

**Findings from
Opinion Research**

**2010
SAN DIEGO CITY
STORM WATER SURVEY**

**Conducted for
Think Blue San Diego**

Goodwin Simon Strategic Research

May, 2010

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Methodology

Think Blue San Diego, a program of the San Diego Storm Water Pollution Prevention Division, asked Goodwin Simon Strategic Research (GSSR) to conduct a telephone survey of adult residents living in San Diego.

Purpose

- To assess awareness of the Think Blue program and its outreach activities.
- To assess the impact of Think Blue outreach efforts on interest in and attitudes about the pollution of water in storm drains.
- To assess the impact of Think Blue outreach efforts on awareness of the causes of storm water pollution and knowledge that the storm drain and sewage systems are separate.
- To assess the impact of Think Blue outreach efforts on reported pollution-causing behaviors.
- To identify polluting behaviors that are fruitful targets for future outreach efforts because residents 1) believe they are important sources of pollution, and 2) appear willing to alter these behaviors.
- To assess various potential motivations for behavioral change.
- To test ideas for improving Think Blue outreach activities.

Population and Sample Frame

The population under study was adults living in residential non-group housing in the city of San Diego. The sampling frame consisted of households that had either landline telephone service, or cellular telephone service, or both.

The sample, supplied by Scientific Telephone Samples, consisted of two separate random selections of landline and wireless telephone numbers, created in representative replicates.

- The landline sample was selected from among working banks of 100 contiguous numbers in exclusively landline exchanges which contained three or more residential listings in the city of San Diego. The sample was pre-screened to eliminate disconnects, businesses, and ported cell phone numbers.
- The wireless sample was selected randomly from among all wireless exchanges associated with the county of San Diego.

Sampling

Eight hundred five adults in the city of San Diego were interviewed by telephone February 18 to 28, 2010. Eligibility for participation was determined through the use of screening questions as follows: Landline interviews were randomized among household adults through the use of the “last birthday” method. Wireless numbers were hand-dialed and participants screened for safety. All participants were screened for adult status, city of residence, and non-business use of the phone number.

Both samples were released in representative replicates to ensure an appropriate regional distribution, and multiple attempts were made to contact each number. Refusal conversions were attempted. Data collection was done by McGuire Research. The questionnaire was translated and interviews were conducted, upon participant request, in either English (N=778) or Spanish (N=27). The full questionnaire and marginal results are included as an appendix to this report.

Landline and Wireless Phone Service

Two hundred interviews were conducted on a wireless phone, and 405 on a landline phone. Seventy-seven participants could be reached only on a cell phone (i.e., no landline telephone service existed) while 217 could be reached only via a landline number.

There were 511 interviews with households that had both types of phone services: 123 interviews on wireless phones had household landline service, and 388 landline interviews could also be reached via cell phone. The samples were combined using a 50/50 estimate for dual household overlap, and adjusted to the best available calculations of proportions of households which had only a cellular phone service (15%), only landline phone service (20%), or both (65%). The combined sample was then adjusted to match the latest American Community Survey census estimates for gender, race and ethnicity, age, and educational attainment.

Survey Error and Response Rates

The best estimate of sampling error for citywide results for the combined sample is plus or minus 3.4 percentage points at a 95% confidence level. No precise estimate is available of the contribution to sampling error, which may arise from combining landline and wireless samples. The margin of sampling error (MOSE) for some analyzed subgroups may be higher. Sample sizes and MOSE for analyzed subgroups are included in the demographics section at the end of this report.

While every precaution was taken to avoid error and increase accuracy, surveys such as this one may be subject to errors other than those attributable to sampling techniques, for which precise estimates cannot be calculated. These could include undetected differences between those who agreed to participate and those who did not, bias resulting from the wording or order of the questions, or influence from outside events that take place during the study period. Such errors are the result of the various practical difficulties associated with taking any survey of public opinion.

AAPOR Response rates are available in Appendix II at the end of this report.

Analysis and Comparisons with Previous Research

This is the fourth year that Goodwin Simon Strategic Research has conducted a survey of San Diego residents for Think Blue San Diego. There are differences to note in comparing results from this study with those from previous years:

- The sampling frame this year (2010) and last (2009) included both landline and wireless telephone samples. In previous years, sampling was of landline exchanges only.
- This year (2010) and last (2009), with the assistance of Action Research, we used geocoding to classify respondents into watersheds. This process identified 153 cases that were given

geocode locations outside of the city of San Diego. That is, these participants told the interviewer they lived in San Diego or a neighborhood of San Diego (e.g., Pacific Beach), but geocoding of their reported zip code and/or closest intersection resulted in a location determined to be outside city limits. This finding may be attributable all or in part to participant error (saying they live in the city when they do not), the limitations of geocoding technology, or both. As no determination was possible, these cases were included in the analysis of the results.

- Respondents in this survey (2010) and those in the 2009 survey were classified by watersheds based on the results of the geocoding, while in the previous surveys, watersheds had been defined by zip code.

This report presents results broken out by subgroups of adult residents (e.g., by men versus women or by watershed) only if the differences are both statistically significant using standard significance testing, and are of relevance.

Executive Summary

Think Blue San Diego, a program of the San Diego Storm Water Pollution Prevention Division, asked Goodwin Simon Strategic Research (GSSR) to conduct a telephone survey of adult residents living in the city of San Diego.

This study was conducted between February 18 and 28, 2010. Eight hundred and five telephone interviews were conducted with adult residents randomly identified from across the city using a random-digit-dial methodology, in which random lists of landline and cell phone telephone numbers served as the sample.

The margin of error for citywide results is plus or minus 3.4% at a 95% confidence level. That is, if this survey were to be repeated exactly as it was originally conducted, then 95 out of 100 times the responses from the sample (expressed as proportions) would be within 3.4 percentage points of the actual population proportions.

More Residents Encountered Think Blue Programs or Outreach. However, Awareness of City Programs Remains Static

Just under half (47%) of all San Diego residents have heard the Think Blue slogan, up from 39% last year. This signifies a return to a level of awareness seen in surveys in 2007 and 2008. Looking back to the first time this was asked (in a survey conducted in 2001) only 31% had heard the slogan at that time, showing an increase of 52% over the last near-decade.

We found that television penetration has reached about fifty percent of residents. Overall, just under half of all city residents (46%) reported seeing a Think Blue television commercial last year. Television advertising has contributed to the greater awareness of the Think Blue slogan as well: just over half of residents who heard the slogan said they'd encountered it on television. Both of these findings are consistent with those from previous years.

Residents encountered Think Blue in other ways; just over a quarter had heard a radio ad, and one in five had heard of the hotline or encountered a booth or sign at an event. About 16% had seen a brochure and six percent had visited the Think Blue website. These proportions cannot be directly compared to previous years, but are consistent with similar findings from those surveys.

We found that Program outreach to the Latino community may be having a measurable effect in increasing awareness of Think Blue in that group, and should be continued. The proportion of Latinos who have heard the slogan is up 14 percentage points over last year, compared to a statistically insignificant five point increase among non-Latinos. These residents were also significantly more likely to have encountered a Think Blue television ad, radio commercial, or brochure last year than others.

While we observed progress in awareness of the Think Blue slogan and reported contact with Program communication vehicles, we did not see an increase in awareness of steps the city has taken to prevent pollution of storm water. Just over a third of San Diego City residents have heard of such steps, a proportion which has remained virtually static in surveys since 2008. This indicates an opportunity for the city to increase awareness of the good work it is doing in this area through informational outreach.

More than Half Now Know That Storm Water Is Not Treated

More encouraging news in the survey came in the form of an eight-point increase in the proportion of San Diego City residents who know storm water is not treated. This year, 52% answered correctly, up from 44% last year.

There is evidence that points to Think Blue outreach making a difference. Residents who had encountered the Think Blue program were significantly more likely to answer this question correctly. That is, nearly six out of 10 of those who had heard the Think Blue slogan knew the storm drain and sewer systems are not connected, compared to fewer than half of other residents.

Compared to 2008 when the question was first asked, the proportion of city residents who know storm water is not treated has increased by a total of 13 percentage points. Impressive increases in awareness over that two-year period were found among Latinos (up 19 percentage points), those who do not have a college degree (18 points), women (17 points), 18 to 49 year olds (15 points), and residents living in single family homes (12 points).

However encouraging these findings are, there are indications of work still to be done. Latino residents and those who do not have college degrees still answered correctly less than half of the time. Similarly, residents who live in apartments and other multi-family dwellings answered correctly four times out of 10, a level which has remained static since 2008.

Thus, we recommend continuing the positive momentum through both English and Spanish language informational outreach. Program messages have reached Latinos at a higher rate than other residents; Latino residents were significantly more likely to have seen Think Blue TV commercials, radio ads, and brochures. While television advertisements reach a wide swath of residents, radio ads tend to reach younger people in higher proportion; about three in 10 under the age of 50 has heard one, indicating that messages in that medium are well placed to reach younger people, and thus higher proportions of apartment dwellers, as well.

Higher Levels of Knowledge and Concern among Those Who Had Contact with Think Blue or City Programs

The study found many examples of how encounters with Think Blue, or knowledge of the work that local governments are doing to prevent pollution in storm drains, positively correlates with awareness of storm water pollution issues, concern about the impact of that pollution, and the likelihood that positive change has already occurred. These findings are entirely consistent with what we found among residents in earlier surveys.

We have already noted that those who were aware of anti-pollution programs had a greater knowledge of storm drain facts, including the important information that storm water is not treated before being released.

Other findings also show a much greater recognition of the storm drain polluting potential of litter, dog waste, motor oil, car washing, and hosing driveways among the groups the program has reached:

- Those who had heard of the Think Blue slogan or seen a television commercial were significantly more likely to consider each one of these pollutants as very serious. Residents who had heard a radio commercial were more likely to recognize motor oil and litter as serious pollutants. Those who had seen a Think Blue brochure were more likely to consider motor oil and garden clippings as serious.
- Those who knew that storm water was not treated were more likely to rank cigarette butts, washing cars, and washing down driveways as serious.

- Residents who had heard of steps the city has taken to fight pollution of storm drains gave a higher average seriousness rating to motor oil, litter, and cigarette butts.

Value-Based Motivations for Pollution Prevention Behavior

A value-based analysis conducted by Action Research showed that San Diego residents can be divided into two distinct groups, each of whom has a unique value basis for their concern about the consequences of storm water pollution. In particular, we found that the largest group of San Diego residents was concerned about storm water pollution because of personal or social implications (e.g., impacts on personal lifestyle or children). This suggests that broad citywide messages would benefit from focusing on the personal and community impacts of storm water pollution rather than the effects of pollution on living things (e.g., marine life).

To arrive at this conclusion, we considered three values groups: **Egoistic** values are focused on self and self-oriented goals (e.g., wealth, personal success). **Altruistic** values focus on other people (e.g., community, humanity). **Biospheric** values focus on the well-being of living things (e.g., plants, animals). Conceptually, each of these sets of values can lead to concern for environmental issues, and ultimately to behavior when activated. These findings also allow us to go beyond traditional demographic profiles in the development of audience-specific messaging. Across demographic groups, there is significant variation in the specific value basis for environmental concern.

Based on the results of our analyses, targeted messages and outreach activities can be designed specifically to target two unique sets of values. For example:

- People who rank biospheric motives higher than other motives are more likely to have heard of Think Blue and are more likely to know that storm water is not treated. Messages oriented around biospheric values will resonate best with people who already have some knowledge and awareness about storm water pollution.
- Messages oriented around biospheric values are least likely to resonate in the Asian population. Instead, messages aimed at this group should focus on community and personal impacts of storm water pollution.

Higher Levels of Positive Action among Those Who Had Contact with Think Blue or City Programs

We also observed higher levels of awareness and positive action among those who had encountered the Think Blue and city anti-pollution programs.

These residents were more likely to notice dog waste and litter left lying in their neighborhoods, and to pick up the waste and throw it away, as well. As in last year's survey, we again found encouraging signs that residents who encountered anti-pollution programs were significantly more likely to have made a change in their behavior to reduce pollution as a direct result of having had more information about the impact of storm drain pollution.

Overall, nearly a third of San Diego City residents said they had made a change, and those who had heard the Think Blue slogan were 19 percentage points more likely than others to change. The converse is also true, that those who had not heard of Think Blue were more likely not to change. We also found:

- Residents who had heard of the steps the city has been taking to prevent storm drain pollution were more than twice as likely to make a change. This is an even greater difference than was observed last year.
- Significantly higher levels of change were also found in this survey among those who had heard of the anti-pollution hotline, seen a Think Blue TV commercial, or heard a radio ad.

- While the proportion of city residents who had seen a Think Blue program brochure was fairly low (16%), the informational impact of program brochures may be strong; residents who had seen a brochure were more than twice as likely to make a change as those who had not.

Latinos in particular, whom we have already noted made significant progress in awareness and knowledge over the last year, were also significantly more likely to have made a change than non-Latinos. We also found, as was observed in the San Diego County survey last year, that city dog owners (41%), one of the population subgroups most likely to have heard a Think Blue Ad on the radio, were also more likely to have made a change.

Changes in Behavior That May Make a Difference

We asked the residents who made a change to specify what change they have made. We again observed (as had been the case in previous surveys) that some residents do not distinguish between general conservation and pollution of storm drains. About half in this study said the change they were making was to trim their water use and 21% percent said that they were recycling more.

However, we also found residents making changes that were specifically related to storm drains. Close to a quarter said they were more carefully washing their cars, either by taking their car to a carwash or washing their car on their lawn to keep the runoff out of storm drains. Sixteen percent said they were just being more cautious in general. About 17% reported picking up trash and litter or cleaning trash out of gutters and off the street.

About one in twenty or fewer, however, reported that they have reduced or eliminated fertilizers and pesticides, properly disposed of used oil rather than pouring it into drains or the street, kept leaves and grass out of the gutter, or were using less soap.

Only 1% this year volunteered that the change they made was to pick up after their dog. In 2009, we found that dog owners were picking up after their dogs in higher proportions, but that finding was not replicated this year.

Overall, these findings--both in the proportion of residents who have changed and the ways that they have changed--are similar to findings from last year, indicating that the pace of change has not abated, but it has not increased, either. Since the data also indicates that contact with Think Blue and city programs may lead to greater awareness and to actual change, expanding outreach should continue to result in greater positive action.

Prevalence of Dog Waste and Other Neighborhood Pollutants

Most San Diego City residents do not often see storm water pollutants in their neighborhoods. We found that about one in five often saw litter or dog waste on their block, and about one in six often saw people washing their cars in their driveway or on the street. Roughly one in eight saw motor oil leaked onto driveways or people hosing or sweeping dirt from their driveway into the street.

Higher incidences of sightings may be related to type of neighborhood or to respondents' socioeconomic status. For example, those most likely to have seen litter in their neighborhoods were residents who live in multifamily dwellings and those who didn't graduate from college. In addition, residents who often saw other pollutants such as car washing, dog waste, motor oil, and neighbors hosing down driveways were also more likely to see litter left in the street. Thus, identifying informational outreach to certain higher risk neighborhoods may allow the Program to concentrate resources on areas of the city that are most in need. Continuing to target the Latino population in English and Spanish also spreads awareness in a group that makes up nearly a third (32%) of the multi-family dwelling population.

Very Low Incidence of Automobiles Leaking Fluid

The study found that nearly nine out of 10 San Diego City residents (88%) owned a car. Only 9% of city car owners reported having an automotive fluid leak, or seeing stains from such a leak under their car, last year. The small incidence (N=66) among those who did have a leak did not allow in-depth analysis of this group. We did observe that most of those who had a leak had taken action to stop it. We tested several reasons that someone might give for not fixing a leak, then asked this group to rate their likelihood of fixing a leak in the future. Most said they would definitely do it after having heard more, and the average rating was around nine on a scale from one to 10 where 10 means they would definitely do it.

Thus, while the small sample size limits analysis, the findings do indicate that besides economic reasons for not fixing leaks, some residents were not aware of the polluting potential of leaked auto fluids, so that targeting motorists with this information could have an impact.

Reasons to Pick Up Dog Waste

Residents rated each of seven reasons for picking up dog waste as very important. On a 10 point scale, they ranked *“Because it is the right thing to do”* and *“Because it prevents pollution of parks, rivers and the beach”* just below nine out of 10. The reasons *“Because dog waste transmits disease”* and *“Because dog waste is unsafe for children”* were also high at 8.7 in each case. *“Because dog waste makes your community look bad”* averaged 8.5, followed by *“Because someone might step in it”* and *“Because it is the law”* at just over 8 in each case.

Those who heard the Think Blue slogan or saw a program television ad responded to the importance of looking out for children’s safety. Residents who saw a TV ad also gave higher ratings to how waste affects the look of their community, and to following the law.

We recommend the following should be considered when crafting informational messages:

- Emphasizing the idea that picking up dog waste is the right thing to do is particularly likely to appeal to dog owners, women, and older residents.
- The pollution prevention aspect of picking up waste is also likely to particularly appeal to dog owners and women.
- Following the law seemed particularly important to older residents, and those who do not have college degrees.

Residents Pick Up Dog Waste When They See It About Three Times out of Ten, But Were Significantly More Likely After Hearing More About the Issue.

Respondents who had seen dog waste in their neighborhood (N=517) were asked how often they picked up and threw away waste that was not from their own dog. More than half said they never do. Only 11% said they pick it up every time. San Diego City residents who see dog waste in their neighborhood rated their likelihood of picking it up, on average, at about three out of 10 on a scale from one to 10 where 10 means they pick it up every time.

