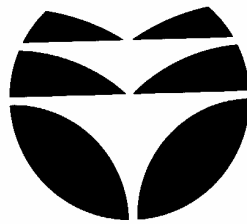


CITY OF SAN DIEGO

STORM WATER POLLUTION PROGRAM

SURVEY OF CITY RESIDENTS

FINAL REPORT



JD FRANZ RESEARCH, INC.
Public Opinion and Marketing Research

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July, 2001

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I. INTRODUCTION

The research findings presented in this report derive from a survey of residents of the City of San Diego that was commissioned by the City's Storm Water Pollution Program and conducted by JD Franz Research, Inc., of Sacramento. Encompassing 443 completed interviews, the survey was implemented between June 19 and July 28, 2001.

The primary purpose of the survey was to serve as a baseline measure of awareness, attitudes, and behaviors relative to storm water pollution. Specific areas of inquiry included the following:

- Importance of various issues the City of San Diego is dealing with
- Potential sources of storm water pollution that respondents own
- Among vehicle owners:
 - Whether vehicles are washed at home
 - Where the wash water runs
 - Whether oil is changed at home
 - How the used oil is disposed of
 - Whether radiators are drained at home
 - How the radiator fluid is disposed of
- Among those with gardens:
 - How lawn clippings or other green waste are disposed of
 - How clippings on walkways, patios, and driveways are cleaned up
 - How often water from the garden runs into the gutter or street
 - Whether pesticides, herbicides, or fungicides are used
 - How often these chemicals wash off into the street
 - How leftovers of these chemicals are disposed of
- Among those who have dogs:
 - How often droppings are picked up when the dog is being walked
 - How often dog droppings are cleaned up in yards
- Among those with recreational vehicles:

- Hose often a formal waste station is used
- Whether the hose is used
- How the hose is handled
- Whether residue is washed off
- Whether liquid has been observed flowing away from the station
- After cooking, how grease in pots and pans is disposed of
- Among those who paint around the house:
 - Where paint brushes, rollers, and pans are cleaned out
 - How leftover paint is disposed of
- Extent to which respondents have experienced blocked sewers where they live
- Causes of blockages
- How often the sewer line from the house to the street is cleaned out
- How often respondents litter
- How often respondents empty trash or car ashtrays at freeway on- and off-ramps
- How often respondents visit the beach
- Among beach visitors:
 - Whether birds are fed
 - How often the water is used rather than a restroom
- Perceptions of the usual cause of beach closures due to contamination
- Extent to which respondents have heard something about the storm drain system
- Where things that enter the storm drains go

- Awareness of the slogan “Think Blue”
- Meaning of the slogan
- Reactions to the slogan
- Probability of attending to various sources of information about preventing contamination of the ocean, bays, and beaches
- Respondent demographics, including Zip Code of residence, type of residence, home ownership status, educational attainment, age, ethnicity, income, and gender

Following this Introduction, the report is divided into three additional sections. **Section II** contains a detailed discussion of the **Research Methods** used in conducting the survey, while **Section III** presents and discusses the **Findings**. Finally, **Section IV** contains the research firm’s **Conclusions and Recommendations**.

For reference, there are also two appendices. **Appendix A** contains copies of the **Survey Instruments** (English and Spanish versions) that were used in conducting the research, and **Appendix B** includes **Detailed Data Tabulations** for all of the survey questions.

II. RESEARCH METHODS

Instrument Design

The survey instrument that was used in conducting this research was designed by the President of JD Franz Research in consultation with representatives of the City of San Diego's Storm Water Pollution Program. After a draft of the survey had been reviewed and modified on the basis of comments from that organization, a final draft was submitted for approval for pretesting.

The pretest was conducted among a random sample of respondents selected in the same manner as the survey sample would be selected. Following the pretest, the research firm President consulted with the City concerning the results, and a few extremely minor modifications were made on that basis. The final version of the instrument was then submitted for approval for implementation.

After the survey instrument had been approved, it was translated into Spanish for use with residents whose English was too limited to complete an interview in that language. A total of 34 interviews, or eight percent, were completed in Spanish.

Sample Selection

The sample for the survey was a random digit dialing (RDD) telephone sample designed to represent all households in the City of San Diego. RDD, the most sophisticated strategy for telephone survey sampling, ensures the inclusion of unlisted, erroneously listed, and newly listed households in the sample.

Area codes and prefixes for the sample were determined by Survey Sampling, Inc., the nation's leading supplier. SSI then randomly appended the final four numbers of a telephone number to these area code/prefix combinations by computer. The resulting numbers were printed out on call record sheets designed to facilitate full sample implementation.

Interviewer Training

All of the interviewers who conducted the survey had undergone intensive training and briefing prior to conducting any actual interviews. Training included instruction in interviewing techniques, orientation to the mechanics of sample selection and recording, and extensive practice with survey instruments as well as with a systematic approach to answering respondents' inquiries. The briefing specific to this particular survey was conducted by the Project Coordinator at JD Franz Research.

Survey Implementation

Interviewing for the survey was conducted from the centralized and fully monitored facility at JD Franz Research under the ongoing oversight of full-time supervisors.

Immediately upon completion of each interview, a supervisor checked it for accuracy, clarity, and completeness so that any problem areas could be discussed with the interviewer while the conversation was still remembered.

In the event problems could not be resolved by recall, respondents were called back for clarification or amplification. Interviews that could not be completed (n=10) were discarded and replaced so there would be no missing data in the database.

In order to ensure that working people were adequately represented, calling took place only during the evening hours (5 to 9 p.m.) and on weekends (10 a.m. to 6 p.m. on

Saturdays and 2 to 9 p.m. on Sundays). Up to four attempts were made to reach an eligible respondent at each number in the sample.

Interviewing commenced on June 19 and was concluded on July 8. (Seven pretest interviews from May 26 are also included in the database.) The cooperation rate for the survey was 73 percent, which is generally viewed as being very good to excellent.

Data Coding, Tabulation, and Analysis

Coding of the survey's closed-ended questions was accomplished by the interviewers as they conducted the interviews. Coding of the survey's open-ended questions was then undertaken in four stages.

First, a Supervisor at JD Franz Research selected a random sample of ten percent of the completed interviews and reviewed all of the open-ended responses in these documents in order to develop a codebook. A coding team comprised of supervisors and specially trained supervisory and interviewing staff then used the codebook to code the open-ended question, setting aside any responses that failed to conform to the coding scheme for the possible addition of new codes. In order to achieve consistency, the coding team worked in pairs and as a group, checking each others' work and fully discussing any debatable responses prior to coding them.

Once all of the interviews that failed to conform to the initially established coding scheme had been identified, the Supervisor and the coding team reviewed the uncoded answers and added new codes as appropriate. This approach ensures that there is a minimal percentage of “other” responses to the open-ended question.

