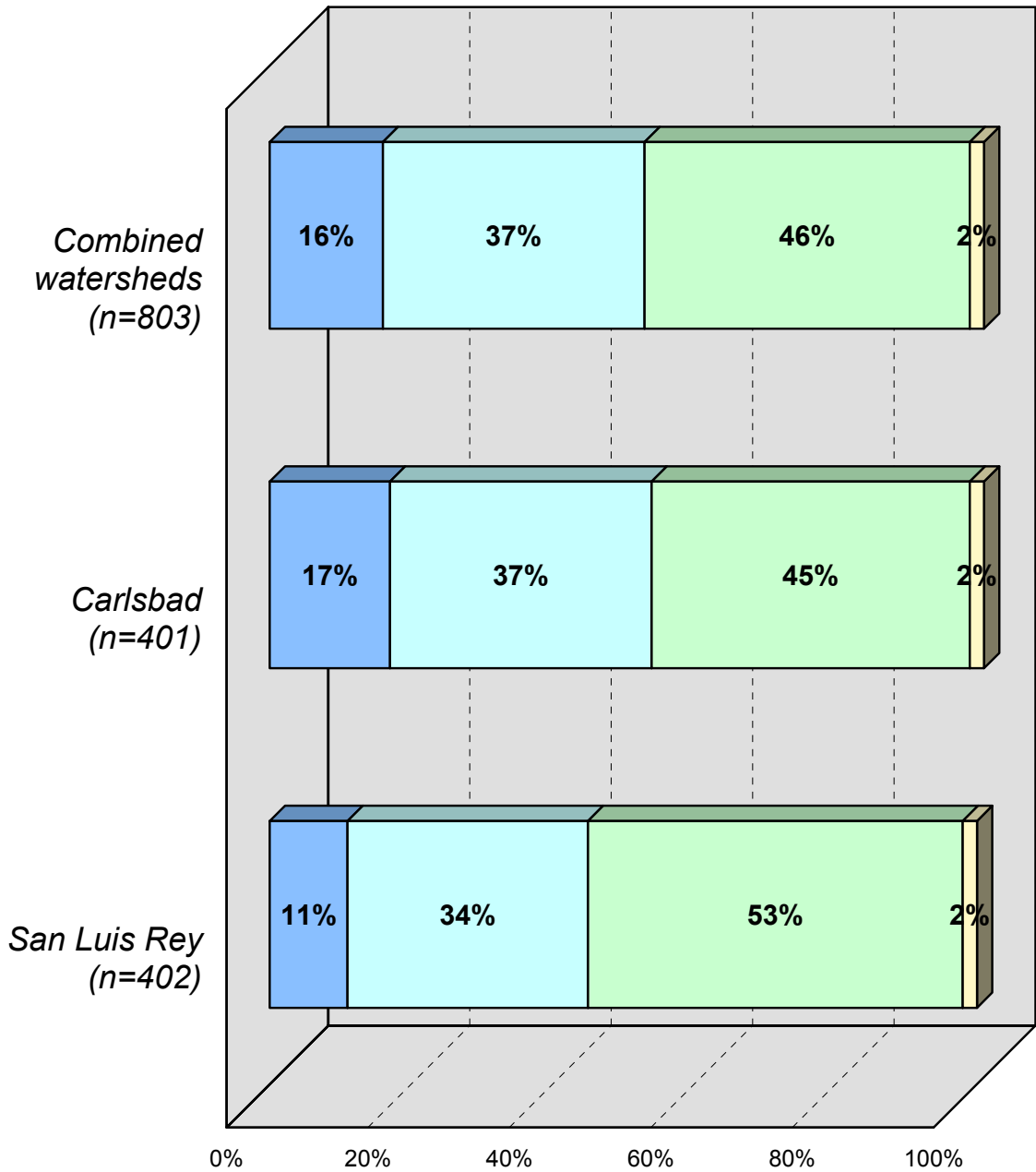


Chart 26

Which is Most Effective Way to Decrease Litter

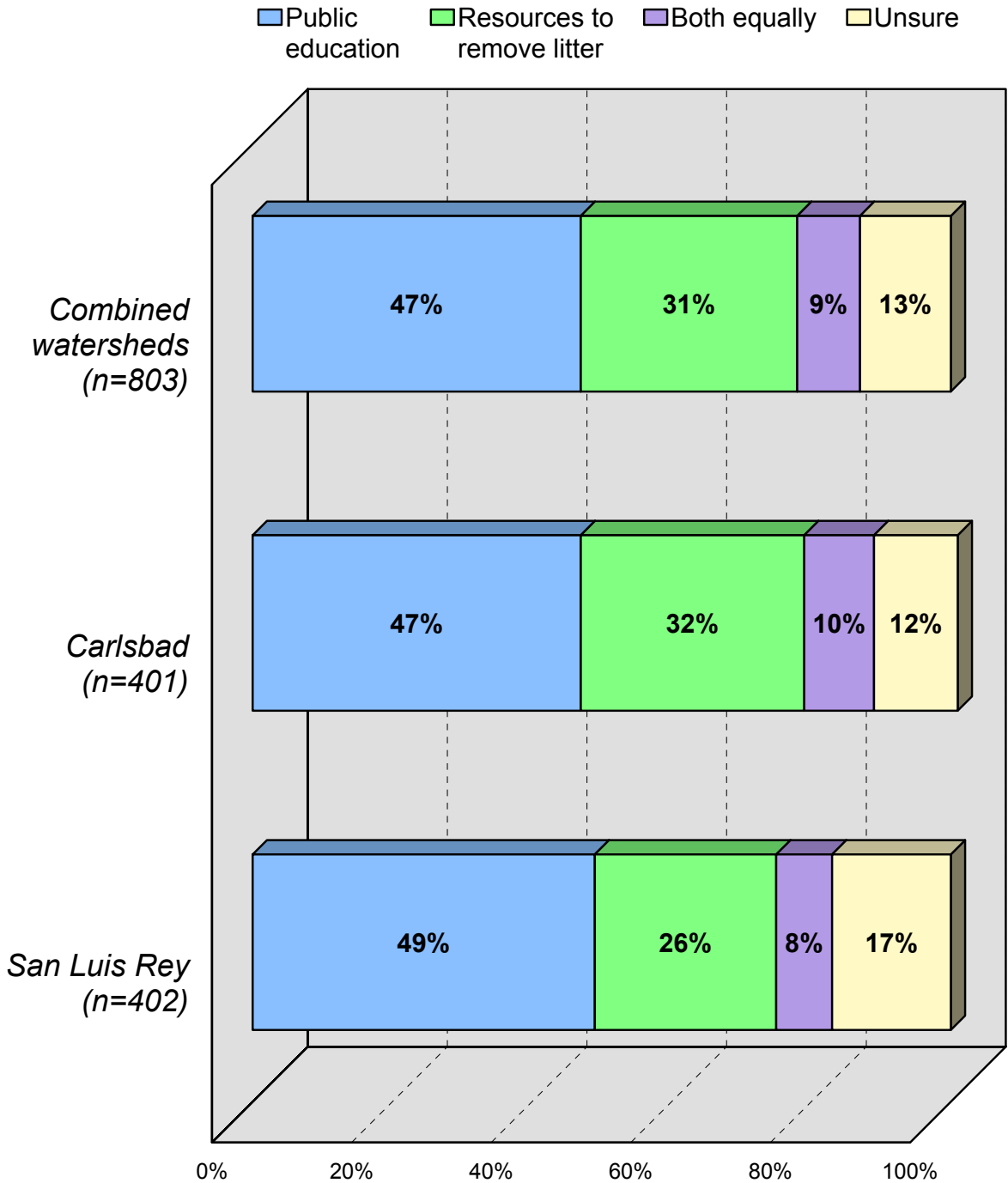
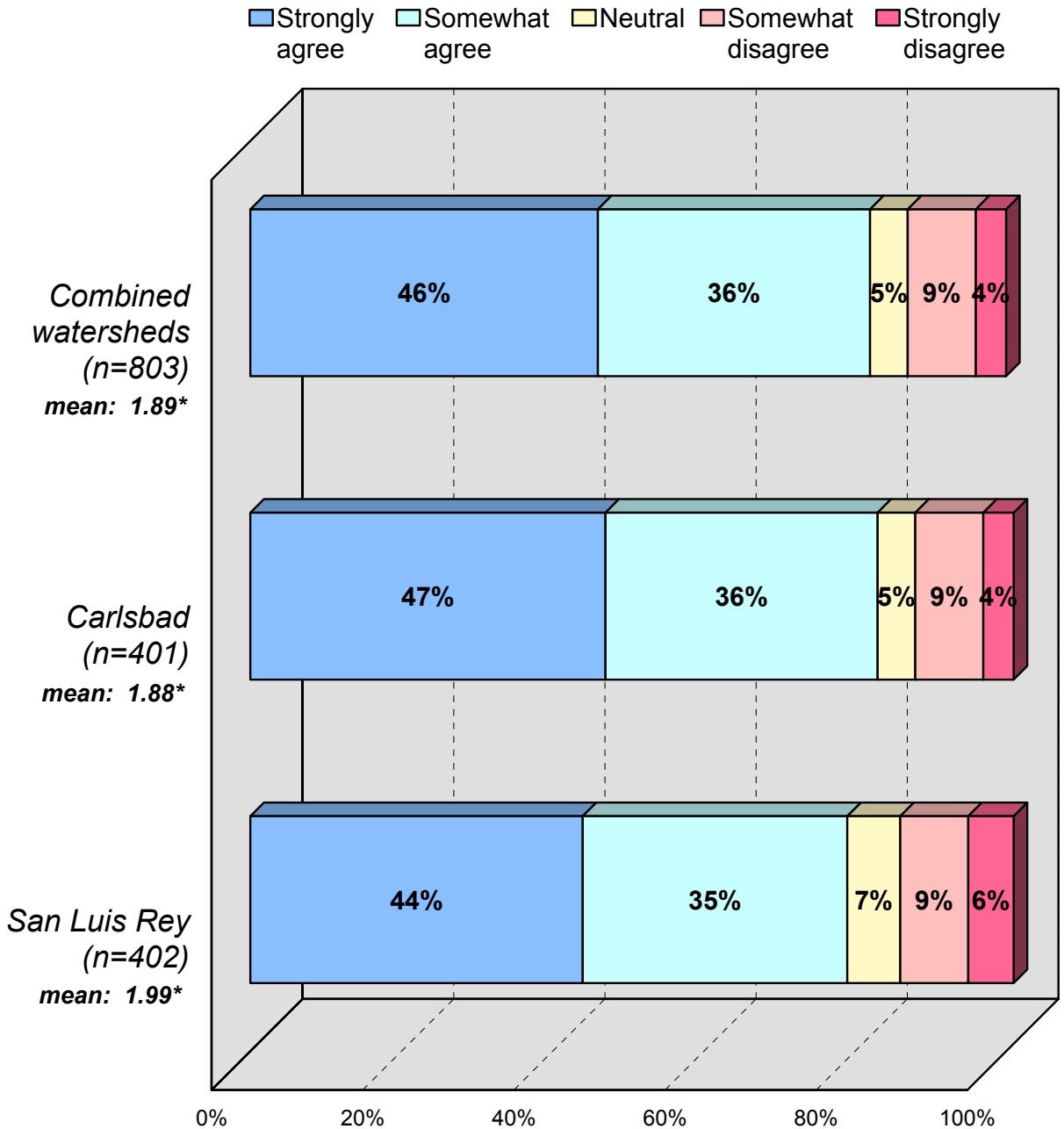


Chart 27

“How residents in my community maintain our yards, pools, vehicles, and other outdoor facilities significantly affects the quality of water in our rivers, bays, lagoons, and beaches.”