Residents who heard the Think Blue slogan or saw a brochure were more likely to pick up dog waste, averaging a likelihood of closer to four out of 10 in each case. Residents in their fifties were another group who were much more likely to pick up waste, averaging about five out of 10.

This is an area where more information may have an immediate impact. We observed in the survey last year that residents who had seen the Dog Waste commercial in 2008 gave significantly higher seriousness ratings to dog droppings as a pollutant, and in particular, many dog owners in that survey who saw the commercials said that they had made a change by beginning to pick up after their dogs.

This year, after we had asked residents to rate the importance of several arguments for throwing away dog waste, we asked them to again rate their likelihood of picking up waste if they saw it, now that they had heard more about the issue. Residents who had originally rated their likelihood of picking up dog waste left lying around in their neighborhoods at about three out of 10, rated their future likelihood of picking up dog waste when they see it at just over five out of 10. Most strikingly, once they heard more, about a third of residents who first said that they never picked up dog waste and threw it away said they would always or often do so.

We found that dog owners, women, and those with college degrees were particularly motivated by each of these arguments. Two of the seven arguments had a differentially greater impact among residents overall: prevention of pollution and that dog waste is unsafe for children. Thus, outreach that targets these groups with messages emphasizing pollution prevention, cleanliness, and health safety are particularly likely to be motivating toward positive change in this behavior.

Dog Owners

Motivating dog owners to keep waste from their own dogs off of the streets is a part of the battle to keep that particular pollutant out of storm drains. This survey found that only a small percentage of dog owners do not pick up after their own dogs. Ninety-five percent of dog owners said they *always* take a bag with them to pick up waste when they go out for a walk and more than four out of five said they either rarely (7%) or never (77%) leave waste behind without picking it up. Even accounting for possible understatement of a socially undesirable behavior, this is a very encouraging finding and should be encouraged, reinforced, and expanded. Messages aimed at reducing the proportion who pick up after their dogs rarely or never (23%) should address the reasons most often cited:

- No real reason to pick it up
- It was okay to leave the waste where it was
- Did not have a bag

Another encouraging finding is that dog owners (most of whom carry bags for picking up waste) were also much more likely to pick up other dog waste when they saw it left behind in the street. Dog owners rated their likelihood of picking up dog waste (not from their own dog) on average at 4.8 out of 10, compared to an average of 2.6 out of 10 among non-owners.

Dog owners tend to live in homes with yards, so messages that target dog owners might stress not only the importance of picking up dog waste and reasons for making the effort, but also discuss sweeping driveways instead of washing them, making sure that garden materials are kept out of the street, and reducing the use of pesticides and garden chemicals. The latter has the dual benefit of reducing pollution and contributing to the health of their pets.

Messaging to dog owners might also reinforce behaviors we already observe among this group, that is, to pick up others' dog waste when they are out walking their own dogs, and picking up litter they see as well. In this way the polluting potential of dog walking, which most dog owners do, is reduced, and these residents will also be making a simple and easy contribution to cleaning up storm drain pollution for the whole city.

More than One out of Four Residents with a Garden Used Pesticides or Chemicals

The two-thirds of San Diego City residents who have a yard or garden (N=545) were asked “*In the last year or so, did any pesticides or chemicals get used in your yard or garden?*” and just over one in four said they had used them.

We found no significant differences in chemical use among those who maintain their own gardens, with or without the help of a gardener, and those who rely on a service exclusively.

However, those who gave low seriousness rankings to the polluting potential of leaves and grass, washing down sidewalks and driveways, and runoff water from washing cars, were in each case also more likely to use pesticides or chemicals in their yards. In another finding that may be related to income levels and home ownership, those with college degrees were more likely to use chemicals and pesticides, as were non-Hispanic whites. These findings are similar to those in the survey last year and indicate the need for further informational outreach to residential single-family home neighborhoods. Messages could emphasize the polluting potential of not only pesticides and chemicals, but also leaves and grass, and water runoff from cars and driveways. As we noted in the section above, these residents are more likely to own dogs, so messages emphasizing the need to make sure dog waste stays out of the streets may be effective as well.

Summary of Recommendations

In this section, we provide a summary of findings and related recommendations included in this report.

- **Awareness of the Think Blue slogan.** The proportion who encountered the slogan seems to have leveled off at just below half of the city’s population. Findings show consistently higher levels of awareness and positive change among those who have encountered the Think Blue program. Thus, in order to expand awareness beyond the current level and encourage change we recommend continued informational outreach, in English and Spanish, to groups who exhibit both lower levels of awareness, and a propensity to be receptive to this information, as indicated by significant increases in knowledge, and/or higher levels of change. These groups include:
 - Latinos
 - Women
 - Residents under the age of 50.
- **Dog Waste.** Residents were unlikely to pick up dog waste they see left on the street in their neighborhoods, but after hearing more about it, their self-rated likelihood increased considerably. This finding supports what we observed in 2009’s survey that also indicated that this behavior is quite amenable to change. Message testing this year suggested that dog owners, women (in particular older women), people who didn’t graduate from college, and older residents would be particularly responsive, and would find the following types of messages appealing:
 - Picking up dog waste is “the right thing to do” resonated with dog owners, women, and older residents.
 - Dog owners and women also responded to preventing pollution of waterways and the beach.
 - Older residents also responded to the idea that the law requires dog waste to be picked up, as did residents who do not have college degrees.
 - Women were concerned about transmission of disease.

- **Concentration of neighborhood pollutants.** Higher concentrations of multiple types of neighborhood pollutants, and lower levels of knowledge about storm drains, were found among residents with lower educational levels and those who live in multi-family dwellings. We also found that those with higher awareness of the seriousness of one type of pollutant were more likely to be aware of the seriousness of other types, with a similar correlation between those who were less aware. Together, these findings indicate that multiple types of pollutants and lower levels of awareness may be particularly concentrated in certain neighborhoods. If it is possible to identify high-risk neighborhoods, the Program could concentrate resources on areas of the city that are most in need. Residents most in need of outreach correlate with some of the same groups we noted above: Those in multi-family homes, or who have lower educational levels. These demographics correlate with being Latino and under the age of 50.
- **Use of Pesticides.** More one out of every four residents who have a yard reported using pesticides. This use was higher among residents who didn't consider leaves and grass, washing down sidewalks, and runoff from cars to be serious pollutants. It was also higher among residents who have college degrees. However, we also found that significantly higher proportions of college graduates had reduced their use of pesticides and yard chemicals as a result of learning more about storm water pollution. This encouraging finding indicates that informational messages targeting the most educated respondents, who disproportionately live in single family homes, should be quite effective. It also indicates that these messages should include information about polluting potential of yard chemicals, as well as alternatives to the use of chemicals, and information about the polluting potential of yard clippings, car washing, and other uses of water.
- **Awareness of pollutants.** Residents who saw Think Blue television commercials, radio ads, and brochures exhibited higher awareness of pollutants as follows:
 - Those who saw a Think Blue television commercial, or heard the Think Blue slogan (which was most often encountered on TV), were significantly more likely to rank all of the pollutants we tested, higher, on average, than those who had not.
 - Residents who had heard a Think Blue radio ad ranked motor oil and litter as more serious than those who had not.
 - Residents who had seen a Think Blue brochure ranked motor oil and yard trimmings higher on average than others.

Information about Important Demographic Groups

- **Latinos.** This group, which accounts for nearly a quarter of the adult population in San Diego, encountered Think Blue in greater proportions than non-Latinos, and was more likely to have made a change because of learning more about pollution. Latinos also exhibited a considerable increase in knowledge that storm water is not treated since 2008. However, they were still more likely to say incorrectly that storm water is treated than non-Latinos. Latinos were more likely than others to have seen a Think Blue television ad, a radio ad, a brochure. Younger Latinos were likely to encounter the program at an event.
- **Women.** Women make up just under half of the residents in the city. This group's awareness that storm water is not treated has increased, but women who are 50 or older are the least likely to know that it is treated. However, women of that age are more likely to consider yard clippings and water runoff to be

serious pollutants and to pick up dog waste when they see it has been left on the street. They are also very unlikely to hear a radio advertisement or visit the web site.

- **Ages 18 to 49.** This group accounts for 64% of city residents. Younger people were less likely to know that gutter water flows into storm drains, but awareness that storm water is not treated has increased considerably in this age group. Younger people were more likely to rate many of the polluting behaviors such as washing cars as serious, and to see pollutants such as litter left on their blocks. Radio ads reach this demographic in higher proportion, particularly younger whites.
- **Dog owners.** Dog owners make up about 30% of city residents. Most dog owners pick up after their own dogs. However, there is also a sizeable minority (just under one in four) of dog owners who rarely or never do so. Messages aimed at reducing the proportion who pick up after their dogs rarely or never (23%) should address the reasons most often cited:
 - No real reason to pick it up
 - It was okay to leave the waste where it was
 - Did not have a bag

There were encouraging signs that dog owners may be amenable to changes in behavior, and to contributing to the reduction of pollution. That is, dog owners were more likely to have made a change last year. Also, dog owners (who, after all, carry bags for picking up waste while out on walks) were not only much more likely to pick up other dog waste, but also litter, when they saw it left behind in the street.

Dog owners tend to live in homes with yards, so messages focused on this group should not only reinforce the importance of picking up dog waste and litter, but also include information about the benefits of reducing the use of pesticides and yard chemicals, sweeping driveways instead of washing them, and making sure that garden materials are kept out of the street. These messages might also note that reducing or eliminating non-organic garden chemicals not only helps the entire community, but also contributes to the health and well being of their own pets. Radio ads reach dog owners in higher proportion.

Detailed Findings

This report presents the study's findings in the following order:

- The first section of the report considers the proportion of San Diego City residents who have heard the Think Blue San Diego slogan, and continues with findings on the general penetration level of several Think Blue elements: television commercials, radio advertisements, brochures, the Think Blue website, and encounters with booths or signs at local events. The results on hearing the Think Blue slogan are compared with findings from previous surveys going back to the beginning of the decade.
- The section continues with an examination of the proportion of residents who have heard of the city's anti-pollution efforts and any changes in behavior that have resulted from hearing more about pollution of storm drains. These findings include the proportion of residents who have made such a change, what types of changes have been made, and how these findings compare with those from previous surveys.
- The next section looks at awareness of storm drain water facts among San Diego City residents. It begins with the proportion who know that water in storm drains comes from streets and gutters and continues with what proportion of residents know storm water is not treated before being released into local waterways. These questions have been asked in previous surveys, and consideration is also given to the ways in which this awareness has and has not changed over time, both citywide and among various demographic subgroups.
- The following section of the report presents findings from two batteries of questions which examine how San Diego City residents perceive storm drain pollutants. First, how often do they see motor oil, litter, car washing, washing of driveways, and dog waste in their neighborhoods? Those who see dog waste were asked how often they pick it up and put it in the trash. The second series of questions provides a set of overall ratings for how concerned residents are about the seriousness of potential storm drain pollutants.
- This section continues the examination of storm drain pollution with a consideration of the level of concern among San Diego City residents about possible consequences of pollution in storm drains. This analysis considers twelve areas where pollution could have an impact, and presents a value-based approach to rating residents' environmental concerns. Responses were grouped into three motive groups. These groups were *biospheric*, i.e., concern for marine life, local habitats, and migrating birds; *egoistic*, i.e., residents' own health, safety, property values, and taxes; and *altruistic*, i.e., the local economy, future generations, children, and the drinking water supply.
- The next section of the report considers pollution from dog waste. It begins with findings on how often dog owners pick up after their dogs and any reasons they might have for *not* doing so. This section then examines a series of reasons people might give for picking up dog waste that has been left lying in the street. The section concludes with an analysis of whether respondents are more likely to pick up dog waste and put it in the trash after they have heard more about the issue.
- The final sections of the report continue the in-depth examination of storm drain pollutants. First, it analyzes the level of use of pesticides and chemicals among San Diego City residents who have a yard or garden. Second, it examines the proportion of San Diego City drivers who have noticed an automotive fluid leak, how that leak was handled, and if more information might motivate greater action on this issue in the future.

I. Encounters with the Think Blue San Diego Slogan Last Year

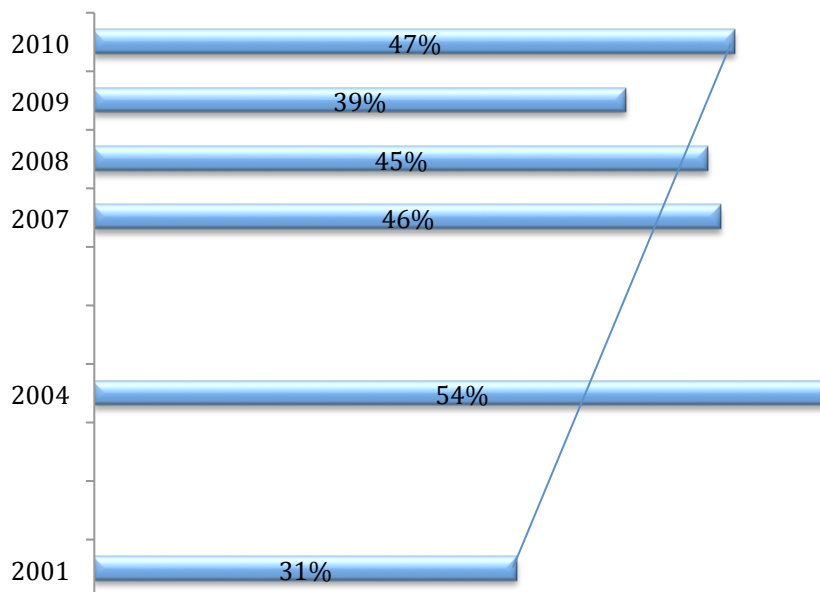
The first question in the survey, as it has been in previous years, was, “*In the past year, have you seen or heard the slogan ‘Think Blue San Diego?’*” This year, 47% said that they had, 52% had not, and 1% weren’t sure.

These proportions are similar to those found among San Diego City residents in a county-wide survey conducted last year. They are also nearly identical to the proportion found in the 2007 and 2008 City of San Diego surveys. Last year’s city survey found 39% had heard the slogan, so this represents a return to earlier levels of awareness.

It is possible, given the level of similarity between other findings in last year’s survey and this one, that last year’s percentage for this particular question was an “outlier,” meaning a statistical finding that is further than usual from the center of margin of sampling error. If that is the case, then the true level of awareness may have been slightly under-represented in the 2009 survey. One way or another, this year we again found that Think Blue is reaching nearly half of the city’s population.

Figure 1 illustrates the proportion of San Diego City residents who had heard the slogan from city surveys going back to 2001. We have included findings from before 2008 for comparison purposes only. These results from earlier surveys should be viewed with some caution due to differences in question wording and survey methodology. That said, it is clear that there has been a significant increase in awareness since the beginning of the decade, but little advance in recent years. About three in 10 had heard the slogan in the 2001 survey, awareness increased rapidly to just over half in 2004, and has hovered at or just below that level ever since. This finding suggests that the program has found roughly the proportion of residents it can reach with its current levels of outreach. Expanding beyond this level of awareness may require expanding awareness among populations that are now being reached in higher proportion, such as Latinos and whites, and formulating new methodologies for reaching populations with a lower levels of awareness, such as older women, non-Hispanic non-whites, and residents living in multi-family homes.

Figure 1: Heard the Slogan "Think Blue San Diego" Last Year* in Surveys from 2001-2010.



* Prior to 2008, the question asked if residents had ever heard the slogan, rather than “*in the past year.*”

Not surprisingly, rates of familiarity with the Think Blue slogan were positively correlated with encounters with city anti-pollution efforts, and with Think Blue program elements. Specifically, significantly higher proportions of awareness of the slogan were found among the following:

- More than eight out of 10 of residents who had seen a Think Blue television commercial (82%), heard an ad on the radio (84%), read a brochure (82%), or seen a sign or booth at an event (82%).
- More than seven out of 10 (72%) who have heard of the Think Blue hotline.
- Six out of 10 residents who have heard of steps the city is taking to fight pollution, and 62% of those who had made a change because of learning about pollution.

While familiarity with the slogan was higher citywide, we found a particularly significant increase among Latinos. Last year's (2009) survey found 38% of Latinos had heard the slogan, while this year the proportion rose to 52%. For comparison, the five-point increase among non-Latinos was within the margin of error.

In general, familiarity with the slogan was higher among respondents who were familiar with the city's anti-pollution efforts, or who had encountered Think Blue elements such as ads, brochures, booths, or signs. Thus, the higher proportion of awareness among Latinos correlates with other survey findings that this group of city residents were significantly more likely to have encountered a Think Blue commercial, a brochure, a sign, or a booth at an event last year.

Taken together, these findings indicate that outreach efforts among Latinos are having a measurable effect on raising awareness in that group. Continuing those efforts is definitely to be encouraged. Outreach to this sizeable community will also continue to help bring up overall levels of awareness citywide.

In order to further expand awareness beyond the current level, we also recommend consideration be given to how best to reach residents with significantly lower levels of awareness, including:

- Women 50 or older. This group comprises 18% of the population, and 61% had not heard the slogan, compared to 47% of men of that age.
- Whites who do not have college degrees. This group has a 30% population share, and 56% had not heard the slogan, compared to 45% among whites who do have a degree.
- Residents who are neither Latino, nor white. They make up 18% of the population and 68% had not heard the slogan, compared to 51% of non-Hispanic whites, and 48% of Latinos.

We found the following proportions who had heard the slogan in each of the six watershed areas. Please view results with caution where small sample sizes are indicated.

| | |
|--------------------|------------|
| San Dieguito River | 53% (N=40) |
| Los Penasquitos | 40% |
| Mission Bay | 50% |
| San Diego River | 53% |
| San Diego Bay | 45% |
| Tijuana River | 36% (N=17) |

Where Did You See or Hear the Slogan?