The resulting data were then key-entered into the data analytic software SPSS for Windows using SPSS Data Entry and computer-checked for accuracy, adherence to the pre-established coding scheme, and internal logic. In addition, preliminary tabulations were reviewed manually to check for errors in areas that could not be programmed. Finally, tabulations, means, and other analyses were prepared using SPSS for Windows.

III. FINDINGS

Findings from the survey are presented here essentially in the same order in which the questions were posed to respondents. Readers who are interested in the precise phrasing of the inquiries (in either English or Spanish) are invited to consult the copies of the survey instruments that can be found in Appendix A.

IMPORTANCE OF VARIOUS ISSUES

Figure 1 portrays the mean importance of various issues the City of San Diego is dealing with on a scale of one to four where one equals not at all important and four

equals very important. As this display indicates, all of the issues were viewed as being more than somewhat important (mean value of 3.00), although littering, was noticeably less likely than the other issues to be viewed as being important. Pollution of the ocean, bays, and beaches was most likely to be perceived as being important.

IMPORTANCE OF VARIOUS ISSUES THE CITY OF SAN DIEGO IS DEALING WITH

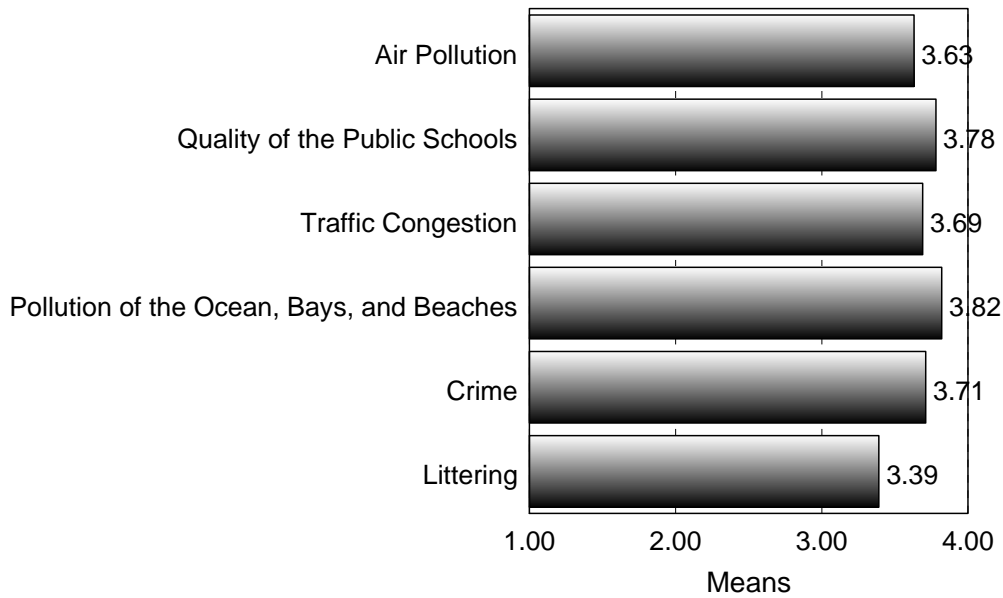


Figure 1

POSSESSION OF SELECTED SOURCES OF POLLUTION

Figure 2 displays the extent to which respondents said they have or own various potential sources of storm water pollution. As this graphic demonstrates, the only source a majority of respondents said they have or own (89 percent) was a car, truck, or van. Second most likely to be in respondents' possession (45 percent) was a garden; third most likely (28 percent) was a dog.

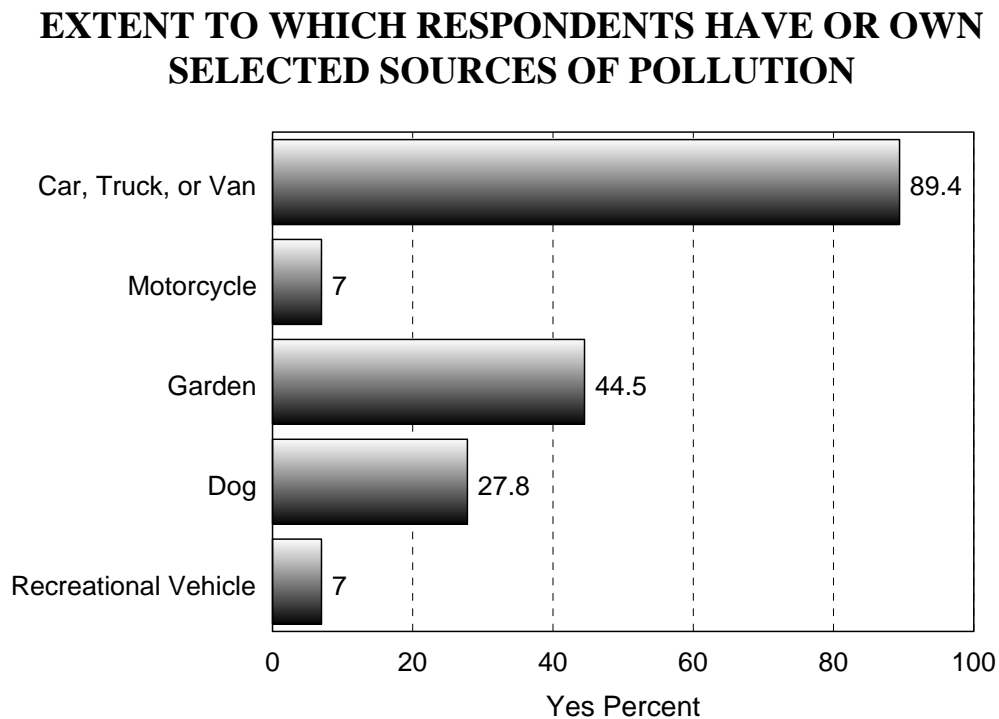


Figure 2

VEHICLE ISSUES

Washing

As shown in Figure 3, somewhat over two-fifths of those with vehicles (44 percent) said they wash them at home at least occasionally. Of these, as Table 1 illustrates, more than

three-quarters (78 percent) said they let the water run onto pavement such as a driveway or street.