* Where 1=strongly agree and 5=strongly disagree

Chart 28

Two Bodies of Water in San Diego County Considered Important Part of Community

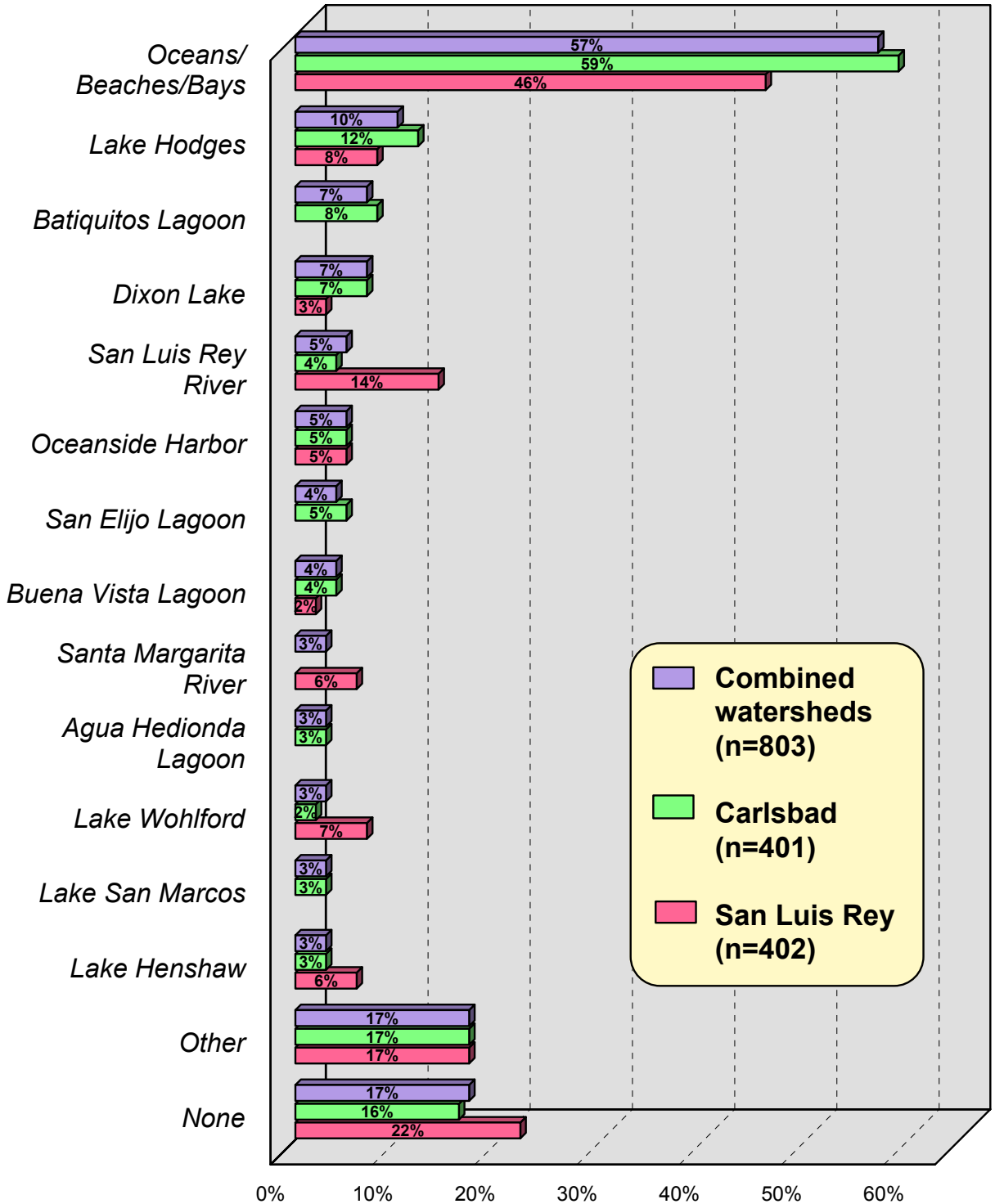


Chart 29

Body of Water in San Diego County Visit Most Frequently for Recreational Purposes

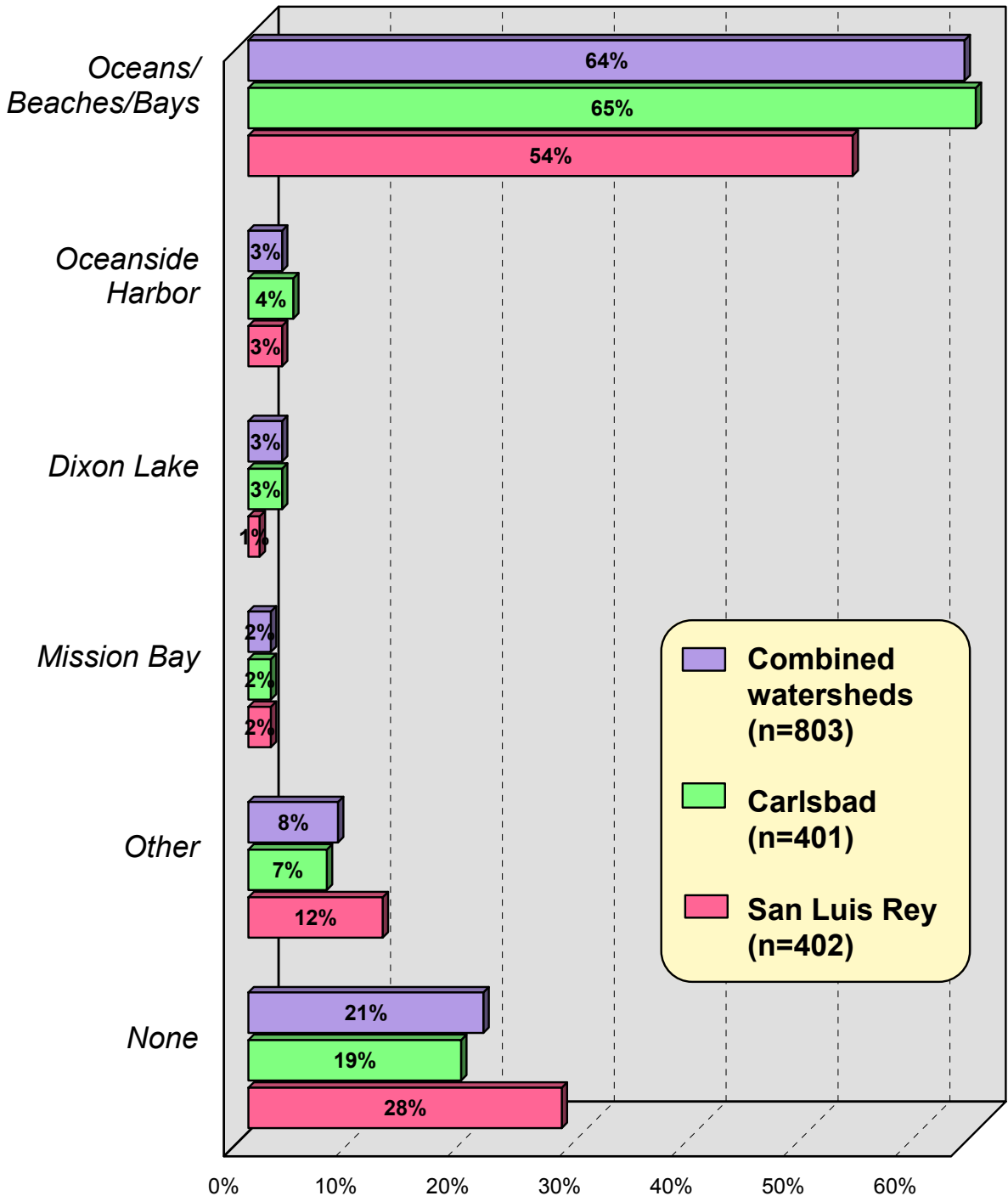


Chart 30

Types of Water Recreation Enjoyed
(If visit any San Diego County water body for recreational purposes)