We asked the group of city respondents who had heard the Think Blue slogan (N=377), "*Where did you see or hear it?*"

Television was, by far, the most often cited source. An aggregate of 51% of those who had heard the slogan said they'd encountered it on TV. This included 37% who just said they "saw it on TV", 11% who saw a TV

advertisement, and 4% who heard it on TV news. The aggregate proportion of television mentions is somewhat lower than last year's 58% but similar to the 52% found in 2008. This finding is consistent with our observation that the overall awareness of the slogan is more comparable to 2008's survey than to last year's.

Other sources for hearing the slogan were mentioned much less frequently, and the proportions were not significantly different from previous surveys. These volunteered mentions, and their proportions, were:

- Billboard (10%)
- Radio ad (11%)
- Storm drain or gutter (8%)
- Bus or bus stops (5%)
- Water bill, newspaper, or at school (3% each)
- Think Blue website, a brochure, or at a booth at a local event (1% each)
- Not sure where (9%)

Sample sizes were too small to analyze most subgroups, including watershed areas, for this question, and we saw only two significant variations among groups large enough to analyze:

- Residents under the age of 50 were more likely to see a billboard ad (13%).
- Younger residents were generally more likely to hear the slogan on the radio, and younger whites in particular were significantly more likely to hear it on the radio than older whites by about three to one (16% to 5%).

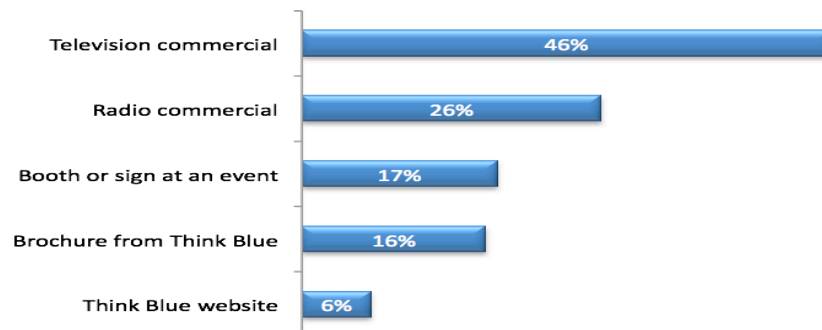
These findings and others in the study indicate that television advertisements continue to be the most potent way to reach San Diego residents, and that radio ads and billboards may be used to reach younger people in higher proportion.

Encounters with Think Blue Program Elements

In this section of the survey we tested the level of penetration of a series of five Think Blue elements. Respondents heard that *“Think Blue is the City of San Diego’s program to reduce pollution of the water in the city’s storm drains, creeks, and our beaches and oceans.”* They were then asked to tell us if they had encountered the program on TV or the radio, at an event, or if they had seen a brochure or visited a website.

As illustrated in Figure 2, nearly half of residents (46%) had seen a TV commercial while over a quarter had heard a Think Blue radio advertisement (26%). Not shown in Figure 2 is that about two in 10 had encountered both a television and a radio ad.

Figure 2: Proportion Who Have Seen or Heard a Think Blue Program Element



Results from previous studies are not directly comparable, due to differences in question wording and in the base of respondents who were asked the question. However, analysis indicates that these findings are consistent with what has been seen in previous years.

We next present a few interesting findings among subgroups in the city:

- Latinos encountered Think Blue more often than others in the city last year. They were significantly more likely than non-Latinos to have:
 - Seen a TV commercial: 59% compared to 42%
 - Heard a radio commercial: 38% compared to 22%
 - Seen a brochure: 25% compared to 13%
- Radio ads reached significantly higher proportion of younger residents. This pattern was observed in the proportion of respondents who remembered hearing the Think Blue slogan and replicated in this question asked of all respondents. Thirty percent of those under the age of 50 had heard a radio commercial, compared to 19% of older residents. Least likely to hear a radio ad were women over the age of 50 (16%) and non-Hispanics of that age (15%).
- Booths or signs at events were more likely to be seen by non-Hispanics under the age of 50 (22%), compared to only 14% of older non-Hispanics.

Analysis provided another encouraging sign that Think Blue information may be leading to change; residents who have made a change in response to hearing more about pollution exhibited significantly higher proportions of encounters with each of the five elements. These results also tended to cluster. Residents who had heard the slogan, saw a television commercial, heard a radio ad, read a brochure, visited the website, or saw a booth at an event were significantly more likely to have encountered the other Think Blue elements as well.

Table 1 summarizes these results. As an example for how to read this table: among those who have made a change, 61% have seen a Think Blue television advertisement, 33% have heard a radio ad, etc.

Table 1: Higher Proportions of Encounters with Think Blue Elements

| Percentage of those who: | ...saw a TV ad | ...heard a radio ad | ...saw the web Site | ...saw a brochure | ...saw a booth or sign at an event |
|-----------------------------------------|----------------|---------------------|---------------------|-------------------|------------------------------------|
| Made a change | 61% | 33% | 11% | 26% | 20%† |
| Heard the Think Blue slogan | 81% | 47% | 11% | 28% | 31% |
| Seen a TV commercial | 100% | 46% | 10% | 24% | 26% |
| Heard a radio commercial | 81% | 100% | 12% | 25% | 25% |
| Seen a brochure | 71% | 41% | 15% | 100% | 34% |
| Have encountered Think Blue at an event | 68% | 37% | 14% | 30% | 100% |
| Heard of steps the city taking | 63% | 39% | 11% | 25% | 22% |
| Heard of the Think Blue Hotline | 67% | 46% | 10% | 38% | 32% |

†This was not significantly difference from those who have not made a change.

Finally, we provide a summary of encounters with Think Blue elements by watershed area in Table 2. Please view results with caution where small sample sizes are indicated.

Table 2: Encounters with Think Blue Elements by Watershed Area

| Percentage living in: | ...saw a TV ad | ...heard a radio ad | ...saw the web site | ...saw a brochure | ...saw a booth or sign at an event |
|-------------------------------------|----------------|---------------------|---------------------|-------------------|------------------------------------|
| San Dieguito River watershed (N=40) | 43% | 12% | 5% | 20% | 29% |
| Los Penasquitos River watershed | 36% | 21% | 1% | 14% | 16% |
| Mission Bay watershed | 40% | 26% | 10% | 22% | 17% |
| San Diego River watershed | 48% | 34% | 7% | 11% | 18% |
| San Diego Bay watershed | 49% | 30% | 6% | 16% | 19% |
| Tijuana River (N=17) | 43% | 15% | 7% | 22% | - |

Telephone Hotline

In a question new to the city survey this year, we asked residents *“Have you heard of a telephone hotline which can be used to get information about preventing pollution, or to report activities that may be polluting our local beaches and storm drains? This hotline is part of the Think Blue program.”* We found that 18% had heard of it, 81% had not, and 1% weren’t sure. These results are identical to those found among city residents in a county-wide San Diego survey taken last year.

We then asked those who had heard of it (N=148) if, *“In 2009, did you call the Think Blue San Diego Hotline for any reason?”* and found that 8% of those who had heard of it had called. That represents 1.5% of San Diego residents overall who called the hotline last year.

The level of awareness of the hotline varied very little city-wide. We found almost no significant variations among demographic subgroups on either of these measures. However, encounters with Think Blue increased the likelihood of having heard of the hotline, indicating that informational outreach is paying off. We found higher proportions of awareness of the hotline among residents who had:

- Seen a Think Blue brochure (44%)
- Seen a Think Blue sign or booth at an event (34%)
- Heard a Think Blue radio ad (33%)
- Heard the Think Blue slogan (28%)
- Heard of steps the city is taking to fight pollution (28%)
- Seen a Think Blue television commercial (27%)
- Made a change after hearing more about pollution (25%)

Below is the list of proportions of those who have heard of the Think Blue hotline by watershed area. View findings with caution where small sample sizes are indicated:

| | |
|--------------------|------------|
| San Dieguito River | 11% (N=40) |
| Los Penasquitos | 18% |
| Mission Bay | 29% |
| San Diego River | 19% |
| San Diego Bay | 18% |
| Tijuana River | 18% (N=17) |

II. Storm Drain Knowledge

Where Does Street Water Go?

This year we again asked city residents a question that was first asked in 2009, “*What happens to water when it runs down the gutter on your street? Does that water end up flowing into a storm drain?*”

This knowledge is quite widespread. Seven out of 10 (70%) knew that water from the street flows into storm drains, 13% thought that it goes somewhere else, and 16% weren’t sure. This finding is similar (within the margin of sampling error) to the two-thirds who answered this question correctly in the 2009 survey.

We found a correlation between encounters with Think Blue and knowledge of storm drains. Significantly more likely than other residents to answer this question correctly were those who:

- Have heard the Think Blue slogan (80%)
- Have heard of the water pollution hotline (90%)
- Have heard of steps the city is taking to fight pollution (82%)
- Have heard a Think Blue advertisement on the radio (80%), or at a booth at an event (80%)
- Have made changes after hearing more about pollution (78%)

Only a small number of significant demographic differences were found among city residents, these are similar to patterns observed last year:

- Those under the age of 50 (67%) were less likely than older residents (76%), and in particular older men (80%), to know that gutter water flows into storm drains.
- Residents who have a college degree (81%) were more likely to know the correct answer than those who did not graduate from college (64%).
- Residents in the Los Penasquitos watershed area were more likely to know about storm drains than residents in the Mission Bay, San Diego Bay, and Tijuana River watershed areas.

Below we give the proportions who answered correctly in each watershed area. Please use caution in viewing these results where small sample sizes are indicated.

| | |
|--------------------|------------|
| San Dieguito River | 75% (N=40) |
| Los Penasquitos | 81% |
| Mission Bay | 66% |
| San Diego River | 79% |
| San Diego Bay | 69% |
| Tijuana River | 49% (N=17) |

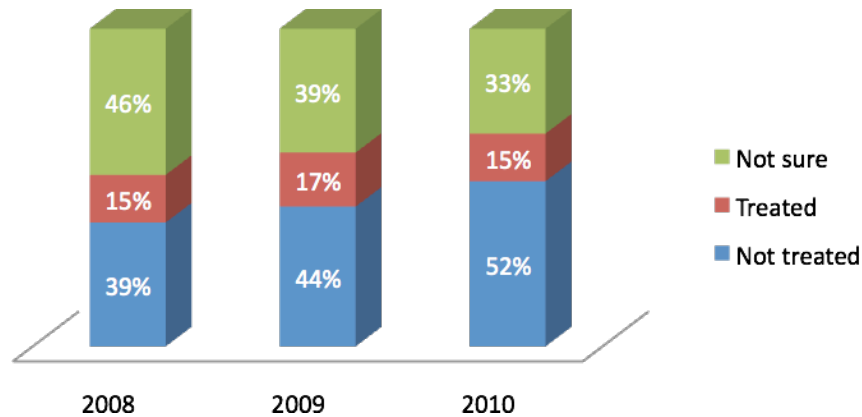
Is Storm Drain Water Treated Before it is Released?

The study also tested the proportion of residents who believe storm water is processed like sewage in treatment plants, compared to those who know that it is released directly, without treatment, into San Diego’s waterways. Respondents were asked, “*Storm drains are the gutters, pipes, and concrete channels that collect water from streets. When water goes into the storm drains, does it go to a sewage treatment plant before it is released, or is it released into creeks or the ocean without treatment?*”

As Figure 3 shows, knowledge that the storm drain system is separate from the sewer system continues to expand in the city of San Diego. More than half (52%) of city residents now know that storm water flows directly from the city’s gutters into regional waterways, an increase of a total of 13 percentage points from the level of

awareness in 2008, and a significant eight point increase over last year. The proportion who believes that storm water is treated before being released has remained virtually static at 15%, but the proportion who said they weren't sure has declined from 46% two years ago to 33% today.

Figure 3: Storm Water Treated or Untreated, in Surveys From 2008 to 2010



We found that hearing about Think Blue San Diego had an impact on awareness. Residents who heard the Think Blue slogan were 12 percentage points more likely to answer correctly than those who had not, by 58% to 46%.

In comparing these results to past surveys, we see significant increases in knowledge among several subgroups of respondents. Table 3 shows the percentage who answered this question correctly over the last three years.

Table 3: Percentage Who Knew Storm Water Is Not Treated, in Surveys From 2008 to 2010

| | % Storm Water Not Treated | | | Change in Percentage | |
|------------------------------|---------------------------|------|------|----------------------|-----------|
| | 2010 | 2009 | 2008 | From 2009 | From 2008 |
| Men | 55 | 45 | 46 | +10 | +9 |
| Women | 49 | 42 | 32 | +7 | +17 |
| Ages 18-49 | 50 | 37 | 35 | +13 | +15 |
| Ages 50+ | 55 | 58 | 47 | -3 | +8 |
| No College degree | 48 | 40 | 30 | +8 | +18 |
| College Grad | 59 | 51 | 51 | +8 | +8 |
| White | 60 | 49 | 53 | +11 | +7 |
| Latino | 44 | 40 | 25 | +4 | +19 |
| Single-Family Homes | 57 | 46 | 45 | +11 | +12 |
| Multi-Family Homes | 41 | 41 | 37 | - | +4 |
| San Diego Bay watershed | 53 | 42 | 39 | +11 | +14 |
| San Diego River watershed | 57 | 46 | 44 | +11 | +13 |
| Mission Bay watershed | 56 | 56 | 53 | +11 | +3 |
| San Dieguito River watershed | 52 | 41 | 38 | +15 | +14 |
| Penasquitos River watershed | 52 | 37 | 36 | +10 | +16 |

We will next explore some findings related to the particularly significant changes observed among:

- **Latinos.** Awareness in this group increased four points since last year, but an overall 19 points since the 25% level in 2008. However, only 44% answered the question correctly, well below the proportion found for most other demographic groups. We saw greater penetration of television and radio ads among Latino residents, which indicates that Think Blue should continue to direct resources toward Spanish and English educational outreach on this subject in both types of media.
- **Residents who do not have a college degree.** While the proportion of correct answers increased 10 points since last year, and an overall 18 points since 2008, members of this group were still significantly less likely than those who have not earned a degree to answer correctly (by 48% to 59%). That eleven point gap is, however, less than the 21 points between the two groups observed in 2008.

Given other survey findings showing this group observes higher proportions of storm drain pollutants in their neighborhoods, directing educational outreach to blue collar and other lower socioeconomic neighborhoods and raising awareness of how the storm drain system works may be the first step in focusing attention on the areas in the city that are most problematic in terms of storm drain pollution.

- **Women.** Awareness that storm drain water is not treated has been steadily growing among women, rising from 32% in 2008, to 42% last year, to 49% in this survey: 17 points in two years. Awareness has risen among men, as well, just not as dramatically: nine points, from 46% in 2008 to 55% today. The gender gap became statistically insignificant after 2008.
- **Younger people.** Residents under the age of 50 are still significantly less likely than older residents to know that gutter water flows into storm drains (67% compared to 76%). However, the gap in knowledge about storm water treatment between younger and older residents is no longer significant (50% compared to 55%).

The proportion of younger people who know that storm water is not treated has risen a substantial 13 points since last year and a total of 15 points since 2008. However, further outreach is needed, possibly through the use of radio advertisements which reach younger people in higher proportion, to inform younger people that water from the street goes into storm drains and from there directly into the ocean.

- **Single family home dwellers.** In a finding that is related to age and socioeconomic level, residents in single family homes (SFH) were more likely to answer correctly than those in multi-family homes by 57% to 41%. Their awareness has risen from previous years: 45% in 2008 and 46% in 2009.

Messages targeting SFH residents could build on their base of knowledge of storm drains and emphasize that garden chemicals, yard clippings, dog waste, and water running off driveways and cars runs directly into the storm water system and out into the waterways. Apartment dwellers are disproportionately Latino, and young, thus messages directed at those groups could include this basic storm drain information to help raise awareness.

- **Some watershed areas.** While more than half of residents in Mission Bay Watershed answered correctly that storm water is not treated in each of the last three surveys, this finding was not true of residents in other watershed districts until this year. Awareness in this survey ranges between 52% and 57% in all areas of the city.

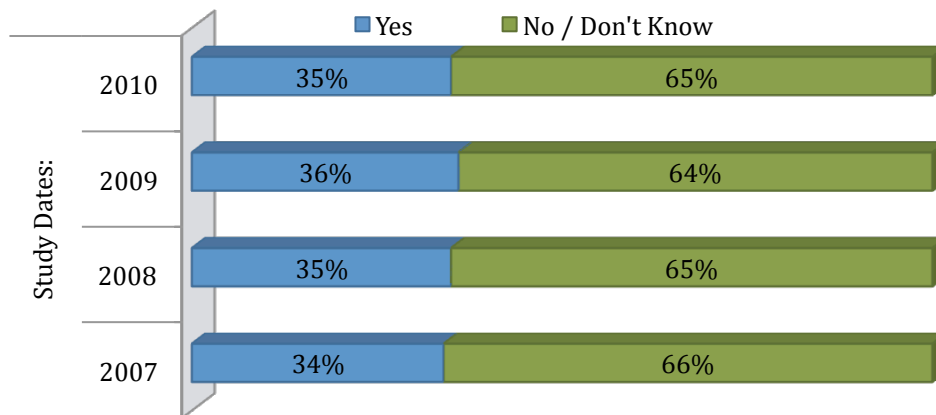
III. Awareness of Pollution Prevention Programs

Residents were told, *“In fact, anything that goes into storm drains can end up in local creeks, rivers, or the ocean, without any filtering or treatment. Motor oil, leaves and grass, dirt, litter, and pesticides are all examples of*

pollution that often goes into storm drains in San Diego, and ends up untreated in our creeks, rivers, and the ocean.” They were then asked, “Last year, in 2009, did you see or hear anything about steps the city of San Diego is taking to prevent pollution of storm water?”