**EXTENT TO WHICH THOSE WITH VEHICLES
WASH THEM AT HOME**

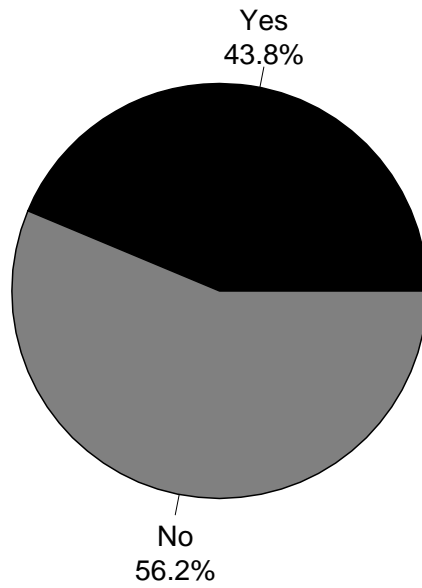


Figure 3

Table 1		
WHERE WATER FROM VEHICLE WASHING RUNS		
	Frequency	Percent
Onto Pavement	136	78.2
Onto Dirt	14	8.0
Onto Grass	14	8.0
Other	10	5.7

Oil Changing

Figure 4 indicates that about one in five of those with vehicles (21 percent) said they change the oil in these vehicles at least sometimes. Of these, as shown in Table 2, by far the majority (82 percent) said they take the used oil to a recycling center. In addition, seven percent said they take it to a hazardous waste event. When these figures are summed, they total almost nine in ten (89 percent). Only one percent pour it down the storm drain.

EXTENT TO WHICH THOSE WITH VEHICLES CHANGE THE OIL IN THOSE VEHICLES

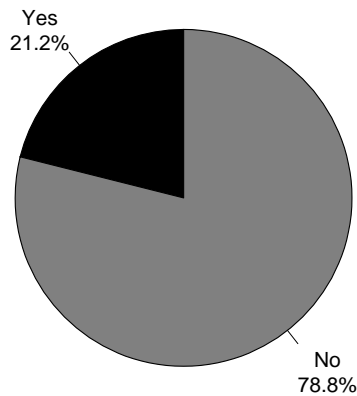


Figure 4

Table 2		
WHAT IS DONE WITH THE USED OIL		
	Frequency	Percent
Pour Down Inside Drain	2	2.4
Pour Down Storm Drain	1	1.2
Throw in Trash/Garbage	4	4.8
Keep Around the House	2	2.4
Take to Hazardous Waste Event/Roundup	6	7.1
Take to Recycling Center	69	82.1

Radiator Draining

As illustrated in Figure 5, less than one in ten of those who own vehicles (8 percent) said they drain the vehicles' radiators at least occasionally. Of these, as Table 3 demonstrates, the majority (61 percent) said they take the radiator fluid to a recycling center. In addition, more than one in ten (12 percent) said they take it to a hazardous waste event. These two figures total close to three-quarters (73 percent). Only three percent said they pour the fluid down the storm drain, while another three percent said they pour it into the ground.

EXTENT TO WHICH THOSE WITH VEHICLES DRAIN THE VEHICLES' RADIATORS

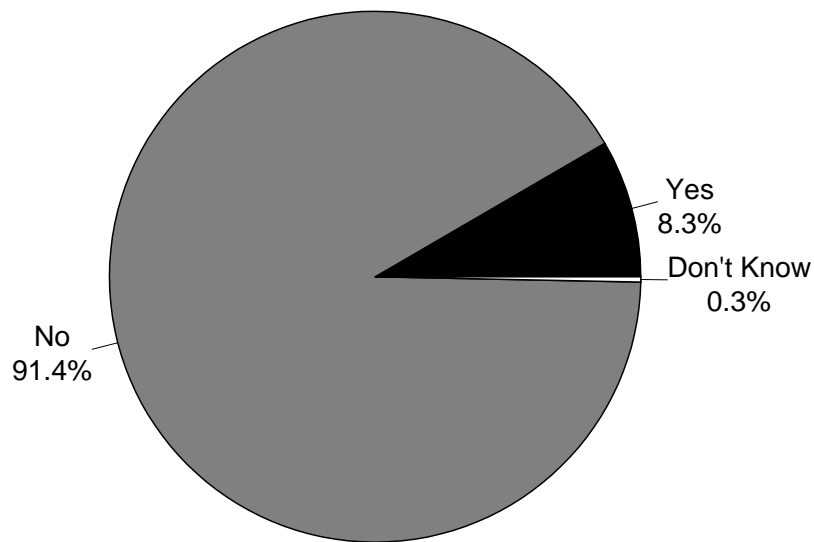


Figure 5

Table 3

WHAT IS DONE WITH THE RADIATOR FLUID

	Frequency	Percent
Pour Down Inside Drain	2	6.1
Pour Down Storm Drain	1	3.0
Pour Onto Ground	1	3.0
Throw in Trash/Garbage	2	6.1
Keep Around the House	3	9.1
Take to Hazardous Waste Event/Roundup	4	12.1
Take to Recycling Center	20	60.6

GARDEN ISSUES*Green Waste Disposal*

Table 4 illustrates that the largest group of those with gardens (38 percent) said they throw their grass clippings and other green waste into the trash or garbage. Other somewhat common practices were having a gardener or lawn service take them away (13 percent) and composting them or using them as mulch (13 percent).

Table 4

HOW LAWN CLIPPINGS AND OTHER GREEN WASTE ARE DISPOSED OF

	Frequency	Percent
Throw in Trash/Garbage	76	38.6
Taken Away by Gardener/Lawn Service	26	13.2
Put in Compost Pile/Use as Mulch	26	13.2
Leave on Lawn	7	3.6
Take to Compost Facility	5	2.5
Take to Landfill/Transfer Station	8	4.1
Other	29	14.7
Don't Know What Gardener Does	20	10.2

As shown in Table 5, the majority of respondents (68 percent) said they sweep up lawn clippings that are on walkways, patios, and driveways and put them into the trash.

Only one percent sweep or hose them into the street or gutter.

Table 5		
HOW CLIPPINGS ON WALKWAYS, PATIOS, AND DRIVEWAYS ARE CLEANED UP		
	Frequency	Percent
Sweep up and Put Into Trash	134	68.0
Blow Into Yard (Leaf Blower)	9	4.6
Sweep Into Street/Gutter	1	.5
Hose Into Street/Gutter	1	.5
Not Applicable - No Lawn	1	.5
Not Applicable - No Clippings	3	1.5
Other	27	13.7
Don't Know What Gardener Does	21	10.7

Watering

Figure 6 illustrates that close to half of respondents (46 percent) said water from their gardens never runs into the gutter or street and another more than a quarter (28 percent) said it rarely does. These figures sum to almost three-quarters (74 percent). More than one in five, on the other hand (23 percent), admitted that the water always, usually, or sometimes runs into the gutter or street.