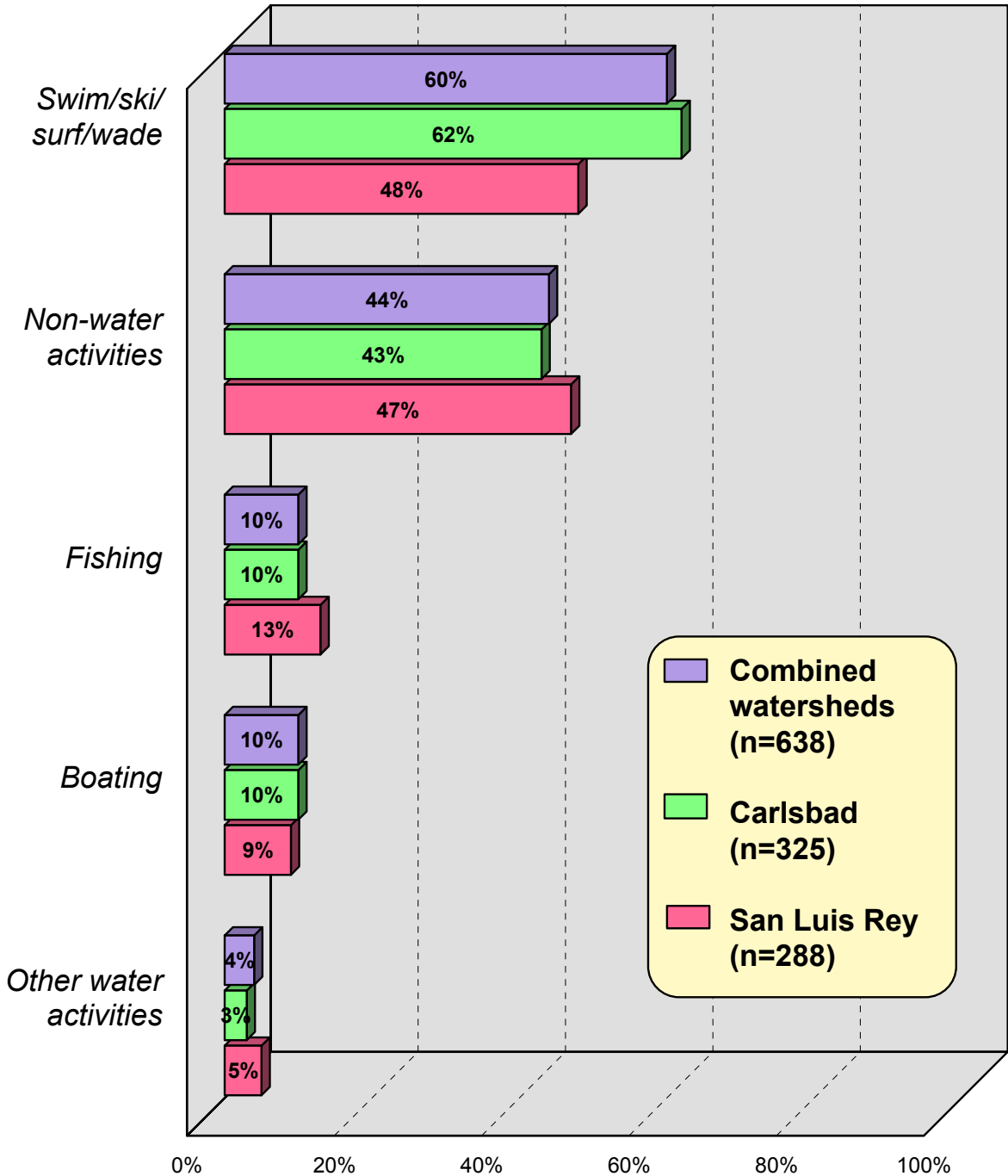


Chart 31

Destination of Water that Goes into Storm Drains

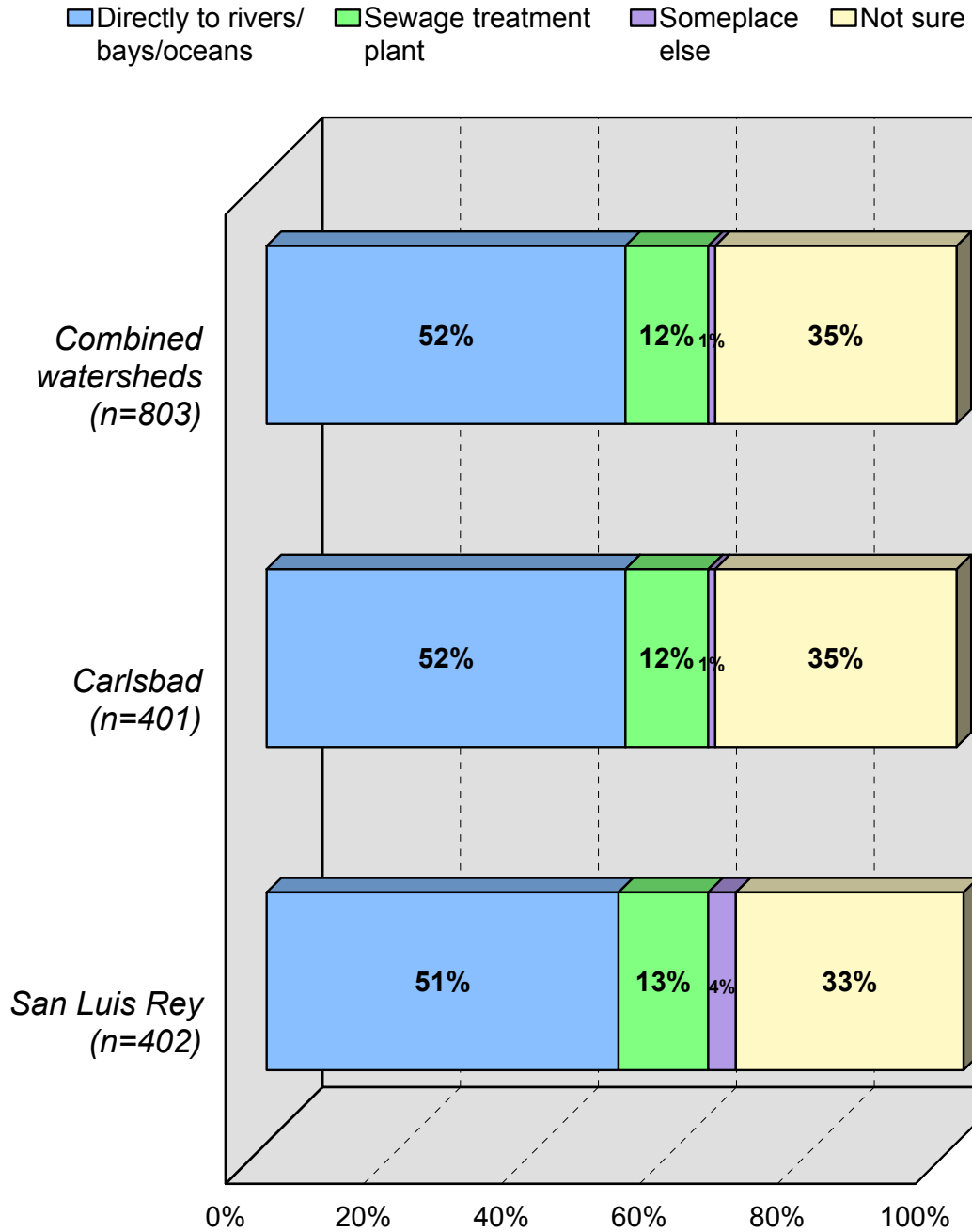


Chart 32

Usual Cause of Contamination at San Diego Area Beaches