We found just over a third (35%) were aware of such efforts by the city, while just under two-thirds (65%) were not. Figure 4 illustrates how this measure has remained static in surveys taken over the last several years. The 2007 result is included for comparison, and should be viewed with caution due to changes in survey methodology since that time.

Figure 4: Aware of Steps the City Is Taking to Prevent Pollution of Storm Water? Surveys 2007-2010.



This survey, as in previous years, again found encounters with Think Blue corresponds to knowledge of city anti-pollution programs. Significantly higher proportions of familiarity were found among residents who had:

- Heard the Think Blue slogan (46%)
- Seen a Think Blue ad on TV (48%)
- Heard a radio ad (53%) or seen a brochure (55%)
- Heard of the pollution prevention hotline (54%)

The proportion who heard the Think Blue slogan this year is nearly identical to that found in 2009. Other comparisons are not available due to changes in the way the questions were asked.

Residents who made a change in their behavior last year to reduce pollution were also much more likely to be aware of the city’s efforts (60%) than those who did not (24%). This is even more striking than last year’s 50% awareness among those who had made a change compared to 25% among those had not.

We did not observe any significant differences by race or education level as were found last year but we did find other significant variations as follows:

- Those under the age of 50 were less likely to have heard of the city’s anti-pollution work than older residents, by 32% to 41%. This follows a pattern seen in previous surveys.
- As we have also observed in previous studies, the variation in responses between men and women were not significant. However, women under the age of 50 were significantly less likely than other gender and age groups (by 27% to roughly four in 10 among others) to have heard of city programs.

Finally, we list the proportions of awareness of city programs found in each watershed area. View results with caution where small sample sizes are indicated:

| | |
|--------------------|------------|
| San Dieguito River | 44% (N=40) |
| Los Penasquitos | 32% |
| Mission Bay | 36% |
| San Diego River | 40% |
| San Diego Bay | 30% |
| Tijuana River | 50% (N=17) |

IV. Changes in Behavior to Reduce Pollution

Next, the survey asked residents whether learning about pollution had resulted in any change. *“In the past year, did you make any changes in your behavior that were a direct result of seeing any information about what polluted water in storm drains does to local rivers, the beaches and the ocean?”*

This year’s findings are similar to last year’s, which was the first time the question was asked; 32% had made a change, 63% had not, and 5% couldn’t recall. Last year, 29% had made a change.

We compared last year’s results to this year where we were able, and again found ongoing indications that residents who had encountered Think Blue San Diego, or who are aware of the city’s anti-pollution efforts, were significantly more likely to have made a change:

- Those who recalled hearing the Think Blue slogan before (42%) were more likely to have made a change than those who did not (23%). The converse is also true: those who had *not* heard of Think Blue were more likely *not* to change (71%), compared others (54%). These findings are nearly identical to last year’s.
- This year, more than half (54%) of residents who had heard of the steps the city has been taking to prevent storm drain pollution made a change, compared to 20% of those who were unaware of those steps. This is even more significant than last year, when the difference was 42% to 21%.

Significantly higher levels of change were also found among residents who:

- Have seen a Think Blue brochure (54%)
- Have heard of the anti-pollution hotline (43%)
- Have seen a Think Blue TV ad (43%) or heard a radio (40%) commercial

We did not observe the patterns among groups of residents that were noted last year, but some variations have become significant:

- Latinos were more likely at 43% than non-Latinos (29%) to have made a change. Last year’s eight point difference between Latinos and non-Latinos was not statistically significant. Thus, outreach efforts focused on Latinos may have not only raised knowledge levels, but also possibly resulted in reported behavioral change.
- Forty-one percent of dog owners (a group who were more likely to have heard a Think Blue radio ad) said they had made a change. This is a significant increase over the 32% of dog owners who made a change in last year’s study. By comparison, 28% of non-owners in this survey made a change.

Finally, we list the proportions of residents who made a change in each watershed area. Please review results with caution where small sample sizes are indicated:

| | |
|--------------------|------------|
| San Dieguito River | 31% (N=40) |
| Los Penasquitos | 27% |
| Mission Bay | 34% |
| San Diego River | 37% |

| | |
|---------------|------------|
| San Diego Bay | 37% |
| Tijuana River | 20% (N=17) |

Changes That Were Made

Residents who had made a change over the past year were asked, in an open-ended question, to describe briefly what changes they had made. The question was asked of 257 respondents and up to two responses were accepted.

By far the largest percentage (51%) of this group volunteered that they are using less water. In this survey and in those of previous years, we have observed that some residents did not distinguish between water conservation and efforts to reduce pollution of storm drains.

However, residents did continue to make changes that make a difference. We've indicated where this year's proportions differ from last year's findings:

- Twenty-two percent said they have begun taking their car to a carwash rather than washing it at home. A further 4% said they washed their car on their lawn to keep the runoff out of storm drains.
- Twenty-one percent said that they are recycling more, up from 10% of mentions last year.
- Sixteen percent gave answers that can be characterized as "just being more cautious about polluting in general."
- Eleven percent reported picking up trash and litter and another 6% said they cleaned trash out of gutters and off the street.
- Six percent said they have reduced or eliminated fertilizers and pesticides.
- Five percent reported properly disposing of used oil rather than pouring it into drains or the street.
- Four percent are keeping leaves and grass out of the gutter.
- Two percent said they are using less soap, and 1% volunteered that they are picking up after their dog.

While residents who had encountered the Think Blue slogan, seen an ad on TV, or who had heard of steps the city has taken to reduce pollution were more likely to have made a change, they were not any more likely than others to make any particular *type* of change.

Given the small respondent base for this question, there were only a few significant differences in types of change made by various subgroups in the city. We have noted where small sample sizes indicate the need for caution in viewing the results:

- Residents who heard Think Blue radio ads were more likely than others to say they are now washing their cars on their lawns by a ratio of 33% to 17%. They were also more likely to clean trash from gutters and streets (12% compared to 3%).
- Latinos (N=81) were twice as likely as non-Latinos, by 32% to 16%, to say they are recycling more. Latinos, as we have noted elsewhere in this report, were more likely to have encountered anti-pollution programs last year than others.
- Residents with college degrees (N=85) were more likely to have reduced fertilizer and pesticide use (12% compared to 3%). They were also twice as likely as those without degrees to be recycling more: 32% to 16%. This was the only indication found in the study that even small progress is being made in reduction of garden chemicals. Focusing educational messages to educated residents, who are more likely to

have single family homes, and to have yards, and were also more likely to know that storm drain water is not treated, is a place to begin.

- Last year's study, taken after the Dog Waste commercial aired, found that dog owners were more likely than non-dog owners to have made a change by beginning to pick up dog waste more often than others. This year's study found that, while dog owners were overall more likely than other residents to pick up dog waste when they see it, they did not report making that particular change this year in any greater proportion than non-dog owners. Interestingly, 12% of dog owners reported that the change they made was to begin picking up trash from gutters and the street, which was a significantly higher proportion than the 3% of other residents who reported beginning to pick up trash. The data does not offer any particular explanation for this. We can speculate that it might simply be that dog owners have already begun picking up after their dogs more often, and thus they have more exposure to litter, and a trash bag to put it in, while walking their dogs.

V. Prevalence and Seriousness of Storm Drain Pollutants

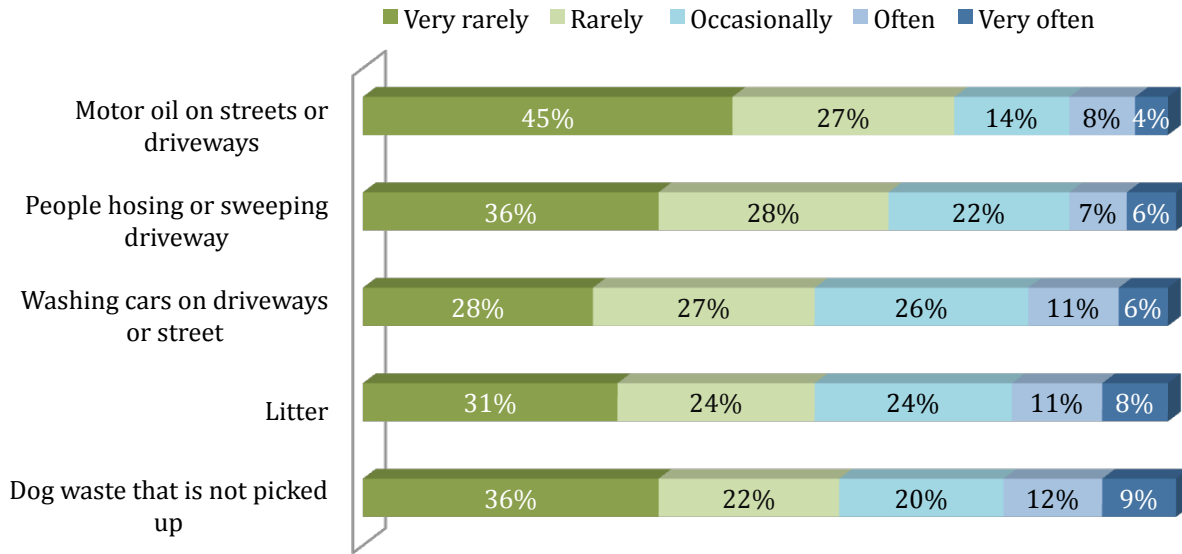
In this section, we turn to two series of questions which examine the perceptions of storm drain pollutants among San Diego residents. The first set of questions asked for ratings on how often they saw various types of items in their neighborhoods. The second asked them to rate how serious each of a list of items was as a source of pollution in storm drains.

Prevalence of Pollutants

This survey added a series of questions this year which asked respondents to rate how often they see each of five items on the block where they live.

Figure 5 illustrates that the majority of residents only rarely saw any of these polluting activities taking place in their neighborhoods. About one in five saw litter or dog waste on their block often or very often, and about one in six saw people washing their cars in their driveway or on the street. Roughly one in eight saw motor oil leaked onto driveways or people hosing or sweeping dirt from their driveway.

Figure 5: How Often are These Pollutants Seen on Your Block?



We found some correspondence between pollution sightings and information levels; residents who have heard the Think Blue slogan were more likely to notice litter (24%) compared to those who have not (14%). Similarly, people who have seen a Think Blue brochure were more aware of dog waste (31%) left lying in their neighborhood compared to those who have not (19%).

Another combination of findings may indicate that there are some neighborhoods that tend to have higher incidences of all of these issues; residents living in multi-family dwellings, and those who did not graduate from college, were more likely to see pollutants. Residents who often saw one type of pollutant such as car washing, dog waste, motor oil, and neighbors hosing down driveways, were also more likely to see litter left in the street. In each category, we found a few groups who were significantly more likely to say they see that material or behavior in their neighborhood, as follows:

- Dog waste not picked up.** Significantly higher proportions of sightings of dog waste were found among dog owners (28%) and men under the age of 50 (25%), and also, among residents who often saw litter (46%), people washing their cars (46%), or people hosing their driveways (40%). One encouraging finding that could continue to be reinforced through messaging is that dog owners, as we have noted elsewhere in this report, were more likely to pick up both dog waste and litter when they see it.
- Litter.** Again, dog owners, who we observed in other survey findings, were more likely to have made a change by picking up litter from the street, also saw litter in their neighborhood more often (41%). Others more likely to often see litter were residents who did not graduate from college (22%), people living in multi-family dwellings (25%), and men younger than 50 (27%). In addition, residents who reported seeing litter often also reported seeing dog waste (41%), car washing (38%), driveways being hosed (37%), and motor oil (59%).

Dog owners don't fit the other demographic patterns in these findings, as they most often live in single family homes, but as most dog owners walk their dogs, that activity may allow them to observe litter more than others.

- Cars being washed in driveways or the street.** We found higher proportions of sightings of cars being washed among younger people (20%) and residents who maintain their own yards or gardens without

the help of a gardener (20%). Also, residents who often saw leaked motor oil (41%), people hosing driveways (43%), and litter (35%).

- **Driveways being hosed or swept into the street.** We found only correlations with those who often saw leaked motor oil (37%) or with cars being washed (32%).
- **Motor oil leaked onto the driveway or street.** This pollutant was observed more often by residents under the age of 50 (14%) and those who often saw litter (37%), cars being washed (29%), or driveways being hosed (34%).

The grouped nature of these findings indicate that identifying neighborhoods which are at particular risk for accumulating neighborhood pollutants may allow concentration of resources toward informational outreach to residents living in those areas. Messages that provide information about the storm drain system and about everyday changes could create positive outcomes in reducing storm drain pollution. Further research may be needed to discern whether high-polluting neighborhoods can be identified, and if this method of outreach is effective.

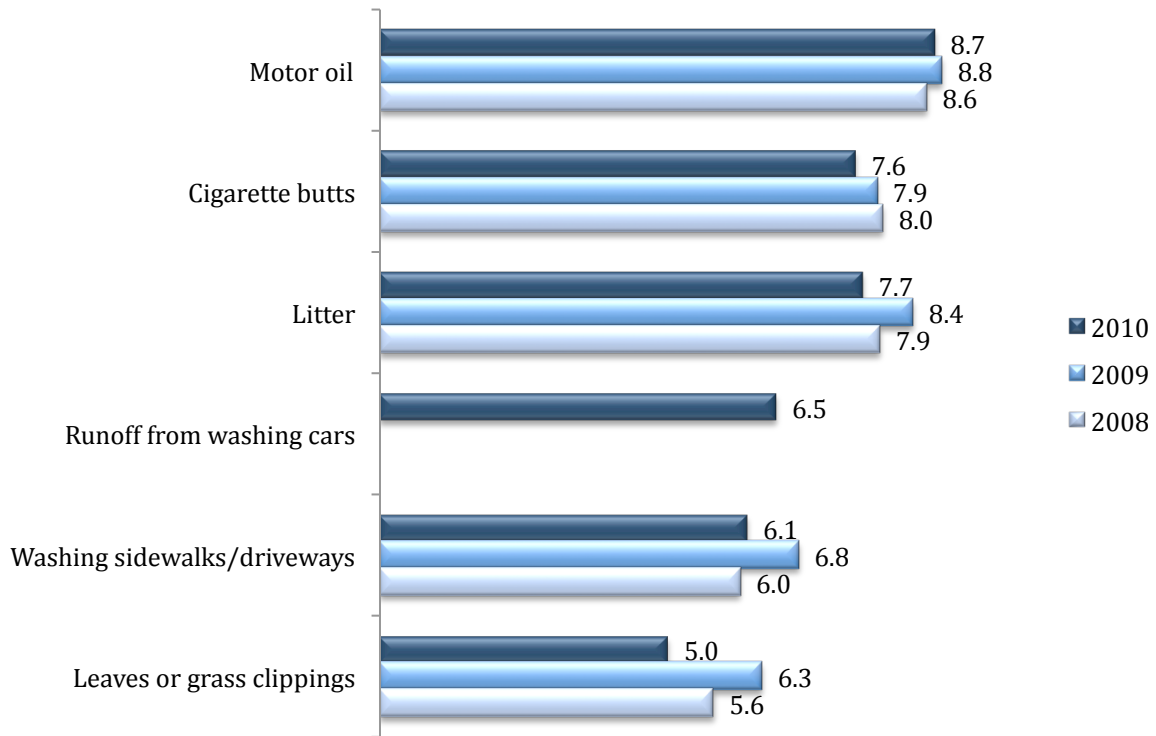
Seriousness Ratings for Storm Drain Pollutants

We next asked residents to rate a series of six items on a scale from 1 if they believed the item was not a serious source of pollution in San Diego storm drains, to 10 if they thought it was a very serious source of pollution. A rating will be referred to as “Serious” if it is eight or higher, and “Not Serious” if it is three or lower.

As was observed in previous surveys where these questions were asked, residents readily recognized motor oil, litter, and cigarette butts as serious pollutants, assigning each of them ratings that averaged close to, or greater than, eight on the 10 point scale. Runoff water from hosing down sidewalks and driveways and from washing cars was less readily recognized as a serious pollutant, but still averaged 6.2 and 6.5 respectively. Leaves and grass clippings were the least recognized of all the pollutants, with an average rating of 5.

Figure 6 shows the average seriousness rating for each item in this year’s study compared to how the items were rated in previous surveys done in 2008 and 2009. This chart should be viewed with caution due to differences in placement of the question in the questionnaire between this year and last. Past surveys did not ask for ratings on runoff water from washing cars, and some items that were rated in the past were not rated this year.

Figure 6: Average Seriousness Rating in Surveys from 2008 to 2010



Residents who recognized the seriousness of one of these everyday pollutants were more likely to recognize that all of them are serious. Without exception, those who gave each pollutant an above-average ranking were significantly more likely to rank the others in the list that way as well.

The series showed some other overall patterns of variation in the way groups of city residents rated the pollutants, lending itself to observations across demographic groups as well as by pollutant type. Once again, we found a great deal of encouraging difference in recognition of pollutants among those who had encountered the Think Blue program as follows:

Patterns by Familiarity with Think Blue, City Anti-Pollution Efforts, and Changed Behavior

- Television advertising seems to be most effective in raising awareness of pollutants. Those who saw a Think Blue television commercial, or heard the Think Blue slogan (which was most often encountered on TV), were significantly more likely to rank each of the pollutants higher, on average, than those who had not.
- Radio commercials may be effectively conveying information about motor oil and litter. Residents who had heard a Think Blue radio ad ranked motor oil and litter higher on the scale than those who had not.
- Residents who had seen a Think Blue brochure ranked motor oil and leaves and grass clipping higher on average than others.
- Residents who were aware that storm water is not treated were significantly more likely to rank cigarette butts, runoff water from washing cars, and washing down driveways as more serious than those who thought it was treated.