FREQUENCY WITH WHICH WATER FROM GARDENS RUNS INTO THE GUTTER OR STREET

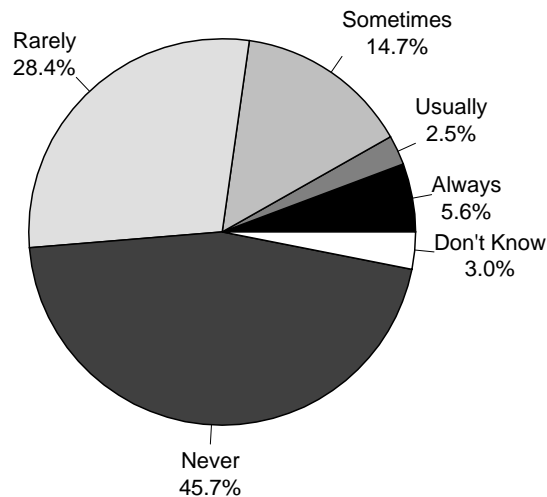


Figure 6

Use of Pesticides, Herbicides, or Fungicides

Figure 7 indicates that more than a quarter of respondents (29 percent) said they use pesticides, herbicides, or fungicides in their gardens. Of these, as shown in Figure q13,

more than half (57 percent) said these chemicals never wash off into the street and another close to a third (31 percent) said they rarely do so. When these figures are summed, they total almost nine in ten (88 percent). Slightly more than one in ten (12 percent), on the other hand, admitted that they always, usually, or sometimes do.

EXTENT TO WHICH THOSE WITH GARDENS USE PESTICIDES, HERBICIDES, OR FUNGICIDES

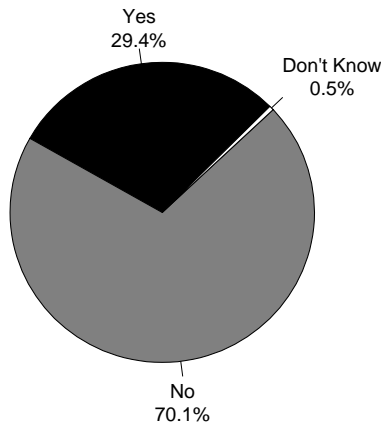


Figure 7

FREQUENCY WITH WHICH PESTICIDES, HERBICIDES, OR FUNGICIDES WASH OFF INTO THE STREET

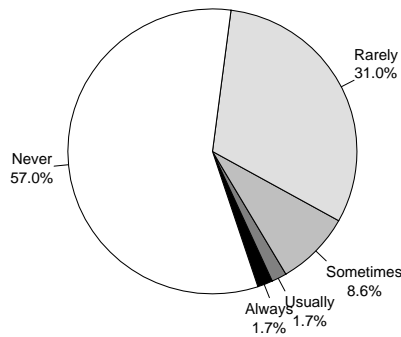


Figure 8

Table 6 portrays the manner in which respondents who use pesticides, herbicides, and fungicides said they dispose of leftover chemicals. The two most prevalent answers were putting them in the trash or garbage and not having any left over (38 percent each). Two percent said they put them down an outdoor drain.

Table 6		
HOW LEFTOVER PESTICIDES, HERBICIDES, OR FUNGICIDES ARE DISPOSED OF		
	Frequency	Percent
Put in Trash/Garbage	22	37.9
Put Down Indoor Drain	1	1.7
Put Down Outdoor Drain	1	1.7
Take to Hazardous Waste Collection	3	5.2
Take to Landfill or Dump	3	5.2
Not Applicable/Don't Have Leftovers	22	37.9
Other	5	8.6
Don't Know	1	1.7

DOG ISSUES

Dog Walking

As shown in Figure 9, by far the majority of dog owners (83 percent) said they always pick up the droppings when they walk their dogs. About one in ten, however (11 percent), said they never do, and five percent said they only usually or sometimes do.

EXTENT TO WHICH DOG OWNERS PICK UP THE DROPPINGS WHEN THEY WALK THE DOG

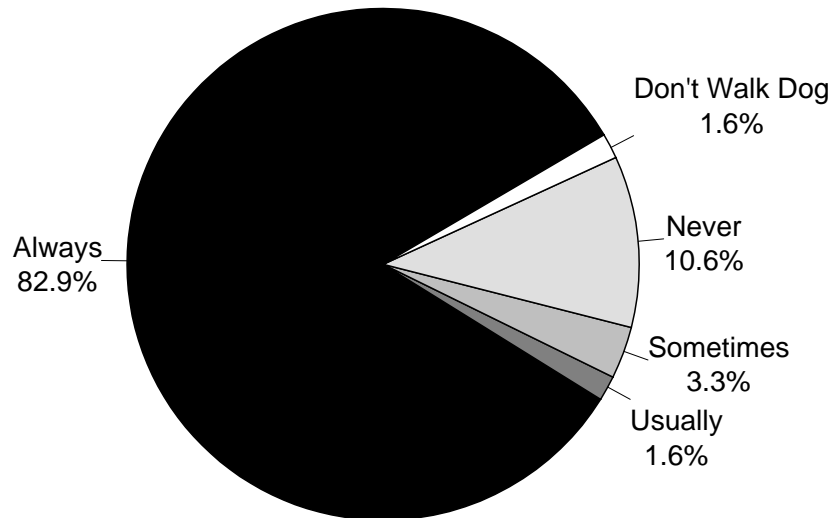


Figure 9

Yard Cleaning

Figure 10 illustrates that around two-fifths of those with dogs (42 percent) said they clean up the dog droppings in their yards every day. In addition, a third (33 percent) said they clean up every few days. Close to one in ten, on the other hand (9 percent), said they clean up less than once a week, while 14 percent said they clean up once a week.

FREQUENCY WITH WHICH DOG OWNERS CLEAN UP DOG DROPPINGS IN THEIR YARDS

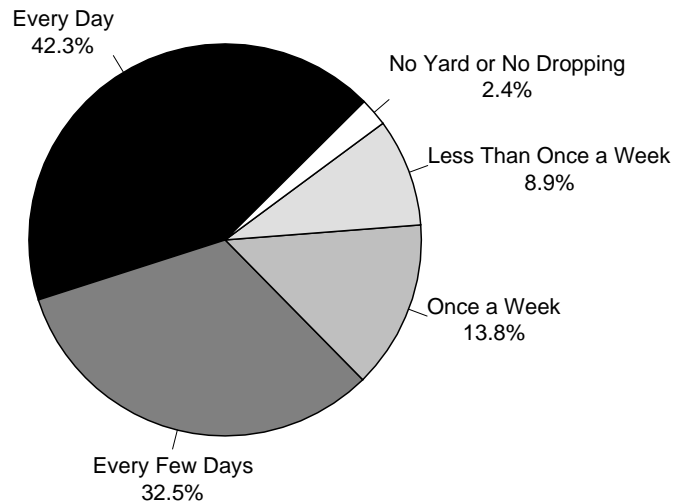


Figure 10

RECREATIONAL VEHICLE ISSUES

Use of Formal Waste Stations

Figure 11 demonstrates that two-thirds of those with recreational vehicles (68 percent) said they always empty their RV waste at formal waste stations. About a quarter, in contrast (26 percent), said they never do.