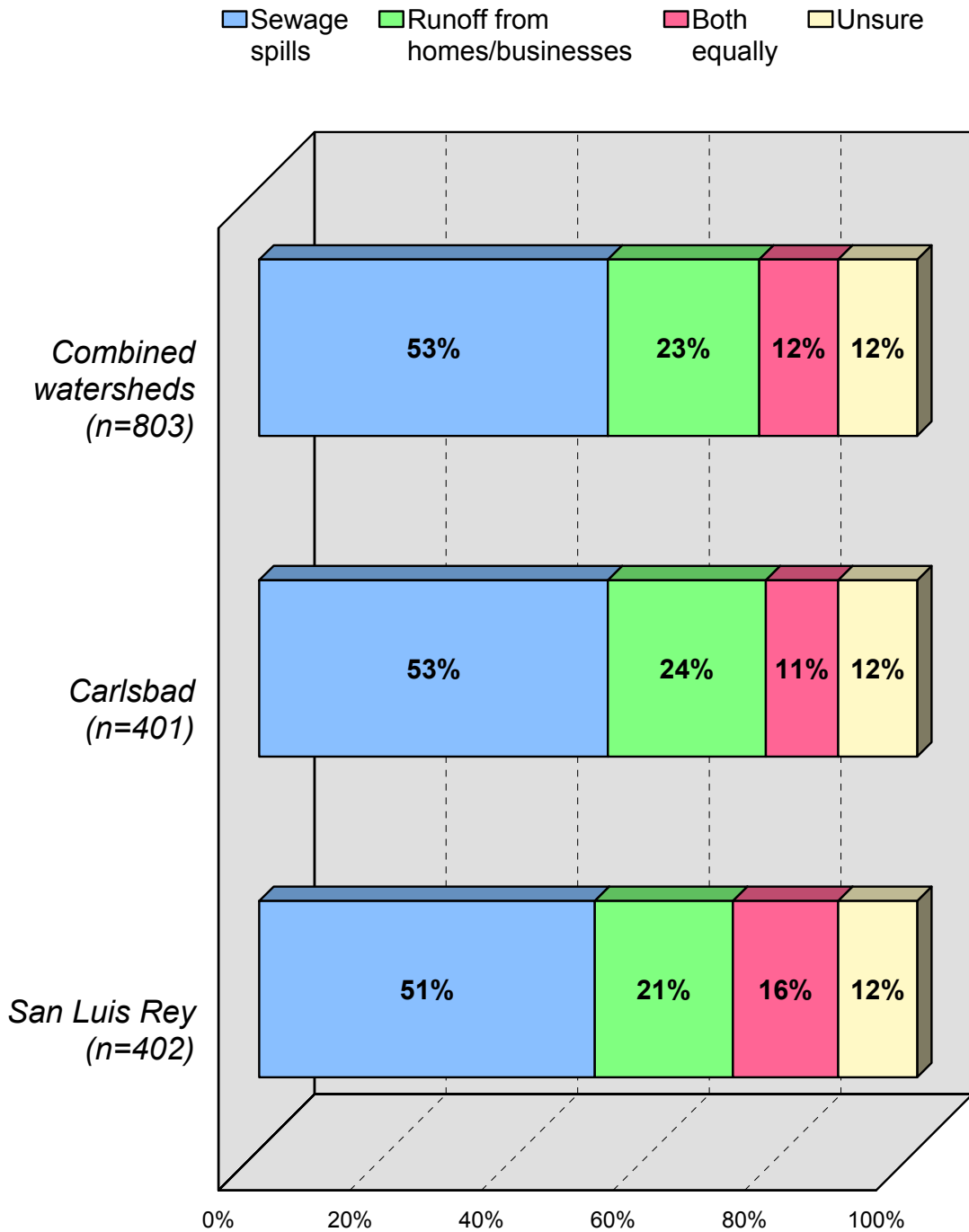


Chart 33

Which Best Describes a Watershed

- Area retaining water/ swamp, marsh
- Land area drains to specific water body
- Water intake area feeding treatment plant
- None of above
- Unsure