- Residents who had heard of steps the city has taken to fight pollution of storm drains gave a higher seriousness rating, on average, to motor oil, litter, and cigarette butts, than other residents.
- Those who made a change last year in order to reduce pollution rated each one of the pollutants as more serious than those who didn't make a change.

Other Patterns by Demographic Groups

- In a similar pattern to last year, women gave average ratings that were significantly higher for the seriousness of washing cars, washing sidewalks and leaves or grass clippings.
- Among men, those under age 50 ranked litter and car washing as more serious than did older men.
- Women 50 or older also ranked each pollutant higher than did men in their age group, but the only category they were significantly more likely to rank more highly than younger men was that of leaves and grass clippings.
- Residents under age 50 rated litter and car washing as more serious on average than older residents. Younger women were even more likely than younger men to recognize the pollution potential in runoff from car washing.
- Residents who did not graduate from college tended to rate each pollutant higher, on average, than residents who have degrees. A similar result was found last year, as well.
- This survey found Latinos rated washing cars, washing down sidewalks, and leaves or grass clippings higher, on average, than non-Latinos. This finding echoes those from previous years.
- Those who often saw litter on their block ranked litter as a more serious pollutant, on average, than those who see litter less frequently.

Table 4 provides a summary of the average rankings on these pollutants by watershed area. View results with caution where small sample sizes are indicated.

Table 4: Average Seriousness Ratings by Watershed Region (Mean Score on 1-10 Scale)

| Average seriousness rating by watershed for: | Motor oil (8.7) | Litter (7.7) | Cigarette butts (7.6) | Car Washing (6.5) | Washing Driveways (6.1) | Leaves and grass (5.0) |
|----------------------------------------------|-----------------|--------------|-----------------------|-------------------|-------------------------|------------------------|
| San Dieguito River (N=40) | 9.2 | 8.4 | 8.6 | 7.0 | 6.8 | 5.2 |
| Los Penasquitos | 8.4 | 7.5 | 7.3 | 6.6 | 5.9 | 5.1 |
| Mission Bay | 8.8 | 7.8 | 8.0 | 7.0 | 6.1 | 4.9 |
| San Diego River | 8.7 | 7.6 | 7.6 | 5.9 | 5.9 | 4.6 |
| San Diego Bay | 8.9 | 8.1 | 7.8 | 6.7 | 6.5 | 5.1 |
| Tijuana River (N=17) | 7.5 | 6.6 | 8.0 | 6.4 | 6.6 | 4.4 |

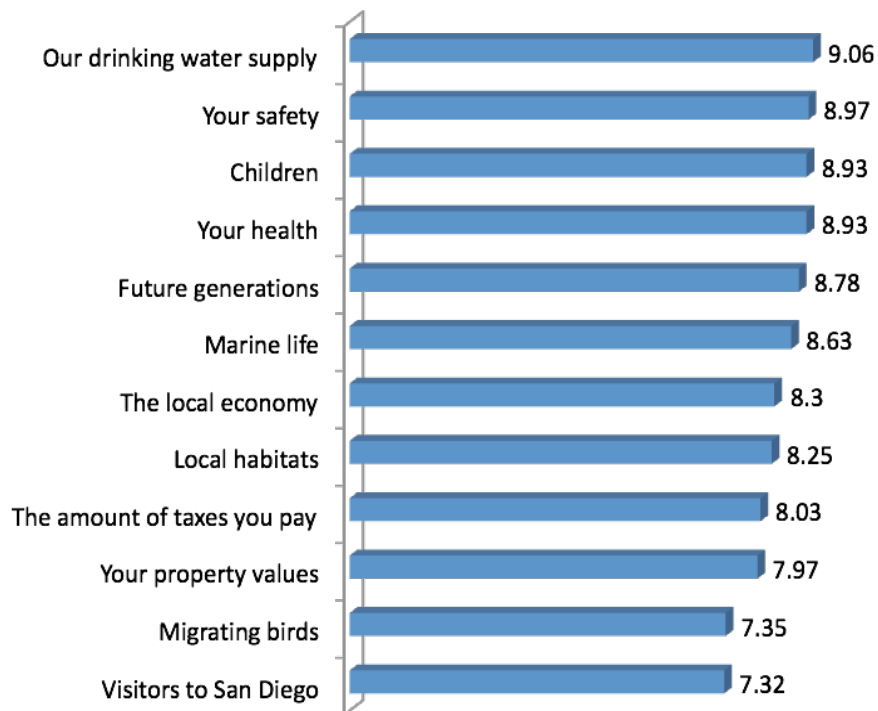
VI. Value-Based Motivations for Pollution Prevention Behavior

As in previous surveys, we asked a series of questions in which participants were asked to rate their motivations for concern about storm water pollution. This year we designed the questions to measure motivations about the

consequences of pollution for various groups. The scale is based on a psychological theory which suggests that values provide the sources of concern for environmental issues and for pro-environmental behavior.

The series begins, “I’d like to read you a brief list of things that concern some people here about the possible consequences of polluted water in storm drains.” We then asked them to rate each on a scale from 1 if the item “does not concern you at all” to 10 if “it concerns you a great deal.” As may be seen in Figure 7, concern about all but two of the consequences we tested averaged 8 out of 10 or higher.

Figure 7: Average Ratings of Concern About Consequences of Storm Drain Pollution



Academic research has identified three sets of values associated with environmental attitudes: egoistic, altruistic, and biospheric. Egoistic values are focused on self and self-oriented goals (e.g., wealth, personal success). Altruistic values focus on other people (e.g., community, humanity). Biospheric values focus on the well-being of living things (e.g., plants, animals). Conceptually, each of these sets of values can lead to concern for environmental issues, and ultimately to behavior when activated.

The survey included a twelve-item scale oriented around biospheric, egoistic, and altruistic environmental motives. The survey question asked respondents to rate a list of things that may concern people about the “possible consequences of polluted water in storm drains.” Each item was rated from 1 (no concern) to 10 (a great deal of concern). Biospheric motives were marine life, local habitats, and migrating birds. Egoistic motives were one’s health, safety, and property values, and the amount of taxes one pays. Altruistic motives were the local economy, future generations, children, and the drinking water supply.

Results of a factor analysis showed that the twelve items on the scale measured two distinct constructs: biospheric concern (concern for marine life, local habitats, and migrating birds) and socially motivated concern (including both egoistic and altruistic motives). The scale did not differentiate between egoistic and altruistic value sets. Two scale scores were created from the twelve items. Both scales were highly reliable:

- Biospheric Environmental Concern (3 items, $\alpha = .77$), *Mean* = 8.07

- Socially Motivated Environmental Concern (9 items, $\alpha = .88$), *Mean* = 8.46

Overall Concern for the Consequences of Storm Water Pollution

In general, concern about the consequences of storm water pollution was high among city residents. Both biospheric concerns and socially motivated concerns were rated higher than an eight on a ten-point scale. However, there were some significant differences across groups. Specifically, overall concern was significantly higher among:

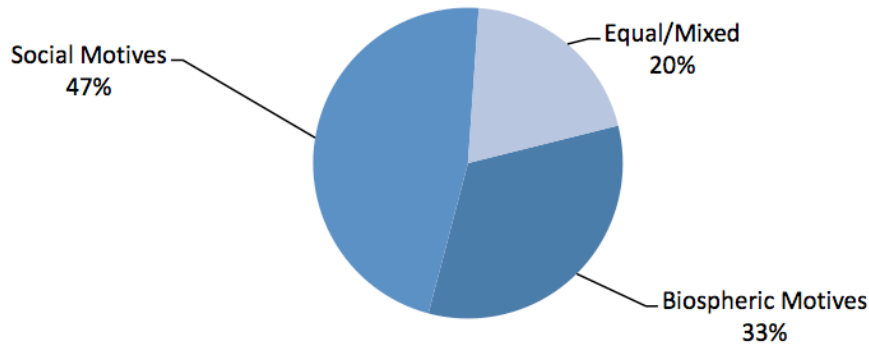
- **Females.** Females had significantly higher biospheric (8.22) and socially motivated concerns (8.68) compared to males (7.92 and 8.22 respectively).
- **Hispanics.** Hispanics had significantly higher biospheric (8.41) and socially motivated concerns (8.86) compared to non-Hispanics (7.95 and 8.31 respectively).
- **Dog owners.** Individuals with a dog in the household had significantly higher biospheric (8.50) and socially motivated concerns (8.75) compared to those without dogs (7.87 and 8.30 respectively).
- **Recent behavior changers.** People who had made changes in their behavior in last year as a result of seeing information about storm water pollution had significantly higher biospheric (8.37) and socially motivated concerns (8.73) compared to those who did not (7.89 and 8.29 respectively).
- **Booth or event visitors.** People who had seen a booth or sign at a local event had significantly higher biospheric (8.48) and socially motivated concerns (8.70) compared to those who did not (7.98 and 8.38 respectively).

Levels of concern did not differ significantly as a function of whether or not they knew storm water was not treated, or whether or not they had seen any information about San Diego's efforts to prevent storm water pollution. Environmental concern also did not differ by home type, education, or age.

Value Basis Segments

Respondents were categorized into three groups based on their highest rated value sets: (Biospheric, Social, or Equal/Mixed). As seen in Figure 8 below, the majority of San Diego residents rated socially-based motives highest (47%) or rated all motives equally (20%). Only one-third of respondents rated biospheric concerns higher than socially motivated concerns.

Figure 8: Percentage of Respondents by Value Basis



Value basis did not differ as a function of gender, age, education, or home type. In addition, Latinos were equally distributed across the groups. However, there were some meaningful differences between the two segments.

Residents who ranked biospheric environmental concerns highest were:

- Less likely to be Asian (25% were biospheric) compared to other ethnic groups (over 30% of African Americans, Caucasians, and Mixed ethnic groups)
- More likely to have heard about Think Blue (36%) compared to those who had not (29%)
- More likely to know that storm water is not treated (33%) compared to 24% of those who thought it was treated or didn't know

Residents who ranked socially motivated environmental concerns highest were:

- Asians (51%)
- People with no dogs (50%) compared to 41% of people with dogs in the household
- People who believe storm water is treated (62%) compared to 44% of those who know it is not treated

The likelihood of an individual engaging in pollution prevention activities such as picking up pet waste, fixing automotive leaks, etc. did not differ as a function of value basis. That is, people with a biospheric basis for concern were equally likely to take action as people with socially motivated concerns. Importantly, it is the motivation for these actions that differs from individual to individual.

Value Basis Conclusions

The results of these analyses can be useful in the development of new messaging, public service announcements, and other outreach activities. The analyses showed that San Diego residents can be divided into two distinct groups, each of whom has a unique value basis for their concern about the consequences of storm water pollution. In particular, we found that the largest group of San Diego residents was concerned about storm water pollution because of personal or social implications (e.g., impacts on personal lifestyle or children). This suggests that broad citywide messages would benefit from focusing on the personal and community impacts of storm water pollution rather than effects of pollution on living things (e.g., marine life).

These findings also allow us to go beyond traditional demographic profiles in the development of audience-specific messaging. Across demographic groups, there is significant variation in the specific value basis for

environmental concern. Based on the results of our analyses, targeted messages and outreach activities can be designed specifically to target the two unique sets of values. For example:

- People who ranked biospheric motives higher than other motives were more likely to have heard of Think Blue and were more likely to know that storm water is not treated. Messages oriented around biospheric values will resonate best with people who already have some knowledge and awareness about storm water pollution.
- Messages oriented around biospheric values are least likely to resonate in the Asian population. Instead, messages aimed at this group should focus on community and personal impacts of storm water pollution.

VII. Pollution from Dog Waste

This year's survey found that 31% of San Diego City residents own a dog, a level of ownership very similar to that observed in previous surveys.

New this year were a series of questions about polluting behaviors associated with dog ownership and with picking up dog waste. We found the same pattern of characteristics associated with dog ownership that has been observed in previous surveys. Dog owners were more likely to:

- Be Hispanic, or non-Hispanic white, than other races or ethnicities.
- Live in single family homes. The converse is also true; those living in single family homes were almost twice as likely to have a dog than apartment dwellers. Dog owners are also more likely to have a yard than other residents.
- Say that they often saw dog waste and litter that is left lying around in their neighborhoods. They were also more likely to pick up dog waste when they saw it.
- Be aware of steps the city has taken to prevent pollution of storm water, and to have made changes that were a direct result of hearing about what polluted water does to waterways and beaches.

Most San Diego dogs are taken on walks, and almost all dog walkers said they take a bag with them to pick up waste:

- Close to eight out of 10 (78%) of those who have a dog in the household personally walked their dog, and another 8% said someone else in the household does so. Fourteen percent said the dog doesn't go on walks.
- Only 3% of the dog owners who personally walk their dogs (N=194) said they rarely or never take a bag with them to pick up waste when they go on a walk. Nearly all (95%) said they always do so, and another 2% said they often do.

However, nearly a quarter of dog walkers said that they rarely (7%) or never (16%) pick up their dog's waste when they are out on a walk. The good news is that most dog walkers (77%) always pick it up. Due to the small sample size we were unable to observe any significant variations in answers to these questions among groups of residents.

Overall, the findings from this section of the survey show that most dog owners in the city clean up after their own dogs and are in general more likely to help clean up other dog waste that they see in their neighborhoods. However, there is also a sizeable minority of dog owners who do not pick up after their dogs and who would benefit the most from information and motivational messaging.

For the final question in this series, we asked the very small group of respondents who said that they sometimes leave dog waste behind on a walk to tell us which, if any, of a series of 10 reasons for doing so applied to them. The very small sample size (N=46) means that findings must be viewed with caution due to the very large margin of sampling error associated with proportioned results, for this reason, we will characterize these results rather than provide percentages.

The reasons responded to most often, by roughly one out of five dog owners in each case, were:

- *“Not having a bag to pick up the waste”*
- *“There is no real reason to pick it up”*
- *“Not being able to find the waste”*
- *“The dog went in a spot where it is OK to leave the waste”*

About one in 10 said the following reasons applied to them:

- *“[Not knowing] that dog waste left on the street ends up in storm drains and pollutes the ocean”*
- *“It is too messy and disgusting”*

Thus, messages focused on dog owners should emphasize the need for dog owners to take a bag with them to pick up waste whenever they go on a walk and include information about how dog waste left on parkways or in the gutter can wash into storm drains. Dog owners may not be aware that these locations are not *“okay to leave the waste,”* and that there are good reasons to make the effort to pick up after their pets.

Other reasons we tested applied to very few, and are thus less useful in crafting motivational messages.

- *“The waste was too small to bother”*
- *“[They] were in a hurry”*
- *“There was nowhere to put the waste after [they] picked it up”*
- *“Other people in the city will pick it up so [they] don’t have to”*

Pick Up Dog Waste When You See It?

This section of the report looks at the frequency with which San Diego City residents pick up dog waste when they see it in their neighborhood, and what information about the polluting potential of the waste might motivate residents to pick it up with more frequency.

The first question asked the 517 San Diego City residents who said that they at least sometimes see dog waste left lying on their block how often they picked it up and put it in the trash. They rated their frequency on a scale from one to 10 where 1 meant they never pick up the waste and 10 meant they always do. We asked them to think only of waste that was not from their own dog.

We found that the frequency of this behavior is very low. On average, city residents pick up dog waste with a frequency of about 3 out of 10. More than half of San Diego residents (54%) said they never do pick up dog waste, and another 23% rated their likelihood of doing so between 2 and 5. Only one in five rated their frequency at six or higher 9% ranked themselves between 6 and 9, and 11% said they always pick it up.

As in other areas of the survey, we observed that encounters with anti-pollution messages were significantly associated with positive behavior in this regard. People who had heard the Think Blue slogan averaged frequency ratings of 3.7 compared to 2.9 among others. Similarly, residents who had seen a Think Blue brochure picked up dog waste more frequently on average (4.0) than those who had not (3.1).

We found a few other groups of residents who were significantly more likely to say they often pick up dog waste, on average as follows:

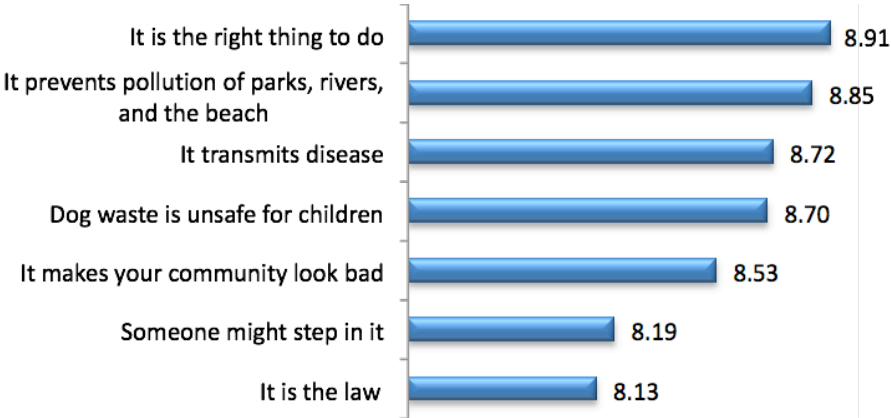
- **Dog owners.** This group was much more likely to pick up other people’s dog waste on average (4.8), than non-owners (2.9). This is not a surprising finding, given the fact that most dog owners go out on walks equipped with bags for just that purpose. This survey and last year’s show that dog owners respond to messages about picking up dog waste and thus continue to be a natural focus for anti-pollution messages with information about the benefits of picking up all dog waste they see, not just that from their own dogs.
- **Residents who see dog waste left on the street** often (3.8) or occasionally (3.4) were more likely on average to pick it up compared to those who see it rarely (2.7).
- **Older residents.** In particular, those between 50 and 59 years old who averaged 4.8, much higher than all other age groups. They increased the overall 50+ average rating to 3.8, compared to 3.0 among younger residents. Particularly likely were:
 - Women 50 or older (4.0), compared to younger women (2.8)
 - Whites 50 or older (3.9), compared to younger whites (3.1).
- **People who live in single family homes** were more likely on average (3.5) than those in multi-family homes (2.8). We observed similar findings among residents who have yards. This finding may be due to the correlation with these measures and dog ownership.