FREQUENCY WITH WHICH RECREATIONAL VEHICLE OWNERS EMPTY THEIR WASTE AT FORMAL WASTE STATIONS

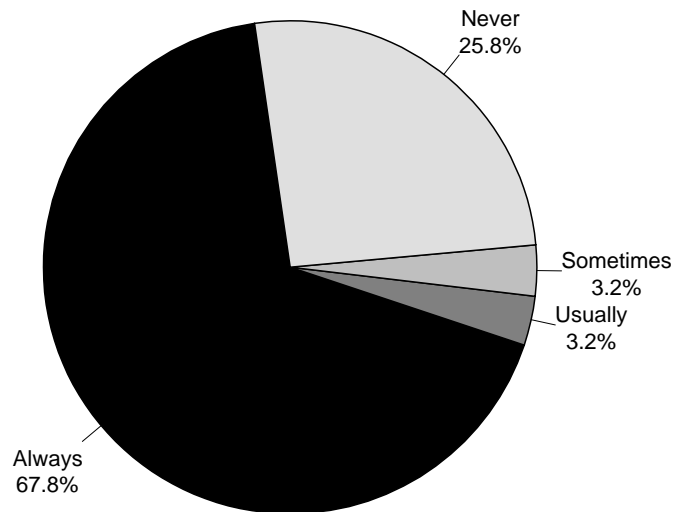


Figure 11

Use of Hoses

Among those who use a waste station, Figure 12 shows that a strong majority (87 percent) said they use the hose. More than one in ten, however (13 percent), said they do not.

**EXTENT TO WHICH THOSE WHO USE
WASTE STATIONS USE THE HOSE**

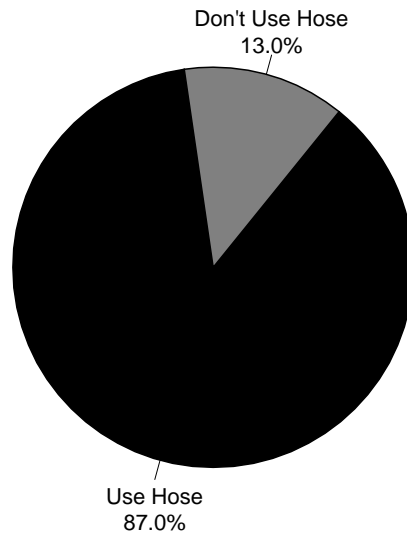


Figure 12

Figure 13 indicates that among hose users, eight in ten put the hose into the drain. Fifteen percent, however, put it near the drain.

WHERE THOSE WHO USE THE HOSE PUT THE HOSE

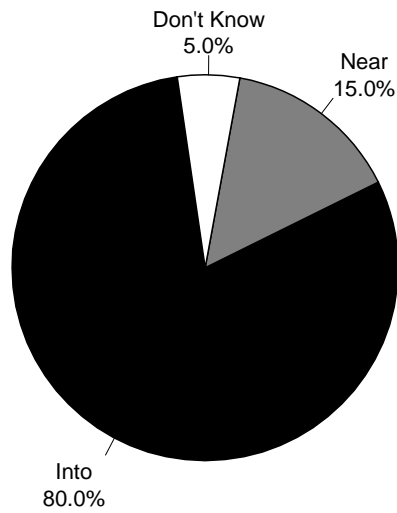


Figure 13

As illustrated in Figure 14, more than two-thirds of hose users (70 percent) said they disconnect the hose after rinsing. Close to one in five, however (17 percent), said they disconnect before rinsing.

WHETHER THE HOSE IS DISCONNECTED BEFORE OR AFTER RINSING

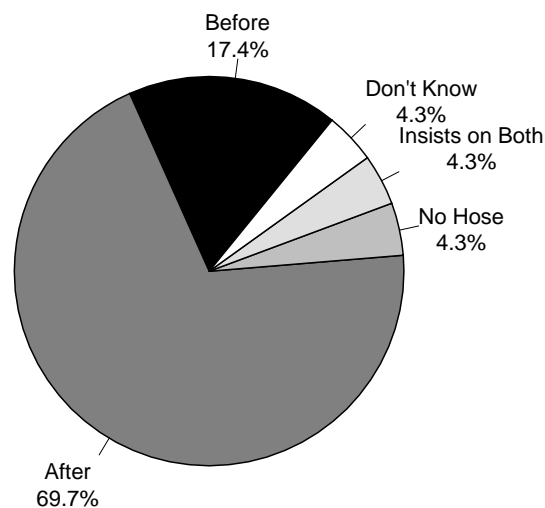


Figure 14

Vehicle Washing at Waste Stations

Figure 15 demonstrates that the majority of waste station users (57 percent) said they wash the residue off their vehicles, although about a quarter (26 percent) said they do not and 13 percent said there is no residue. By far the majority, as shown in Figure 16 (83 percent), said they have not observed liquid flowing away from the station where the residue is washed off.

WHETHER THE RESIDUE IS WASHED OFF THE VEHICLE

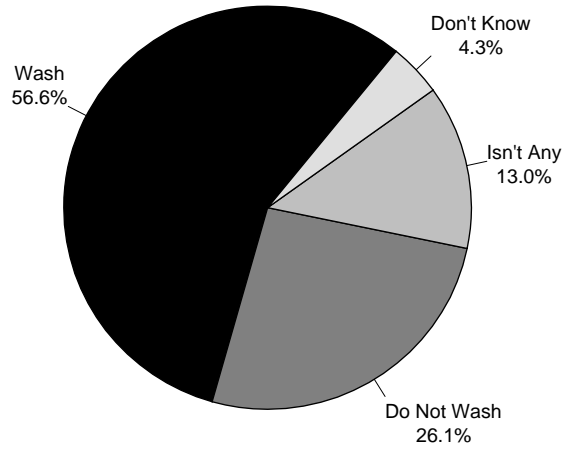


Figure 15

**EXTENT TO WHICH THOSE WHO USE WASTE STATIONS
HAVE OBSERVED LIQUID FLOWING
AWAY FROM THE STATION**

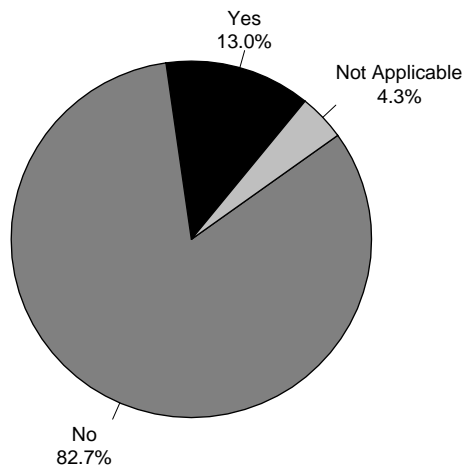


Figure 16

COOKING ISSUES

Table 7 illustrates what respondents said they do when they have a pot or pan with grease in it. The largest group (43 percent) said they pour the grease into a container and throw it into the garbage, and another around a quarter (26 percent) said they wipe the grease into the garbage. Close to one in five, however (19 percent) said they pour the grease down the drain, mostly likely (16 percent) with hot water.