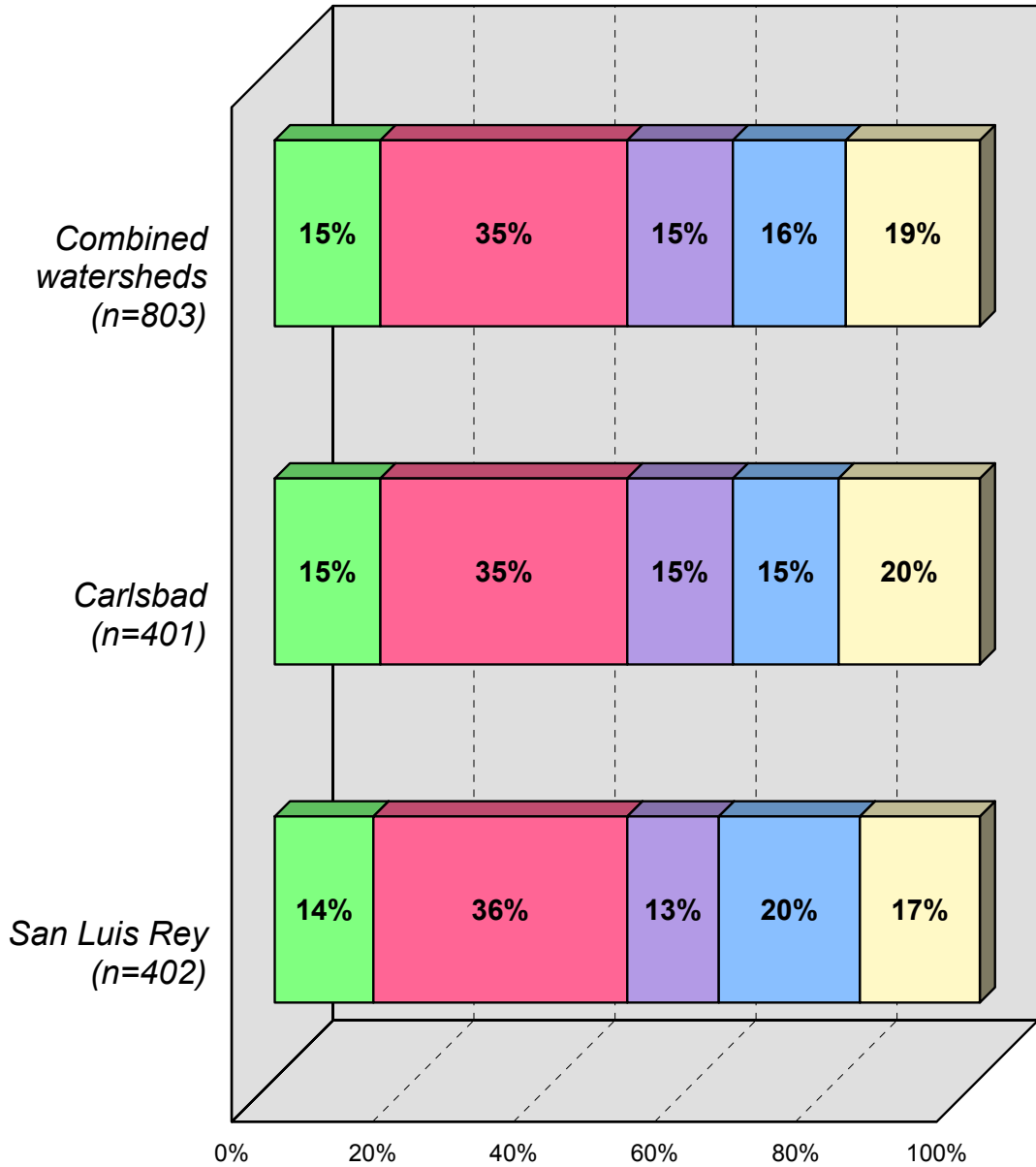


Chart 34

Do You Live in a Watershed

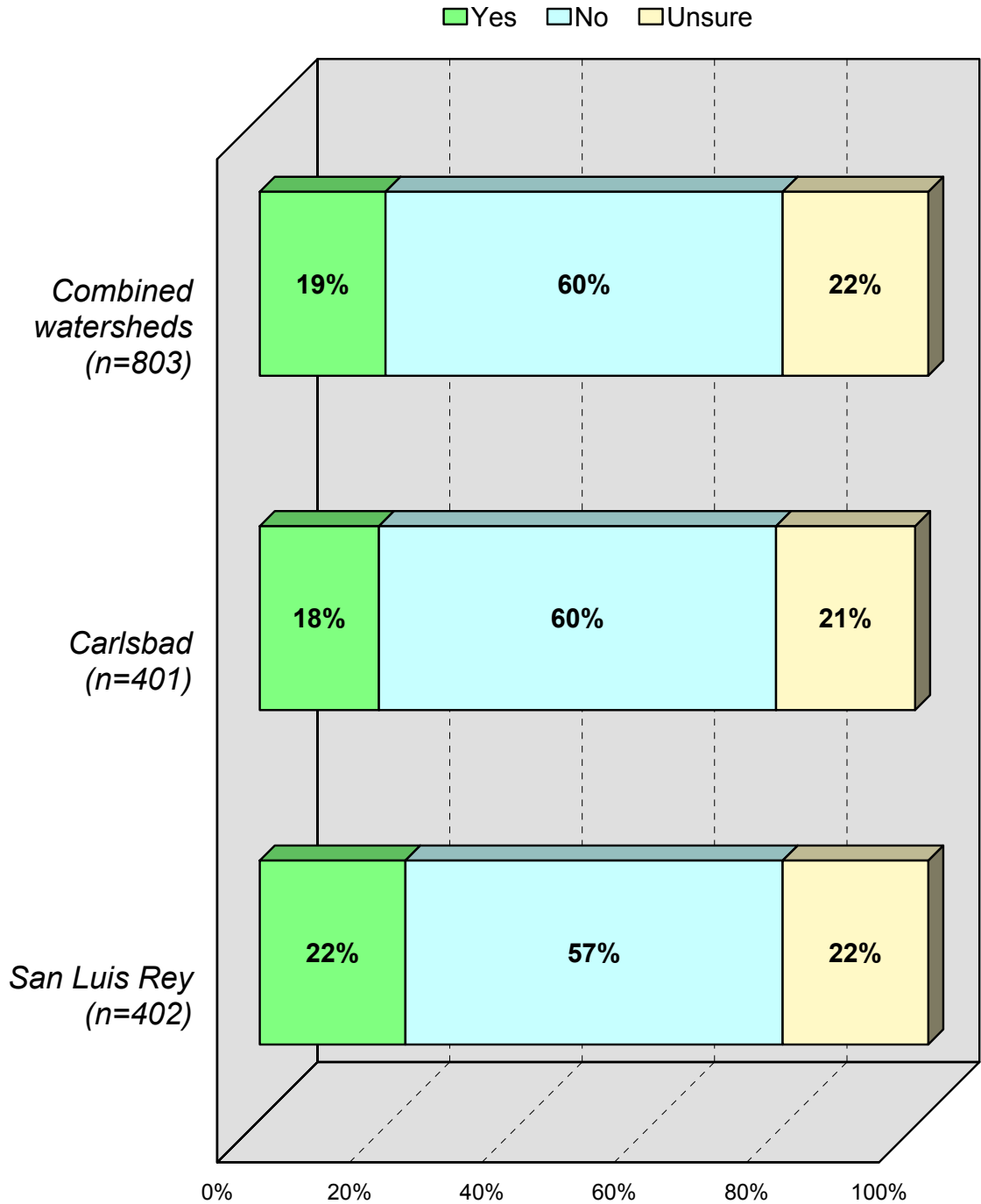


Chart 35

Name of Watershed Live In
(If believe live in a watershed)