Reasons to Pick Up Dog Waste

The next section tests a series of seven reasons people might give for picking up dog waste and throwing it in the trash. We asked residents to rate the importance of each of these reasons on a 10 point scale, using a 1 if they felt it was a very unimportant reason, to 10 if it was a very important reason.

San Diego residents considered each of the reasons to be important, giving each one an average rating of between 8.13 and 8.91 out of 10, as illustrated in Figure 9.

Figure 9: Average Importance of Reasons for Picking Up Dog Waste



We observed the following significant variations on average in ratings among some groups in the city:

- Dog owners considered each of the reasons more important, on average, than non-dog owners. These differences were significant except in the cases of transmitting disease and safety implications for children. Dog owners rated “*doing the right thing*” particularly highly at 9.5 and gave nearly as high a rating to pollution prevention at 9.2.

- Women, who ranked all of the reasons as more important than men did, responded especially to doing the right thing, preventing pollution, and concern about transmission of disease. Average ratings among women were 9.0 or higher for each of these.
- Residents who are 50 or older ranked the following higher on average than younger residents: doing the right thing (9.3), keeping people from stepping in it (8.5), and because it is the law (8.6).
- Residents who didn't graduate from college gave a higher average rating to following the law (8.4).

Thus, findings indicate the following should be considered when crafting informational messages:

- Characterizing picking up dog waste as *“doing the right thing”* is particularly appeals to dog owners, women, and older residents. The pollution prevention aspect of picking up waste is also likely to particularly appeal to dog owners and women.
- Following the law was particularly important to older residents, and those who do not have college degrees.

Having Heard More, How Likely Are You to Pick Up Dog Waste?

The final question in this series revisited the question of picking up dog waste and putting it in the trash after discussing reasons for doing so. They were asked, *“Having heard more, how likely are you to pick up dog waste that you see on the block where you live and put it in the trash?”*

We found that hearing more information made an impact. Respondents who had rated how frequently they picked up waste when they saw it at an average of 3.3 on a scale from 1, meaning they never pick it up, to 10 meaning they always do, the first time we asked, averaged a significantly higher rating of 5.1 after hearing more about it. We compared how this group of respondents answered between the first time to the second time the question was asked, and found the following significant changes:

- Among those who gave a below-average rating of one to three the first time 38% now rated their likelihood at four or higher, and nearly one in five gave a “very likely” rating of 8 to 10.
- Among the those who said that they would “never” pick up dog waste when asked the first time (i.e., ranked themselves at one on the 10 point scale (N=281)):
 - About six in 10 said the second time as well that they would “never” pick up dog waste. Another 5% moved up into the “very unlikely” range of a rating of two or three.
 - Sixteen percent gave a rating of four to seven, which can be characterized as “somewhat likely.”
 - Another 16% gave a rating of eight or higher, including nearly one in 10 who changed their likelihood to the “always” rating of 10.

We found some significant variation in how more information impacted the behavior of some groups in the city as follows:

- Those who made a change in their behavior last year had an insignificantly higher average likelihood of picking up waste initially. After hearing more, they became significantly more likely to do so, averaging 5.7, compared to an average of 5.0 among non-changers.
- Men and women rated how often they pick up dog waste with similar average frequency, but after hearing more, their behaviors diverged: women’s average likelihood rose to 5.5 compared to men at 4.8. Women 50 and older in particular were affected, averaging 5.7, compared to younger women’s 5.2.

- Similarly, residents with and without college degrees differed little when first asked, but diverged significantly after hearing more information, averaging 4.9 and 5.5 respectively.
- Dog owners, who picked up waste with significantly higher frequency initially (4.8 compared to 2.6 among non-dog owners) rose to a very high average likelihood of 6.5 after hearing more. Non-owners' average likelihood rose as well, but only to 4.5.

Overall, only two of the seven arguments had a measurably greater impact than the others in terms of greater than average change among those who gave them greater than average ratings. These were prevention of pollution, and concern that dog waste is unsafe for children. Messages that carry those themes, then, are likely to resonate well across the city's population.

VIII. Use of Pesticides and Chemicals in Residential Yards and Gardens

The next series of questions examined the use of garden pesticides and chemicals among San Diego City residents. First, we found that 68% of residents live in a household that is responsible for the maintenance of a yard or a garden.

We found only a few characteristics particularly associated with having a yard, most of which are also associated with living in a single family home. Residents who live in homes with yards were significantly more likely to live in single family homes (86%), be 50 years or older (79%), have a college degree (77%), be non-Hispanic white (71%), and live in Los Penasquitos watershed area (83%).

Next, we asked those who have a yard or garden (N=545) who maintains that yard. Sixty-five percent of this group said that they or someone else in the household does the yard work; another 10% said they maintain their yard with the help of a gardening service and 24% retain a gardener who takes care of all maintenance. One percent volunteered that the yard is not maintained. We found no significant variation among subgroups other than the finding that residents in apartment buildings are more likely to rely on a gardening service than those living in single family homes.

We then asked the 545 residents who had a yard or garden, *"In the last year or so, did any pesticides or chemicals get used in your yard or garden?"* Just over one in four (27%) said they had been used, 70% said they had not, and 3% weren't sure.

The study found no significant differences in chemical use among those who maintain their own gardens, with or without the help of a service, and those who rely on a service exclusively. We found only a few significant variations in characteristics of yard owners who used pesticides or chemicals last year as follows:

- Yard owners who gave low seriousness rankings to the following pollutants were, in each case, more likely to use pesticides or chemicals than others: leaves and grass (30% compared to 20%); washing down sidewalks and driveways (33% to 18%); and runoff water from washing cars (32% to 18%).
- Those with college degrees were more likely to use chemicals and pesticides than those who do not have a degree by 33% to 22%. This finding may be related to socioeconomic level of residents who can afford to buy yard chemicals.
- Non-Hispanic whites were more likely to use chemicals (34%) than Latinos (17%) or other ethnic groups (14%).

The finding that higher use of yard chemicals was associated with a group who tended to be white, college educated, and who gave low rankings to other pollutants, indicate the need for further informational outreach to residential single-family neighborhoods. These messages should emphasize the polluting potential of not only pesticides and chemicals, but also leaves and grass, and water runoff from cars and driveways.

Next, is a table of results by watershed area of residents whose household is responsible for a yard or garden. Note that care should be taken when viewing results where small sample sizes are indicated:

| | |
|--------------------|------------|
| San Dieguito River | 75% (N=40) |
| Los Penasquitos | 83% |
| Mission Bay | 66% |
| San Diego River | 67% |
| San Diego Bay | 65% |
| Tijuana River | 58% (N=17) |

Proportions of pesticide use among yard owners by watershed area (note small sample sizes for most areas):

| | |
|--------------------|-------------|
| San Dieguito River | 19% (N=30) |
| Los Penasquitos | 16% (N=88) |
| Mission Bay | 38% (N=66) |
| San Diego River | 34% (N=95) |
| San Diego Bay | 25% (N=162) |
| Tijuana River | n/a (N=10) |

IX. Leaking Automotive Fluid

The next section of the study examines how residents have handled automotive leaks in the past, and whether finding out more about the polluting potential of such leaks might change behavior. The section begins with our finding that 88% of residents own a vehicle (n=704).

Next, we asked that group, *“In the last year, have you seen any oil or other automotive fluids leaking from a vehicle you own, or seen stains from such fluids on the pavement under your vehicle?”*

Only 9% of vehicle owners had seen a leak, or evidence of a leak, while 91% had not.

We then asked those who had seen a vehicle leak a series of questions. First, we asked if they stopped the leak. Then, we asked if any of a series of reasons for *not* fixing an automotive leak applied to them. Finally, we asked for how likely they were to fix a leak in the future. Even these marginal findings should be viewed with caution due to the small sample size for respondents who experienced a vehicle leak (N=66).

The first question was, *“Did you take any actions that successfully stopped that leak from your vehicle in the past year?”* We found that 70% had done so and 30% had not.

Next, this group was asked to consider a series of six reasons *“...given by other people for NOT always fixing such leaks immediately”* and to say if that reason applied to them or not. We found that:

- Roughly a quarter in each case said that the reasons *“It is too expensive,” “You didn’t know it causes pollution of the beaches and ocean,”* and *“You don’t have a reliable mechanic to fix the leak”* applied to them.
- Roughly a fifth said that the following reasons applied: *“The amount of pollution your vehicle causes is too small to worry about,” “It is too much trouble to fix a small leak,”* and *“You do not see a real benefit to fixing a leak like that.”*

Finally, we asked this group, *“Having heard more, how likely are you to fix such leaks immediately when they happen in the future?”* and to rate their likelihood on a scale from 1 if it is something they will probably never do, to a 10 if it is something that they will definitely do to prevent pollution. The average rating was 8.71. Sixty percent said they would definitely do it (rating of 10 out of 10).

While the small sample size gives little to base a recommendation upon, the findings do indicate that besides economic reasons for not fixing leaks, some residents are not aware of the polluting potential of leaked auto fluids, so that targeting motorists with this information could have an impact

X. Sample Demographics

This survey was conducted on both landlines and cell phones, in Spanish and in English. Responses were weighted to account for overlap in households that have both landlines and cell phones, and to adjust for sample non-response. Unless otherwise indicated, all frequencies and percentages reflect the proportions after weights were applied. Frequencies, percentages, and margins of sampling error (MOSE) are provided for groups of respondents who were analyzed in this report.

Latinos and Race

In Table 5 are the self-described racial categories of the respondents in this survey. These categories include those who identify as Latino or Hispanic, which is determined by a separate question.

Table 5: Racial Categories (including Hispanic/Latino)

| | % |
|---------------------------|----|
| White or Caucasian | 65 |
| Asian or Asian-American | 12 |
| Black or African-American | 6 |
| Native American | 1 |
| Mixed Ethnicity | 5 |
| Other | 8 |
| Refused | 3 |

Table 6 shows the proportion of San Diego residents who said they consider themselves Latino or Hispanic, and breaks down the non-Latino category into non-Hispanic racial categories, corresponding to categories used in the analysis of this report.

Table 6: Latino/Non Latino and Non-Hispanic Racial Categories Referenced in the Report

| | N | % | MOSE +/- |
|------------------------------------|------------|-----------|-------------|
| Latino | 189 | 23 | 6 |
| Non-Latino, which includes: | 609 | 76 | 3 |
| Non-Hispanic White | 466 | 58 | 4 |
| Non-Hispanic Other | 144 | 18 | 6 |
| Refused | 8 | 1 | |

In this survey, 29% of those who said they were Latino or Hispanic categorized themselves racially as white, 5% were black, 2% were Asian, 1% Native American, 17% mixed ethnicity; 23% said they were some other race, and 12% of Latinos refused to give a racial category.

Educational Attainment

Table 7 provides the frequency and percentages of the educational categories of respondents in the survey and the combined categories used for analysis in this report.

Table 7: Categories of Educational Attainment Referenced in the Report

| | N | % | MOSE +/- |
|------------------------------------------|------------|-----------|-------------|
| No College Degree (net) includes: | 507 | 63 | 4 |
| No High School Diploma | 259 | 32 | |
| High School Graduate | 167 | 21 | |
| Some College | 167 | 21 | |
| Associate Degree | 81 | 10 | |
| College Degree (net) includes: | 290 | 36 | 6 |
| Four Year Degree | 197 | 24 | |
| Graduate Degree or more | 93 | 12 | |

Age

Table 8 gives the proportion of each age group, in decade cohorts, for San Diego residents overall, and the frequency and percentage for the age categories used in the analysis of this report. The mean age for respondents in this survey was 43.5 and the median age was 42.

Table 8: Categories of Resident Age Referenced in the Report

| | N | % | MOSE +/- |
|------------------------------|------------|-----------|-------------|
| 18 to 49 includes: | 517 | 64 | 4 |
| 18 to 29 | 216 | 27 | |
| 30 to 39 | 155 | 19 | |
| 40 to 49 | 146 | 18 | |
| 50 or older includes: | 280 | 35 | 6 |
| 50 to 59 | 118 | 15 | |
| 60 to 69 | 78 | 8 | |
| 70 or older | 84 | 10 | |
| Refused | 8 | 1 | |

Type of Residence

In the analysis of this report we referred to residents living in “single family dwellings” (SFD) and “multi-family dwellings” (MFD). About two-thirds of the survey’s respondents live in SFDs, and one third in an apartment, condo, duplex, triplex, or any other dwelling which is not a single family home, as shown in Table 9.

Table 9: Type of Residence as Referenced in the Report

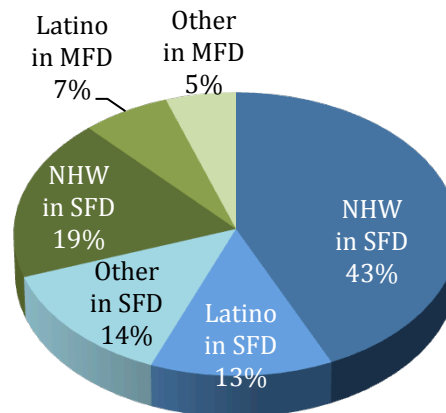
| | N | % | MOSE +/- |
|-------------------------------------------|------------|-----------|-------------|
| Single Family Homes (SFD) | 551 | 66 | 4 |
| Multi-Family Homes (MFD) includes: | 270 | 34 | 6 |
| Condo or Apartment | 203 | 25 | |
| Duplex, Triplex | 22 | 3 | |
| Townhouse | 35 | 4 | |
| Other | 10 | 1 | |
| Don't know/NA | 3 | 1 | |

There are a few significant differences in the demographic makeup of residents living in single-family and multi-family homes:

- Non-Hispanic whites (NHW) make up 58% of the city’s population, 61% of residents in houses, and 52% of residents living in MFD.
- Latinos comprise 23% of the city’s population, 19% of residents in houses, and almost a third (32%) of residents in multi-family homes.

The pie chart in Figure 10 illustrates the distribution of San Diego City residents in this survey by race/ethnicity and home type. Single family dwelling proportions are represented by shades of blue, multi-family proportions by shades of green. Note references to “non-Hispanic white” residents as (NHW).

Figure 10: Proportion of San Diego City Residents by Race/Ethnicity and Housing Type



Type of Phone Service

Two hundred (25%) of the interviews for this survey were completed on a cell phone, and 405 (75%) on a landline phone.

- Ten percent of respondents had cell phone service only, meaning their household has no other type of phone line that is used for personal calls. This is referred to as CPO or “cell phone only.”
- Twenty-seven percent of respondents had only a landline phone in their home. This is referred to as LLO or “landline-only.”
- Sixty-three percent receive personal calls on both a landline phone and a cell phone. This included 15% of the respondents reached on cell phones, and 48% of respondents reached on a landline phone. This group is referred to as having “dual” phone types.

After weighting to account for the overlap in dual users that can be reached on both cell phones and landline phones, samples, the sample was 15% CPO, 65% dual, and 20% LLO.

Language of Interview

Twenty-seven of the 805 interviews in this survey were conducted in Spanish, and the rest (778) were in English. Spanish language interviews account for 5% of the weighted sample.

Gender

Fifty-one percent of respondents were male (N=409, MOSE +/-5) and 49% percent female (N=396, MOSE +/-5).

Watershed by Zip Code

Some zip codes correspond to multiple watershed areas. In those cases, an intersection nearest the resident's home was used to assign the specific watershed. In 153 cases, no watershed area was assigned; 45 were coded as not being in a San Diego watershed, and 107 had incorrect zip codes or mismatches between intersections and zip codes.

Table 10: Frequency and Percentage of Watershed (by Zip Code)

| Watershed | Zip Codes | N | % | MOSE +/- |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|----------|
| San Diego Bay | 91902, 91911, 91913, 91915, 91945, 91950, 91977, 92101, 92102, 92103, 92104, , 92105, 92106, 92107, 92113, 92114, 92115, 92116, 92118, 92133, 92134, 92135, 92136, 92139, 92140, 92152, 92154 | 248 | 31 | 6 |
| Tijuana River | 91932, 92154, 92173 | 17 | 2 | 24 |
| Mission Bay | 92037, 92109, 92110, 92117, 92122, 92145 | 100 | 12 | |
| San Diego River | 91942, 92020, 92103, 92108, 92111, 92115, 92119, 92120, 92123, 92124, 92145 | 142 | 18 | |
| Los Penasquitos River | 92014, 92064, 92121, 92126, 92128, 92129, 92130, 92131 | 106 | 13 | |
| San Dieguito River | 92014, 92025, 92027, 92029, 92065, 92067, 92075, 92127, 92128 | 40 | 5 | |
| No Watershed coded | | 153 | 19 | |

Table 11: Selected Demographic Characteristics by Watershed

| Percentage in each watershed who are: | San Dieguito River | Los Penasquitos | Mission Bay | San Diego River | San Diego Bay | Tijuana River | N/A |
|---------------------------------------|--------------------|-----------------|-------------|-----------------|---------------|---------------|-----|
| Latino | 21 | 14 | 11 | 14 | 36 | 65 | 23 |
| Non-Hispanic white | 61 | 57 | 77 | 75 | 42 | 17 | 59 |
| Asian | 18 | 25 | 12 | 7 | 11 | - | 10 |
| Black | 14 | 2 | 2 | 4 | 9 | 5 | 5 |
| Single-family home | 68 | 82 | 63 | 61 | 64 | 43 | 67 |
| College graduate | 45 | 61 | 39 | 43 | 24 | 2 | 31 |

Other Demographic Subgroups Referenced in This Report

Here we provide frequencies and percentages for subgroups often referenced in the report, including gender, education, and racial subcategories.