	Frequency	Percent
Wipe the Grease out of the Pan Into the Garbage	115	26.0
Wash the Grease Down the Drain With Hot Water	69	15.6
Wash the Grease Down the Drain With Cold Water	13	2.9
Pour the Grease Into a Container and Throw the Container in the Garbage	192	43.3
Put the Pot or Pan in the Dishwasher With the Grease in It	2	.5
Never Cooks	52	11.7

PAINTING ISSUES

As shown in Figure 17, about two-fifths of respondents (41 percent) said they paint around the house either inside or outside at least occasionally. Of those, as Table 8 indicates, the majority (59 percent) said wash out their brushes, rollers, and pans in and inside sink. More than a quarter, however (29 percent) use an outside sink, the yard, or a driveway, gutter, or street. The last accounts for seven percent of these respondents.

**EXTENT TO WHICH RESPONDENTS
PAINT AROUND THE HOUSE**

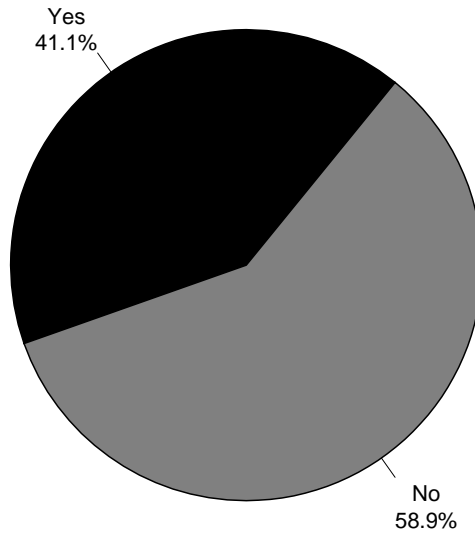


Figure 17

Table 8		
WHERE PAINT BRUSHES, ROLLERS, AND PANS ARE CLEANED OUT		
	Frequency	Percent
Inside Sink	107	58.8
Outside Sink	23	12.6
Grass/Dirt/Yard	17	9.3
Driveway/Gutter/Street	13	7.1
Other	22	12.1

Methods of disposing of leftover paint are portrayed in Table 9. The most frequent answer was that people who paint don't have leftovers (28 percent). This was followed by using the trash or garbage (23 percent) and by putting the leftovers in the gutter or storm drain (19 percent). Outdoor drains, storm drains, and burial account for more than one in five of these respondents (21 percent).

	Frequency	Percent
Put in Trash/Garbage	41	22.5
Put Down Indoor Drain	3	1.6
Put Down Outdoor Drain	2	1.1
Put Into Gutter/Storm Drain	35	19.2
Take to Hazardous Waste Collection	13	7.1
Take to Landfill or Dump	3	1.6
Bury It	2	1.1
Not Applicable/Don't Have Leftovers	51	28.0
Other	32	17.6

SEWER ISSUES

Blockages

As illustrated in Figure 18, less than one in five respondents (16 percent) said they have ever experienced a blocked sewer line where they live¹. Of these, as Table 10 indicates, about a third (34 percent) said they blockage was caused by roots. Other fairly common

¹ Although this question was supposed to have been asked of all respondents, it wound up being asked only of those who had experienced a blockage. Why this occurred is not certain, as both JD Franz Research and the City of San Diego carefully reviewed the questionnaire before it was approved for implementation. Regardless of the cause, however, future iterations of the survey should insure that the erroneous skip pattern is corrected.

occurrences were a break in the main line (13 percent) and a break in the connecting line (11 percent). Finally, more than a quarter (27 percent) said they didn't know.

**EXTENT TO WHICH RESPONDENTS HAVE EXPERIENCED A
BLOCKED SEWER WHERE THEY LIVE**

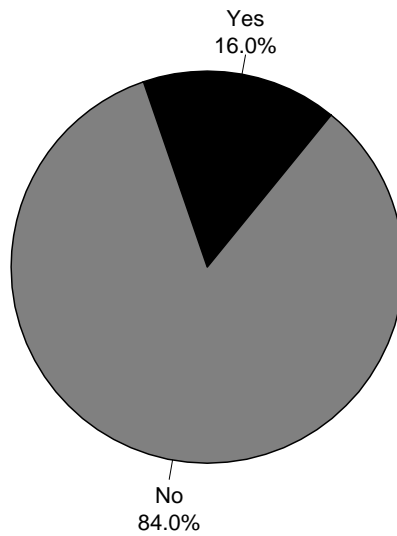


Figure 18

Table 10		
CAUSES OF THE BLOCKAGES		
	Frequency	Percent
Grease	5	7.0
Roots	24	33.8
Break in Connecting Line	8	11.3
Break in Main Line	9	12.7
Not Applicable - Apartment/Condo/Rental	5	7.0
Grease and Roots	1	1.4
Don't Know	19	26.8

Line Cleaning

Table 11 demonstrates that the largest group of respondents (28 percent) said they never clean out the sewer lines connecting their homes to the main sewer line.

Somewhat over a third (27 percent) said they do so annually, while close to one in ten (9 percent) said they do so once every two to three years. Frequencies of less than once every three years represent 14 percent. Finally, it should be noted that close to a quarter (23 percent) said this is not applicable because they live in apartments, condominiums, or rentals.

FREQUENCY WITH WHICH RESPONDENTS CLEAN OUT THE SEWER LINES CONNECTING THEIR HOMES TO THE MAIN SEWER LINE		
	Frequency	Percent
Once a Year	19	26.8
Once Every Two-Three Years	6	8.5
Once Every Four-Five Years	4	5.6
Once Every Six-Ten Years	3	4.2
Less Than Once Every Ten Years	3	4.2
Never	20	28.2
Not Applicable - Apartment/Condo/Rental	16	22.5

LITTER ISSUES

Figure 19 indicates that somewhat over three-quarters of respondents (77 percent) said they never litter and close to one in five (17 percent) said they rarely do. Six percent, on the other hand, admitted they occasionally or often do so.