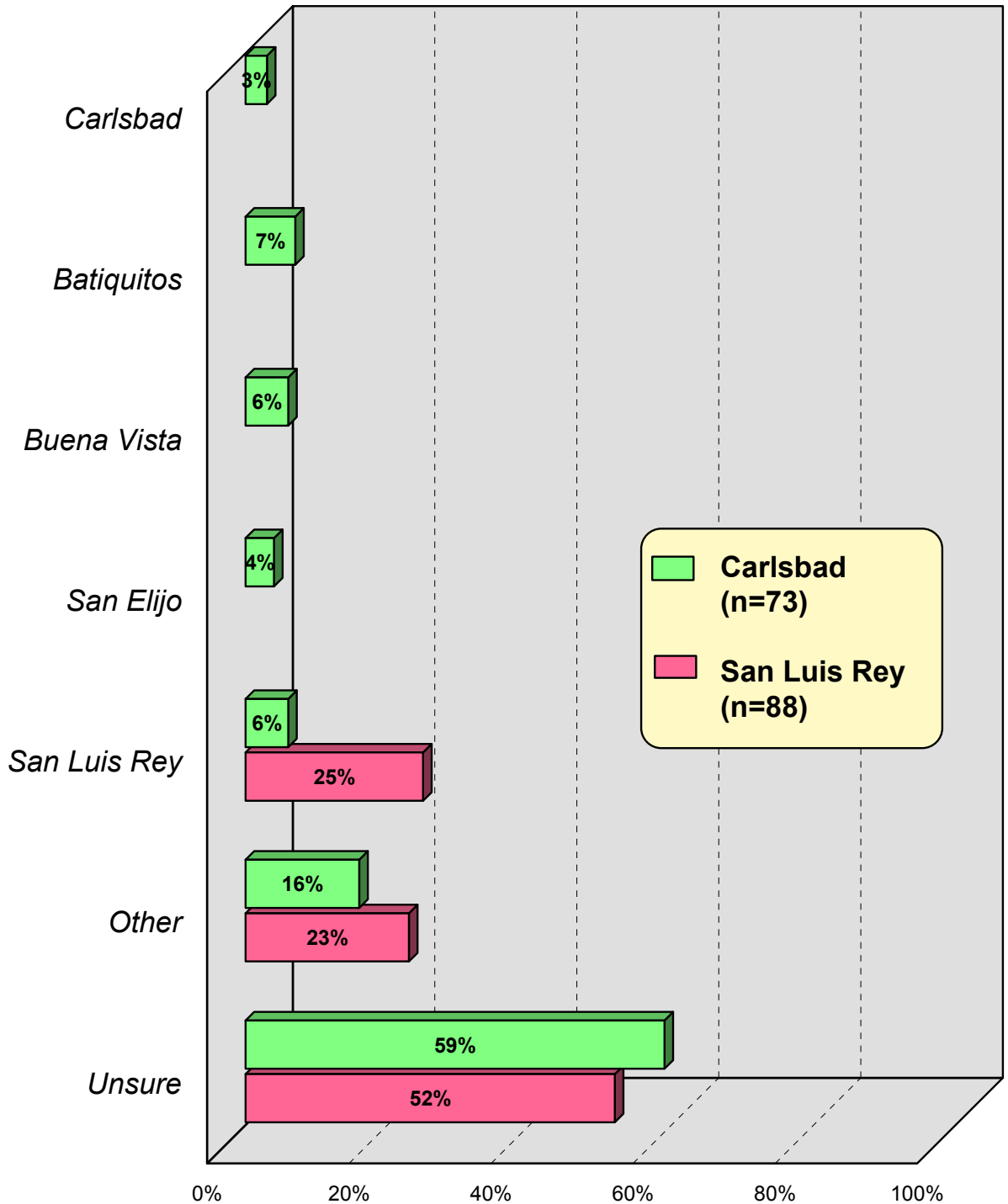


Chart 36

Heard of/Used Hotlines to Report Suspicious Activities Affecting Water Quality

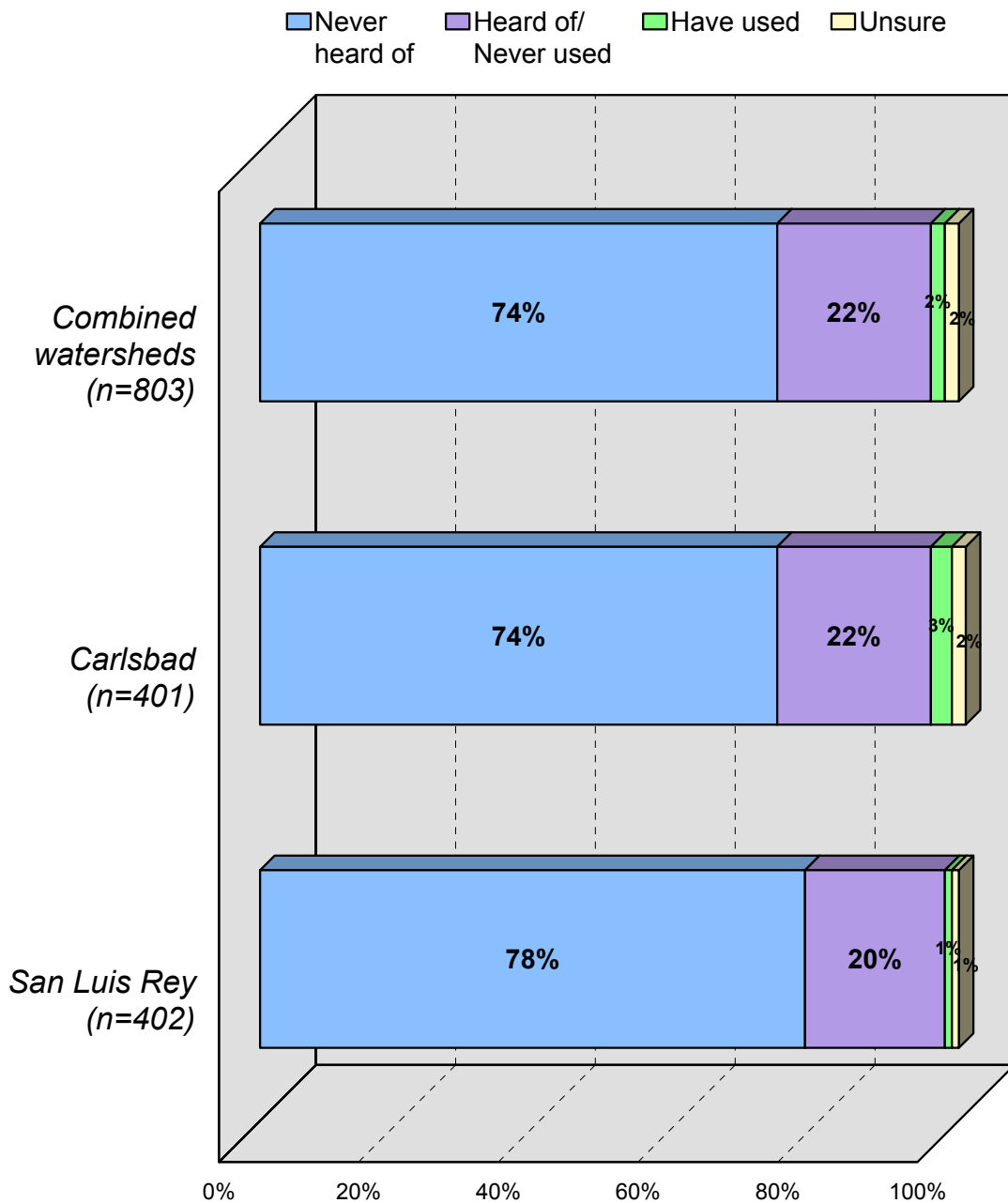


Chart 37

Seen/Heard/Read Anything During Past Year About Preventing Storm Water Runoff Pollution