Table 12: Gender by Educational Attainment

| | N | % |
|-------------------------------|-----|----|
| Men Without College Degrees | 246 | 31 |
| Men With Degrees | 140 | 18 |
| Women Without College Degrees | 253 | 32 |
| Women With Degrees | 139 | 17 |

Table 13: Gender by Latino and Non-Hispanic White

| | N | % |
|--------------------------|-----|----|
| Non-Hispanic White Men | 235 | 16 |
| Non-Hispanic White Women | 231 | 16 |
| Hispanic/Latino Men | 100 | 12 |
| Latino Women | 88 | 11 |

Table 14: Gender by Age Group

| | N | % |
|-------------|-----|----|
| Men 18-49 | 265 | 33 |
| Men 50+ | 133 | 17 |
| Women 18-49 | 239 | 30 |
| Women 50+ | 144 | 18 |

Appendix 1: Questionnaire and Weighted Marginal Results

February 2010 **San Diego Citywide** **N = 805**
PROJECT 3000 **Storm Water Study #4** **Weighted Marginal Results**

Respondent ID# _____
 Gender of Respondent _____
 1 (Male)-----51%
 2 (Female)-----49

Time Started _____
 Time Finished _____
 Total Time _____

Hello, I'm _____ from G-S-V Research, a public opinion research firm. We've been asked by the city of San Diego to conduct a brief survey of local residents, and your telephone number was selected at random. We are not trying to sell you anything, and we are only interested in your opinions.

CELL PHONE RESPONDENTS SKIP TO Q.A

LAND LINE SAMPLE ONLY READ

According to the research procedure, may I speak to the person in the house who is 18 or older who had the most recent birthday? [IF RESPONDENT SAYS NO OR NOT NOW, ASK TO MAKE AN APPOINTMENT FOR LATER].

[REPEAT INTRODUCTION IF RESPONDENT IS NOT PERSON WHO FIRST ANSWERED PHONE]

LAND LINE RESPONDENTS SKIP TO Q.E

CELL PHONE SAMPLE ONLY ASK Q.A: (N=361)

A. This sounds like a cell phone. Are you in a place where you can safely talk on your cell phone?

Yes safe place (SKIP TO QC)----- 95%
 No not safe ----- TERMINATE
 No not cell phone (ASK Q.B) ----- 5
 (DON'T READ) DK/NA----- TERMINATE

IF RESPONDENT SAYS NOT IN SAFE PLACE, TELL THEM YOU WILL CALL BACK AND TRY TO REACH THEM WHEN THEY CAN TALK SAFELY. THEN THANK AND HANG UP AND CALL BACK LATER

ASK Q.B ONLY IF NOT CELL PHONE (PUNCH 2) ON Q.A (N=19)

B. You said this was not a cell phone I reached you on. Did you forward your cell phone number to this phone, or was this not a cell phone number that I called you on?

Forwarded (ASK Q.C)-----100%
 Not cell phone ----- TERMINATE
 (DON'T READ) Other ----- TERMINATE
 (DON'T READ) DK/NA ----- TERMINATE

(N=361)

C. According to the research procedure, I need to speak to someone who is age 18 or older. Are you age 18 or older?

Yes (ASK Q.D) -----100%
 No ----- TERMINATE
 (DON'T READ) DK/NA----- TERMINATE

D. When you are at home, do you get personal calls on a regular phone as well as this cell phone, do you get all your personal calls on this cell phone, or do you use this phone only for business calls?

Get calls on regular phone AND this cell phone ----- 68%
 Get calls on this cell phone only ----- 32%
 Get only business calls on this cell----- TERMINATE
 Get calls on regular phone only----- TERMINATE
 (DON'T READ) REFUSED----- TERMINATE

(ASKED OF EVERYONE)

E. Now, do you live in the City of San Diego, or in some other city?

Yes San Diego (SKIP TO Q.1)----- 91%
 No, other city (ASK Q.F)----- 9
 (DON'T READ) DK/NA ----- TERMINATE

(N=72) ASK Q.F IF OTHER CITY ON Q.E

F. What city do you live in?

(DON'T READ)
 San Diego ----- 31%
 Carmel Mountain Ranch ----- 0
 Carmel Valley----- 2
 Del Cerro ----- 0
 Del Mar Heights----- 3
 Del Mar Mesa----- 2
 Encanto ----- 12
 Hillcrest----- 1
 Jamacha ----- 1
 La Jolla [la HOY- ah]----- 7
 Mira Mesa ----- 7
 Mission Beach ----- 0
 Ocean Beach ----- 7
 Otay/Otay Mesa----- 3
 Pacific Beach ----- 6
 Point Loma ----- 0
 Rancho Bernardo----- 6
 Rancho Peñasquitos----- 4
 Sabre Springs ----- 0
 San Carlos ----- 0
 San Pasqual ----- 0
 San Ysidro----- 3
 Scripps Ranch----- 0
 Tierrasanta ----- 0
 Tijuana River Valley----- 3
 Torrey Highlands/Hills/Pines----- 0
 University City ----- 4
 UTC ----- 0
 Any other response ----- TERMINATE
 Not Sure/Refused ----- TERMINATE

1. Now, in the past year, have you seen or heard the slogan "Think Blue San Diego?"

Think Blue ----- YES ----- NO ----- DK/NA
 ----- 47% ----- 52 ----- 1

IF NO OR DK ON Q1, SKIP TO Q.3.

2. Where did you see or hear this? (RECORD VERBATIM, THEN SUPERVISOR CODE) (ACCEPT UP TO 3 RESPONSES)

(DON'T READ)

TV ad ----- 11%
 Radio ----- 11
 Billboard----- 10
 Brochure ----- 1
 Community meeting-----0*
 Event/at a booth at an event----- 1
 TV news-----4
 Newspaper -----3
 Internet/web site ----- 1
 Side of truck-----0
 Friends/family/word of mouth----- 1
 At work ----- 1
 TV (non-specific)----- 37
 Bus stop/Buses -----5
 Ad (non-specific)----- 1
 Water Dept / Water bill -----3
 Storm Drains/Gutter-----8
 Beach/Waterfront -----2
 School -----3
 Magazines----- 1
 Everywhere/All Over SD -----2
 Other-----4
 Not Sure ----- 9

** less than .5%.*

*Numbers may sum to more than 100%
 as multiple responses were accepted*

ASK EVERYONE

3. Now, I want to ask you what happens to water when it runs down in the gutter on your street. Does that water end up flowing into a storm drain? Or not? If you are not sure, just say so.

Yes ----- 71%
 No ----- 13
 Not sure ----- 16
(DON'T READ) NA ----- 0

4. Storm drains are the gutters, pipes, and concrete channels that collect water from streets. When water goes into the storm drains in San Diego, does it go to a sewage treatment plant before it is released, or is it released into creeks or the ocean without treatment? If you are not sure, just say so.

Is treated----- 15%
 Is not treated----- 52
 Not sure----- 31
(DON'T READ) NA----- 2

5. In fact, anything that goes into storm drains can end up in local creeks, rivers, or the ocean, without any filtering or treatment. Motor oil, leaves and grass, dirt, litter, and pesticides are all examples of pollution that often goes into storm drains in San Diego, and ends up untreated in our creeks, rivers, and the ocean.

Last year, in 2009, did you see or hear anything about steps the city of San Diego is taking to prevent pollution of storm water?

Yes ----- 35%
 No ----- 64
(DON'T READ) DK/NA ----- 1

6. In the past year, did you make any changes in your behavior that were a direct result of seeing any information about what polluted water in storm drains does to local rivers, the beaches, and the ocean? If you don't recall, just say so.

Yes (ASK Q.7)----- 32%
 No (SKIP TO Q.8)----- 63
 Don't recall (SKIP TO Q.8)----- 5
(DON'T READ) DK/NA (SKIP TO Q.8)--- 0*
 *.5%

(N=257) IF YES ON Q.6 ASK:

7. Can you very briefly describe that change you made? (ACCEPT UP TO 2 RESPONSES)

Conserve/use less water----- 51%
 Take car to carwash/don't wash at home ----- 22
 Pick up trash and litter ----- 11
 More cautious (in general)----- 16
 Recycling more ----- 21
 Don't use or use less fertilizers/pesticides/chemicals----- 6
 Wash car on the lawn or so water does not go in street ----- 4
 Clean gutters/streets/remove trash from street----- 6
 Pick up after dog ----- 1
 Don't pour oil into street/take used oil for proper disposal----- 5
 Use less/don't use soap ----- 2
 Keep leaves and grass from going in street or gutter----- 4
 Did not go in ocean/lake----- 0*
 Other ----- 1
 Not sure ----- 1

* less than .5%.
 Numbers may sum to more than 100%
 as multiple responses were accepted

ASK EVERYONE

8. Earlier, I mentioned the slogan "Think Blue San Diego." Think Blue is the City of San Diego's program to reduce pollution of the water in the city's storm drains, creeks, and our beaches and oceans. Have you seen or heard any of the following from the Think Blue program? **(ROTATE)**

| | <u>YES</u> | <u>NO</u> | <u>DK/NA</u> |
|---------------------------------------------------------------------|------------|-----------|--------------|
| <input type="checkbox"/> a. A TV commercial ----- | 46% | 53 | 1 |
| <input type="checkbox"/> b. The Think Blue website ----- | 6% | 94 | 0* |
| <input type="checkbox"/> c. A radio commercial----- | 26% | 73 | 1 |
| <input type="checkbox"/> d. A brochure from Think Blue----- | 16% | 82 | 2 |
| <input type="checkbox"/> e. A booth or a sign at a local event----- | 18% | 82 | 0* |

* Less than .5%

9. Now, how often do you see each of the following on the block where you live? Very often, often, occasionally, rarely, or very rarely? **(ROTATE)**

| | <u>VERY OFTEN</u> | <u>OFTEN</u> | <u>OCC.</u> | <u>RARELY</u> | <u>VERY RARELY</u> | <u>DK/NA</u> |
|------------------------------------------------------------------------------------------------------|-------------------|--------------|-------------|---------------|--------------------|--------------|
| <input type="checkbox"/> a. Litter ----- | 8% | 11 | 24 | 24 | 31 | 2 |
| <input type="checkbox"/> b. Dog waste that is not picked up ----- | 9% | 12 | 20 | 22 | 36 | 1 |
| <input type="checkbox"/> c. Motor oil that has leaked onto streets or driveways ----- | 4% | 8 | 14 | 27 | 45 | 2 |
| <input type="checkbox"/> d. People washing their cars on their driveways or on the street----- | 6% | 11 | 26 | 27 | 28 | 2 |
| <input type="checkbox"/> e. People hosing or sweeping dirt from their driveway onto the street ----- | 6% | 7 | 22 | 28 | 36 | 1 |

(N=517) ASK Q.10 ONLY IF RESPONSE TO Q.9B IS PUNCH 1,2,3,4, OR 9

10. How often do you pick up dog waste that you see on the block where you live and put it in the trash? Assume this is waste that does not come from your own dog. (READ) Use a 1 if it is something you NEVER do. Use a 10 if it is something you ALWAYS do. Or use any number in between. **(ROTATE) (IF NOT APPLY, RECORD AS 99)**

| | <u>NEVER</u> | <u>ALWAYS</u> | <u>DK</u> | <u>MEAN</u> |
|------------------------------|-------------------------------------------------------------|---------------|-----------|-------------|
| Put dog waste in trash ----- | 54% --6----- 4 ----4-----9---- 3 --- 2 --- 5-----1---11 --- | | 1 | 3.27 |

ASK EVERYONE

11. Now, I want to read you a brief list of items that may pollute water in storm drains in San Diego. Please rate each item on a scale of 1 to 10. Use a 1 if you think it is NOT a serious source of pollution, and a 10 if you think it is a VERY SERIOUS source of pollution of water in storm drains. Or you can use any number in between. **(ROTATE)**

| | <u>NOT</u> | <u>VERY SER</u> | <u>DK</u> | <u>MEAN</u> |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------|-----------|-------------|
| <input type="checkbox"/> a. Cigarette butts----- | 5% --2----- 2 ----4-----10---- 5 ---10 --11-----9---41 | | 1 | 7.64 |
| <input type="checkbox"/> b. Litter ----- | 3% --3----- 2 ----2-----10---- 7 --- 7 --15--- 11---38 | | 1 | 7.71 |
| <input type="checkbox"/> c. Leaves or grass clippings ----- | 12% 13-----10 ----7-----20---- 6 --- 7 --- 9---4---11 | | 1 | 5.00 |
| <input type="checkbox"/> d. Washing down sidewalks or driveways----- | 8% --8----- 8 ----6-----16---- 6 --- 7 --10---8---22 | | 1 | 6.15 |
| <input type="checkbox"/> e. Motor oil----- | 4% --3----- 1 ----0* ----4---- 2 --- 4 --- 8---9---64 | | 1 | 8.68 |
| <input type="checkbox"/> f. Runoff water from washing cars in the driveway or street ----- | 6% --5----- 6 ----8-----15---- 6 ---10 --14---6---23 | | 1 | 6.50 |

* Less than .5%

12. Do you have a dog in your household?

Yes (ASK Q.13)----- 31%
 No (SKIP TO Q.17) ----- 69
 (DON'T READ) (SKIP TO Q.17) ----- 0

(N=248) IF YES ON Q.12 ASK:

13. Do you ever walk your dog, or does someone else in the household walk the dog?

Yes me (ASK Q.14)----- 78%
 Yes, someone else (SKIP TO Q.17)----- 8
 No (SKIP TO Q.17) ----- 14
 (DON'T READ) (SKIP TO Q.17) ----- 0

(N=194) IF YES ME ON Q.13 ASK Q.14 AND Q.15

14. When you walk your dog, how often do you take a bag with you to pick up the waste? (READ)

Always----- 95%
 Often----- 2
 Sometimes ----- 1
 Rarely----- 0
 Never ----- 2
 (DON'T READ) DK/NA----- 0

*Less than .5%

(N=194)

15. Whether or not you take a bag with you, when you walk your dog, how often do you leave your dog's waste behind without picking it up? (READ)

Always (ASK Q.16) ----- 16%
 Often (ASK Q.16) ----- 0
 Sometimes (ASK Q.16)----- 0*
 Rarely (ASK Q.16) ----- 7
 Never (SKIP TO Q.17) ----- 77
 (DON'T READ) DK/NA (SKIP TO Q.17)--- 0

*Less than .5%

(N=46) IF PUNCH 1-4 ON Q.15 ASK Q.16:

16. I'm going to mention some reasons given by other people for not always picking up their dog's waste. Please tell me if this has ever applied to you when walking your dog, or not. You can say yes or no to each one I ask you. (ROTATE)

| | | <u>YES</u> | <u>NO</u> | <u>DK/NA</u> |
|-----|---------------------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| [] | a. Not having a bag with you to pick up the waste ----- | 26% | 74 | 0 |
| [] | b. Not being able to find the waste ----- | 22% | 75 | 3 |
| [] | c. The dog went in a spot where it is OK to leave the waste --- | 22% | 77 | 1 |
| [] | d. The waste was too small to bother----- | 8% | 92 | 0 |
| [] | e. You were in a hurry ----- | 4% | 94 | 2 |
| [] | f. There was nowhere to put the waste after you picked it up --- | 0* | 100% | 0 |
| [] | g. It is too messy and disgusting ----- | 10% | 90 | 0 |
| [] | h. Other people or the city will pick it up so you don't have to--- | 0 | 100% | 0 |
| [] | i. There is no real reason to pick it up ----- | 19% | 81 | 0 |
| [] | j. You did not know that dog waste left on the street often ends up in storm drains, and then pollutes the ocean ----- | 11% | 89 | 0 |

*Less than .5%

ASK EVERYONE

17. I want to read you a quick list of reasons that people give for picking up dog waste and throwing it in the trash instead of leaving it on the ground. Please rate each reason on a scale of 1 to 10. Use a 1 if you think it is a very unimportant reason for picking up dog waste, a 10 if you think it is a very important reason, or any number in between. **(ROTATE)**

| | VERY UNIMP | VERY IMP | DK | MEAN |
|----------------------------------------------------------------------------|---------------------------------------------------------|----------|----|------|
| [] a. Because dog waste transmits disease----- | 4% --1----- 2 ----2-----5-----2 --- 4 --- 8-----5---69 | | 1 | 8.72 |
| [] b. Because someone might step in it - | 5% --3----- 1 ----2-----11-----2 --- 3 --- 9-----4---60 | | 1 | 8.19 |
| [] c. Because it is the right thing to do-- | 4% --1----- 0*---0* ----4-----2 --- 4 --- 7-----5---72 | | 0* | 8.91 |
| [] d. Because it prevents pollution of parks, rivers, and the beach ----- | 5% --1----- 1 ----1-----3-----2 --- 4 --10-----5---70 | | 0* | 8.85 |
| [] e. Because dog waste is unsafe for children----- | 5% --1----- 1 ----1-----5-----3 --- 4 --- 8-----6---68 | | 0* | 8.70 |
| [] f. Because it is the law----- | 9% --2----- 1 ----1-----8-----2 --- 4 --- 6-----3---64 | | 2 | 8.13 |
| [] g. Because dog waste makes your community look bad----- | 4% --1----- 2 ----1-----5-----3 --- 5 --12-----4---63 | | 0* | 8.53 |

*Less than .5%

18. Having heard more, how likely are you to pick up dog waste that you see on the block where you live and put it in the trash? Again, assume this is waste that does not come from your own dog. **(READ)** Use a 1 if it is something you will probably NEVER do. Use a 10 if it is something you will ALWAYS do. Or use any number in between. **(ROTATE) (IF NOT APPLY, RECORD AS 99)**

| | NEVER | ALWAYS | DK | MEAN |
|------------------------------|----------------------------------------------------------|--------|----|------|
| Put dog waste in trash ----- | 34% --4----- 3 ----2-----12-----3 --- 5 --- 7-----3---25 | | 2 | 5.14 |

19. Now, thinking about your home, is there a yard or garden that you or someone in your household are responsible for?

Yes **(ASK Q.20)**----- 68%
 No **(SKIP TO Q.22)** ----- 32
(DON'T READ) DK/NA **(SKIP TO Q.22)**---- 0

(N=545) IF YES ON Q.19 ASK Q20:

20. Is your yard or garden maintained by you or others in your household? By a gardening service? Or by both household members and a gardening service together?