FREQUENCY WITH WHICH RESPONDENTS LITTER

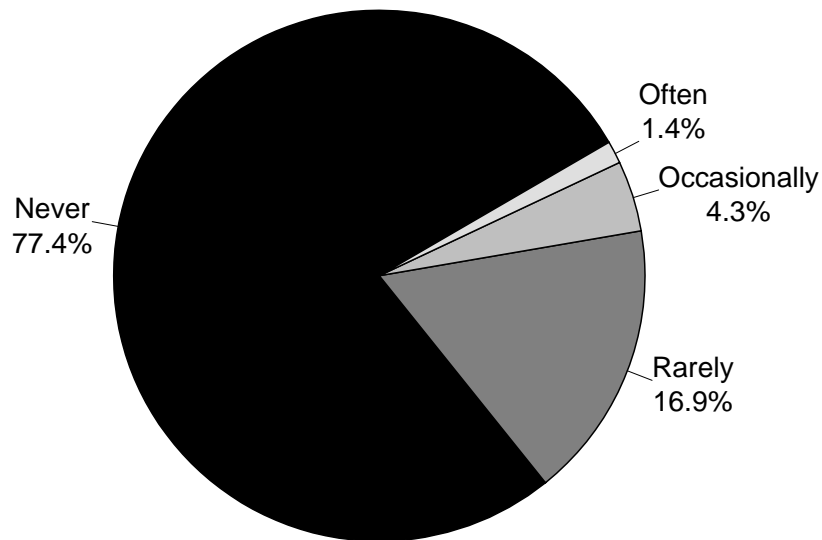


Figure 19

More than nine in ten respondents, as demonstrated in Figure 20, said they never empty trash or car ashtrays at freeway on- or off-ramps. Only a very few (4 percent) admitted they rarely, occasionally, or often do so.

**FFREQUENCY WITH WHICH RESPONDENTS EMPTY TRASH
OR CAR ASHTRAYS AT FREEWAY ON- OR OFF-RAMPS**

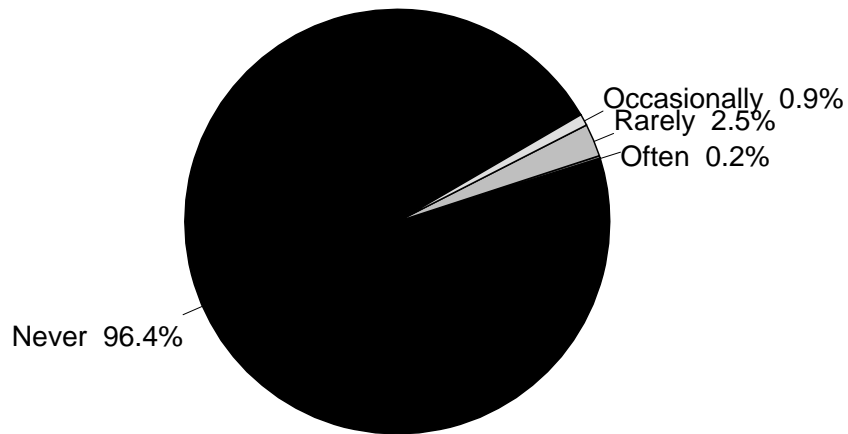


Figure 20

BEACH ISSUES

Frequency of Visitation

Table 12 illustrates that half of respondents (50 percent) said they visit a San Diego beach at least once a month. Close to three-quarters (71 percent) said they visit at least once a year.

	Frequency	Percent
Every Day	23	5.2
Every Few Days	40	9.0
Once a Week	56	12.6
Once Every Two to Three Weeks	44	9.9
Once a Month	58	13.1
Once Every Two to Three Months	40	9.0
Every Four to Six Months	21	4.7
Every Seven to Twelve Months	31	7.0
Less Than Once a Year	73	16.5
Never	57	12.9

Bird Feeding

Among those who visit a beach at least once a year, as Figure 21 shows, by far the majority (85 percent) said they do not feed the birds. Fifteen percent, however, said they do.

EXTENT TO WHICH BEACH VISITORS FEED THE BIRDS

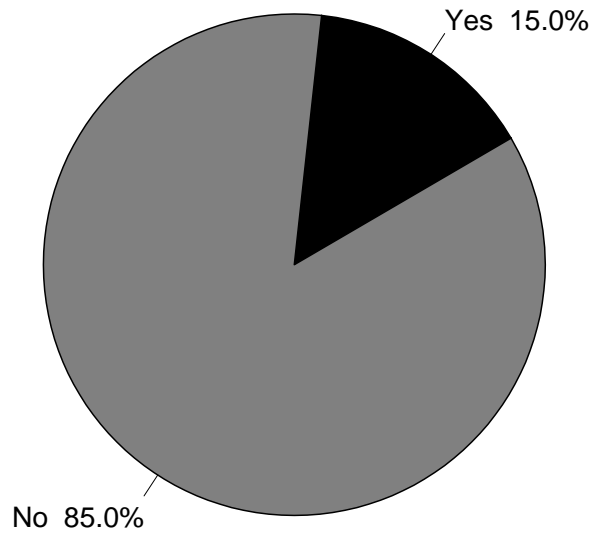


Figure 21

Using the Water Rather Than Finding a Restroom

Figure 22 indicates that more than three-quarters of annual or more frequent beach visitors (77 percent) said they and others with them never use the water rather than finding a restroom. Nine percent said they always or usually do so, however, and 14 percent said they sometimes or rarely do. These last four figures total close to a quarter (23 percent).

**EXTENT TO WHICH BEACH VISITORS USE THE WATER
RATHER THAN FINDING A RESTROOM**

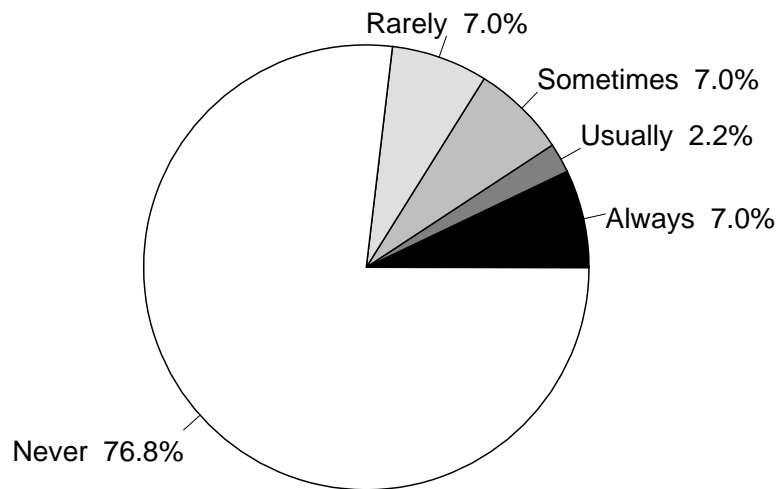


Figure 22

Beach Closures

As shown in Figure 23, the majority of respondents (55 percent) said they believe that when San Diego beaches are closed due to contamination, the contamination is usually due to sewage spills. About one in five (20 percent) said it is usually due to runoff from homes and businesses.