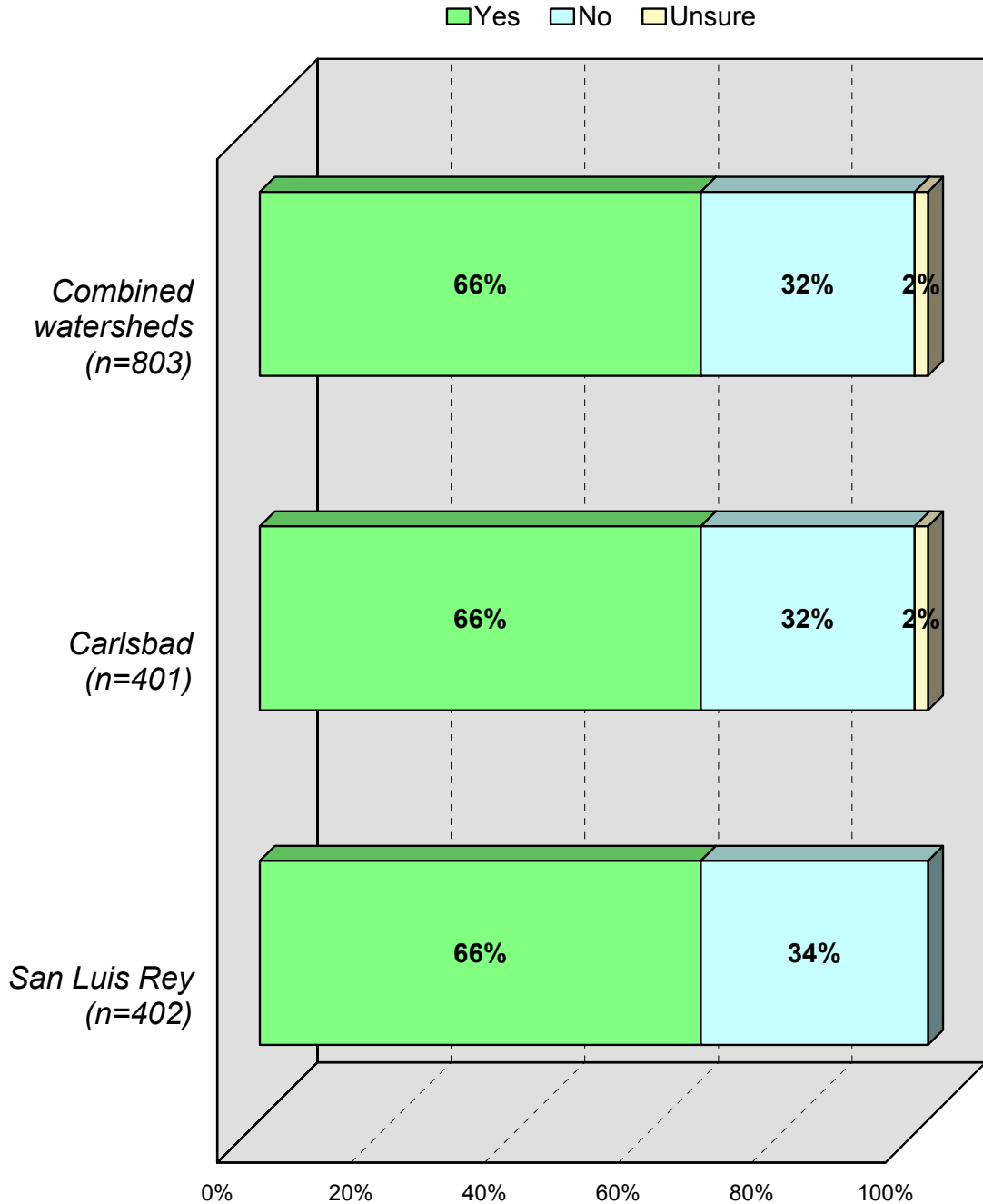


Chart 38

Where Saw/Heard About Polluted Storm Water Runoff
(Among those who saw, read or heard anything)

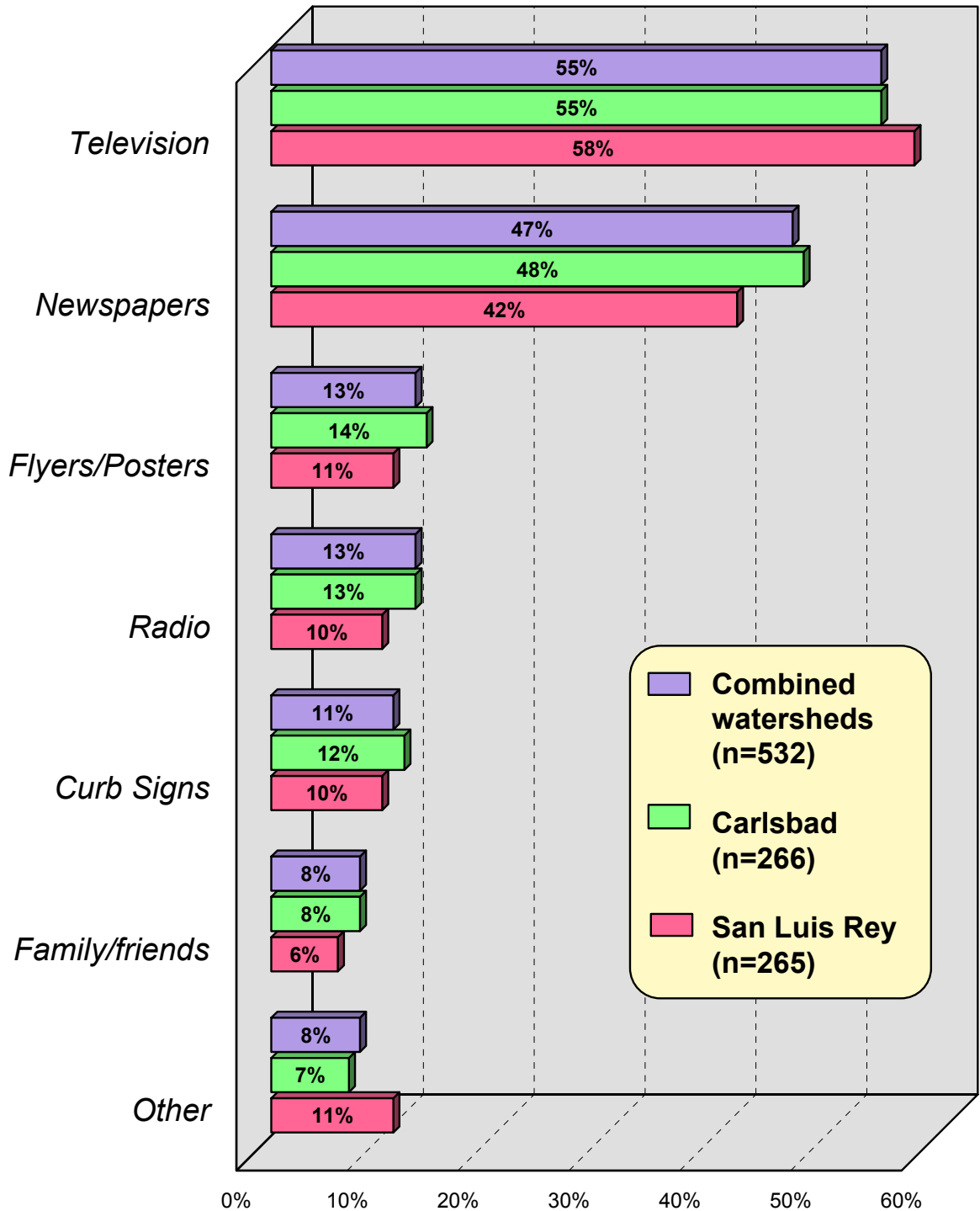


Chart 39

Recognize Public Education Slogans