You/other in household ----- 65%
 Gardening service ----- 24
 Household/garden service together----- 10
(DON'T READ) Not maintained----- 1
(DON'T READ) Other ----- 0*
(DON'T READ) DK/NA----- 0

*Less than .5%

(N=545)

21. In the last year or so, did any pesticides or chemicals get used on your yard or garden?

Yes ----- 27%
 No ----- 70
(DON'T READ) DK----- 3

ASK EVERYONE

22. Do you own a car or other motor vehicle?

Yes (ASK Q.23)----- 88%
 No (SKIP TO Q.27) ----- 12
 (DON'T READ) (ASK Q.27) ----- 0*

*Less than .5%

(N=704) IF YES ON Q.22 ASK Q.23:

23. In the last year, have you seen any oil or other automotive fluids leaking from a vehicle you own, or seen stains from such fluids on the pavement under your vehicle?

Yes (ASK Q.24)----- 9%
 No (SKIP TO Q.27) ----- 91
 (DON'T READ) (ASK Q.27) ----- 0

(N=66) IF YES ON Q.23 ASK Q.24-Q.26:

24. Did you take any actions that successfully stopped that leak from your vehicle in the past year?

Yes ----- 70%
 No ----- 30
 (DON'T READ)----- 0

(N=66)

25. I'm going to mention some reasons given by other people for NOT always fixing such leaks immediately. Please tell me if each one applies to you or not. **(ROTATE)**

| | APP | NOT | DK/NA |
|--------------------------------------------------------------------------------------|-----|-----|-------|
| [] a. It is too expensive ----- | 25% | 72 | 3 |
| [] b. You didn't know it causes pollution of the beaches and ocean | 27% | 73 | 0 |
| [] c. The amount of pollution your vehicle causes is too small to worry about ----- | 18% | 82 | 0 |
| [] d. You don't have a reliable mechanic to fix the leak ----- | 26% | 72 | 2 |
| [] e. It is too much trouble to fix a small leak ----- | 21% | 78 | 1 |
| [] f. You do not see a real benefit to you to fix a leak like that ----- | 17% | 82 | 1 |

(N=66)

26. Having heard more, how likely are you to fix such leaks immediately when they happen in the future? (READ) Use a 1 if it is something you will probably NEVER do. Use a 10 if it is something you will DEFINITELY do to prevent pollution. Or use any number in between. **(ROTATE) (IF NOT APPLY, RECORD AS 99)**

| | NEVER | DEFINITELY | DK | MEAN |
|-------------------------|---------------------------|-------------------|----|------|
| Fix vehicle leaks ----- | 2% --0----- 3-----8-----0 | 2 --15--- 12---58 | 0 | 8.71 |

ASK EVERYONE

27. I'd like to read you a brief list of things that concern some people here about the possible consequences of polluted water in storm drains. After you hear each one, please rate it on scale of 1 to 10. Use a 1 if that item does not concern you at all, a 10 if it concerns you a great deal, or any number in between. (ROTATE) (IF DK/NA, RECORD AS 99)

The consequences of storm drain pollution for:

| | NOT | GREAT DEAL | | | | | | | | | DK | MEAN |
|------------------------------------|-----|------------|---|----|----|---|---|----|---|----|----|------|
| [] a. Your health | 3% | 1 | 1 | 0* | 6 | 2 | 2 | 9 | 7 | 70 | 0* | 8.93 |
| [] b. Your safety | 4% | 1 | 1 | 1 | 5 | 3 | 3 | 9 | 6 | 68 | 0 | 8.97 |
| [] c. Your property values | 7% | 1 | 1 | 2 | 10 | 4 | 6 | 10 | 6 | 52 | 1 | 7.97 |
| [] d. Marine life | 3% | 1 | 1 | 1 | 6 | 3 | 6 | 12 | 8 | 60 | 0* | 8.63 |
| [] e. The local economy | 4% | 1 | 1 | 2 | 8 | 5 | 7 | 11 | 6 | 55 | 1 | 8.30 |
| [] f. Future generations | 3% | 1 | 1 | 0* | 6 | 2 | 4 | 13 | 8 | 63 | 0* | 8.78 |
| [] g. Children | 3% | 1 | 1 | 1 | 4 | 2 | 3 | 8 | 8 | 70 | 0* | 8.93 |
| [] h. Local habitats | 4% | 1 | 1 | 1 | 8 | 6 | 7 | 13 | 7 | 51 | 1 | 8.25 |
| [] i. Visitors to San Diego | 7% | 2 | 3 | 3 | 14 | 6 | 9 | 13 | 5 | 37 | 1 | 7.32 |
| [] j. Migrating birds | 9% | 3 | 3 | 1 | 12 | 6 | 7 | 11 | 7 | 40 | 1 | 7.35 |
| [] k. The amount of taxes you pay | 4% | 2 | 3 | 2 | 9 | 4 | 6 | 12 | 6 | 51 | 2 | 8.03 |
| [] l. Our drinking water supply | 2% | 1 | 1 | 1 | 4 | 2 | 5 | 8 | 6 | 71 | 0* | 9.06 |

*Less than .5%

28. Have you heard of a telephone hotline which can be used to get information about preventing pollution, or to report activities that may be polluting our local beaches and storm drains? This hotline is part of the Think Blue program.

Yes (ASK Q.29)----- 18%
 No (SKIP TO Q.30) ----- 81
 (DON'T READ) DK/NA (SKIP TO Q.30)--- 1

(N=148) IF YES ON Q.28 ASK Q.29

29. In 2009, did you call the Think Blue San Diego Hotline for any reason?

Yes ----- 8%
 No ----- 92
 (DON'T READ) DK/NA----- 0

I HAVE JUST A FEW ADDITIONAL QUESTIONS FOR STATISTICAL PURPOSES ONLY

30. Are you of Hispanic or Latino origin or descent, or do you consider yourself Hispanic or Latino?

Yes ----- 23%
 No ----- 76
 Refused ----- 1

31. Would you describe your race as Black or African-American; Asian or Asian-American; White or Caucasian; Native American, mixed ethnicity, or something else? (IF RESPONSE IS "LATINO," TRY AGAIN TO GET ONE OF THE RACE RESPONSES LISTED BELOW OR RECORD AS "OTHER").

African-American ----- 6%
 Asian-American ----- 12
 Caucasian ----- 65
 Native American ----- 1
 Mixed ethnicity ----- 5
 Other ----- 8
 Refused ----- 3

32. Do you live in a single family home, a duplex or triplex, a townhouse, or an apartment or condominium?

| | |
|--------------------------|-----|
| Single family ----- | 66% |
| Duplex/triplex ----- | 3 |
| Townhouse)----- | 4 |
| Apartment/Condo)----- | 25 |
| (DON'T READ) Other ----- | 1 |
| (DON'T READ) DK/NA----- | 1 |

33. What was the last level of school you completed? (IF COLLEGE GRAD, CLARIFY IF 2 YEAR ASSOCIATE OR 4 YEAR BACHELOR DEGREE)

| | |
|-------------------------------------|-----|
| LESS THAN GRADE 12 ----- | 11% |
| HIGH SCHOOL GRADUATE ----- | 21 |
| SOME COLLEGE, NO DEGREE ----- | 21 |
| ASSOCIATE DEGREE ----- | 10 |
| BACHELOR'S DEGREE/COLLEGE GRAD ---- | 25 |
| POST GRADUATE DEGREE ----- | |
| PROFESSIONAL DEGRE ----- | 11 |
| REFUSED ----- | 1 |

• 34. What is your age, please? (RECORD IT EXACTLY AND CIRCLE APPROPRIATE CATEGORY BELOW.)

AGE: _____ (IF RESPONDENT DECLINES TO STATE AGE, WRITE "999" IN BLANKS ABOVE AND THEN ASK:)

Which of the following categories includes your age? (READ LIST.)

| | |
|----------------------------|-----|
| 18-29----- | 27% |
| 30-39----- | 19 |
| 40-49----- | 18 |
| 50-59----- | 15 |
| 60-64----- | 5 |
| 65-69----- | 5 |
| 70 or older ----- | 10 |
| (DON'T READ) REFUSED ----- | 1 |

35. What is the zip code where you live?

| | | | |
|-----------------------------------------------------------------------------------------|----|---------------------------------------------------------|----|
| 91902 (San Diego Bay)----- | 4% | 92114 (San Diego Bay) ----- | 2% |
| 91911 (San Diego Bay)----- | 2 | 92115 (San Diego Bay and San Diego River)--- | 3 |
| 91913 (San Diego Bay)----- | 1 | 92116 (San Diego Bay) ----- | 1 |
| 91915 (San Diego Bay)----- | 2 | 92117 (Mission Bay)----- | 3 |
| 91932 (Tijuana River)----- | 3 | 92118 (San Diego Bay) ----- | 1 |
| 91942 (San Diego River)----- | 1 | 92119 (San Diego River) ----- | 1 |
| 91945 (San Diego Bay)----- | 1 | 92120 (San Diego River) ----- | 2 |
| 91950 (San Diego Bay)----- | 2 | 92121 (Penasquitos)----- | 0* |
| 91977 (San Diego Bay)----- | 2 | 92122 (Mission Bay)----- | 1 |
| 92014 (the Penasquitos [pen-ahs-KEY-toe] and San Dieguito [dee-A-GEE-toe Rivers) --- | 1 | 92123 (San Diego River) ----- | 2 |
| 92020 (San Diego River)----- | 2 | 92124 (San Diego River) ----- | 2 |
| 92025 (San Dieguito River)----- | 2 | 92126 (Penasquitos)----- | 4 |
| 92027 (San Dieguito River)----- | 1 | 92127 (San Dieguito River) ----- | 2 |
| 92029 (San Dieguito River)----- | 1 | 92128 (the Penasquitos and San Dieguito Rivers)----- | 3 |
| 92037 (Mission Bay)----- | 1 | 92129 (Penasquitos River)----- | 2 |
| 92064 (Penasquitos River) ----- | 1 | 92130 (Penasquitos River)----- | 3 |
| 92065 (San Dieguito River)----- | 0 | 92131 (Penasquitos River)----- | 2 |
| 92067 (San Dieguito River)----- | 1 | 92133 (San Diego Bay) ----- | 1 |
| 92075 (San Dieguito River)----- | 1 | 92134 (San Diego Bay) ----- | 0* |
| 92101 (San Diego Bay)----- | 6 | 92135 (San Diego Bay) ----- | 0 |
| 92102 (San Diego Bay)----- | 2 | 92136 (San Diego Bay) ----- | 0 |
| 92103 (San Diego Bay/River)----- | 2 | 92139 (San Diego Bay) ----- | 2 |
| 92104 (San Diego Bay)----- | 2 | 92140 (San Diego Bay) ----- | 0 |
| 92105 (San Diego Bay)----- | 2 | 92145 (Mission Bay and San Diego River) ----- | 1 |
| 92106 (San Diego Bay) ----- | 2 | 92152 (San Diego Bay and Tijuana River)----- | 0 |
| 92107 (San Diego Bay) ----- | 2 | 92154 (Tijuana River and San Diego Bay)----- | 2 |
| 92108 (San Diego River)----- | 1 | 92173 (Tijuana River) ----- | 1 |
| 92109 (Mission Bay)----- | 2 | Other----- | 8 |
| 92110 (Mission Bay)----- | 1 | Not sure ----- | 3 |
| 92111 (San Diego River)----- | 2 | | |
| 92113 (San Diego Bay)----- | 1 | | |

*Less than .5%

(N=444) ASK Q.36 OF LANDLINE SAMPLE ONLY

36. Do you have one or more cell phones as well as this landline?

| | |
|---------------------------------------|-----|
| Yes (ASK Q.37)----- | 74% |
| No (SKIP TO Q.39) ----- | 24 |
| (DON'T READ) DK/NA (SKIP TO Q.39) --- | 2 |

(N=329) IF YES ON Q.36 ASK:

37. Do you get personal phone calls on a cell phone when you are at home, or is your cell phone used only for business calls?

| | |
|------------------------------------------------|-----|
| Yes, get personal calls on cell ----- | 80% |
| Cell used only for business ----- | 13 |
| (DON'T READ) USE IT ONLY FOR EMERGENCIES ----- | 6 |
| (DON'T READ) DON'T USE IT ----- | 1 |
| (DON'T READ) DK/NA ----- | 0 |

(N=22) IF PUNCH 3 OR 4 ON Q.37 ASK:

38. If I had called you on that cell phone number, would you have answered it?

Yes ----- 43%
No ----- 57
(DON'T READ) DK/NA----- 0

ASK EVERYONE

39. Finally, so we can identify results by watershed, what are the two nearest cross street to your home? This information will not be used to individually identify you in any way.

First street: _____

Second street: _____

(CONFIRM SPELLING AND STREET/AVENUE IF POSSIBLE. IF RESPONDENT CANNOT OR WILL NOT PROVIDE CROSS STREETS SAY):

Well, can you give me the name of the school or park closest to your home?

Name of school or park: _____

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
My supervisor may be calling you to confirm that this interview took place. May I have your first name so she can call and ask for you?

Name Telephone #

That's all the questions I have. Thank you very much for participating in the survey.

CALCULATE AND RECORD INTERVIEW LENGTH. RECORD GENDER ON THE FIRST PAGE.

I AFFIRM THAT THE ABOVE INFORMATION IS ACCURATELY RECORDED FROM THE RESPONDENT'S STATEMENTS.

Interviewer's Signature Date

Name _____ Interviewer _____

English ----- 95%
Spanish ----- 5

Wireless sample ----- 10%
Land line sample----- 90

Appendix II: AAPOR Disposition Rates

Rate Definitions

Response Rate. These are ratios of complete interviews compared to all eligible respondents plus cases where eligibility cannot be determined. Response rates RR2 and RR4 count partial interviews as completes. Response rates RR3 and RR4 include an estimate of the proportion of unknown eligibility cases which are actually eligible.

Cooperation Rate. These are ratios of the proportion of all respondents interviewed compared to all eligible households contacted. Cooperation rates COOP2 and COOP4 include partial interviews as respondents. Cooperation rate COOP3 excludes those who are unable to do an interview from the base.

Refusal Rate. These are ratios of contacts who have refused to do an interview compared to all potentially eligible cases. Refusal Rate REF2 includes an eligibility estimate of the proportion of cases for which eligibility was unable to be determined. Refusal rate REF3 eliminates the cases of unknown eligibility from the base.

Contact Rate. These are household level, rather than respondent level, ratios of the proportion of all cases in which a household was reached, based on contact with households, rather than contact with respondents only. Contact rate CON1 assumes that all cases of undetermined eligibility are actually eligible. Contact rate CON2 includes only the estimated eligible cases among the undetermined. Contact rate CON3 includes in the base only cases of known eligibility.

Estimate of Eligibility (e). Estimate of e for the calculations in Figure 11 is based on proportion of eligible households among all numbers for which a definitive determination of status was obtained.

Figure 11: AAPOR Sample Disposition Rates For This Survey

| | Landline Sample | Wireless Sample |
|-----------------------------|--------------------|--------------------|
| Response Rate 1 (RR1) | 13% | 6% |
| Response Rate 2 (RR2) | 13% | 6% |
| Response Rate 3 (RR3) | 22% | 10% |
| Response Rate 4 (RR4) | 22% | 10% |
| Cooperation Rate 1 (COOP 1) | 33% | 17% |
| Cooperation Rate 2 (COOP 2) | 33% | 17% |
| Cooperation Rate 3 (COOP3) | 36% | 18% |
| Cooperation Rate 4 (COOP4) | 36% | 18% |
| Refusal Rate 1 (REF1) | 22% | 26% |
| Refusal Rate 2 (REF2) | 39% | 45% |
| Refusal Rate 3 (REF3) | 59% | 75% |
| Contact Rate 1 (CON1) | 38% | 35% |
| Contact Rate 2 (CON2) | 67% | 59% |
| Contact Rate 3 (CON3) | 100% | 100% |