USUAL REASON WHY SAN DIEGO BEACHES ARE CLOSED DUE TO CONTAMINATION

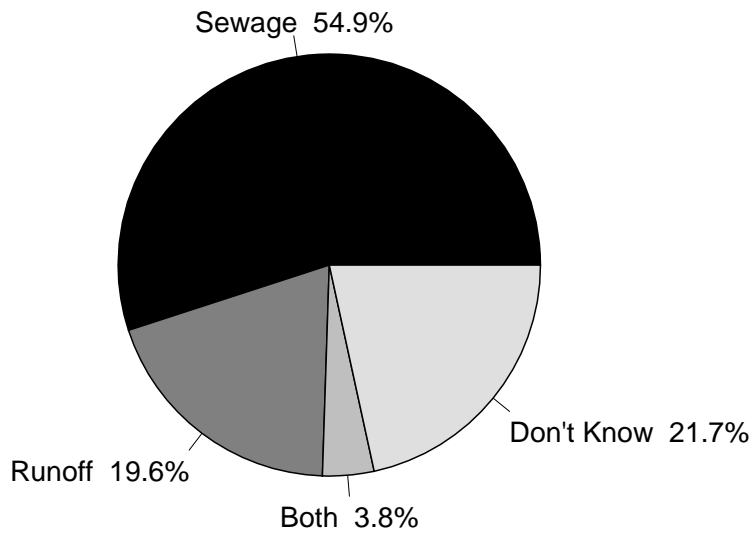


Figure 23

STORM DRAINS

Figure 24 demonstrates that half of respondents (50 percent) said they had heard something about San Diego's storm drain system in the six months preceding the survey. Understandings of where things that enter the storm drains go are portrayed in

Table 13. As this table indicates, the largest group of respondents (42 percent) said they know that things entering storm drains go to waterways without being treated. Close to one in five (18 percent), on the other hand, said storm drain contents are treated, and another similarly-sized group (17 percent) said they didn't know whether the contents are treated or not.

AWARENESS OF SAN DIEGO'S STORM DRAIN SYSTEM

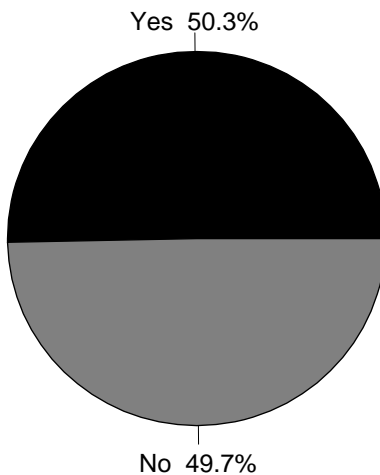


Figure 24

Table 13		
WHERE THINGS THAT ENTER THE STORM DRAINS GO		
	Frequency	Percent
Treatment Plant	20	4.5
To Waterway But Treated First	61	13.8
To Waterway But Not Treated	185	41.8
To Waterway, Not Sure If Treated	73	16.5
Other	10	2.3
Don't Know	94	21.2

"THINK BLUE" SLOGAN

Awareness

Figure 25 illustrates that over two-thirds of respondents (69 percent) said they are not aware of the slogan "Think Blue." About a third, however (31 percent), said they are.

AWARENESS OF THE SLOGAN "THINK BLUE"

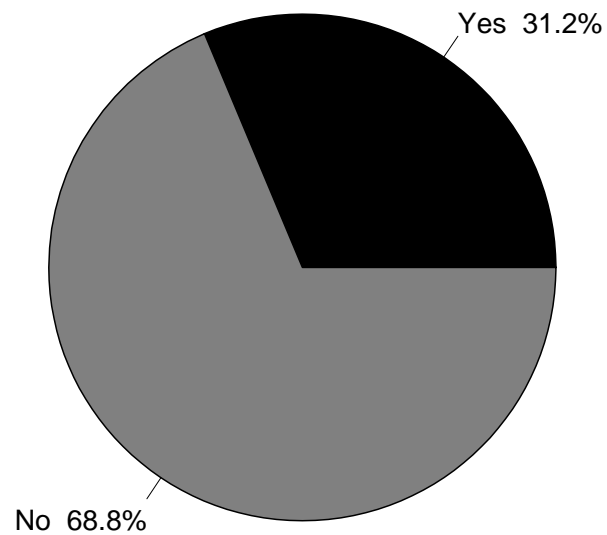


Figure 25

Meaning

Table 14 displays what aware respondents said when they were asked what the slogan means to them. The most prevalent answer (35 percent) was keeping the water clean. This was followed by not putting things in storm drains (15 percent) and keeping the water blue (11 percent).

	Frequency	Percent
Keeping the Water Clean/Clean Water/Keeping the Ocean Clean	48	34.8
Watch What You Throw in the Water/Be Careful What You Throw Into the Ocean/Don't Pollute the Water	6	4.3
Take Care of the Environment/Think Before You Put Something Down the Drain and How You Affect the Environment/To Be Aware of the Environment	13	9.4
Keep Things Clean/Keep Our Drain as Clean as Possible/To Try to Keep Clean	10	7.2
Keep Our Beaches and Bays Clean by Being Pollution Free/Don't Pollute/Stop Polluting	8	5.8
Don't Be Polluting the Air/Clean Air	10	7.2
What You Put Down Sewage Drains Goes to the Ocean/Thinking About What's Going Into the Ocean/To Make Sure That You Don't Put Anything in the Storm Drain Because It Will Go Down to the Ocean and Pollute/Remember What You Put in the Gutter Ends up in the Ocean	21	15.2
Keep the Water Clear	8	5.8
Keep the Water Blue	15	10.9
Nothing	2	1.4
Other	20	14.5
Don't Know/Don't Recall	11	8.0

Reactions

As Figure 26 indicates, the majority of aware respondents (54 percent) said their general reactions to the “Think Blue” slogan were very positive. In addition, over a third (36 percent) said their reactions were somewhat positive. When summed, these figures total nine in ten (90 percent). There were no completely negative reactions to the slogan.

REACTIONS TO THE SLOGAN

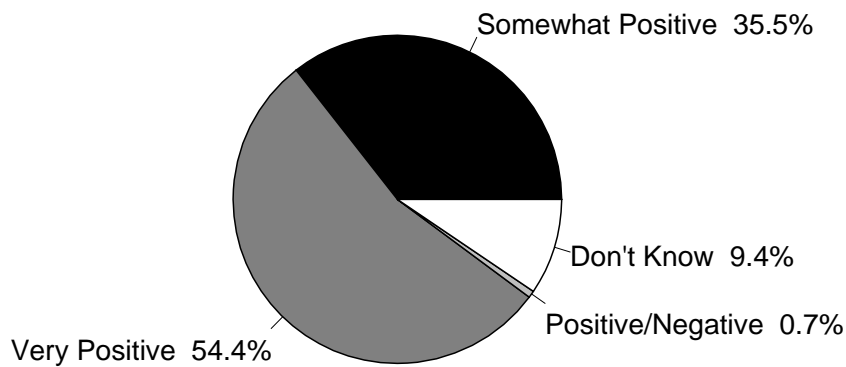


Figure 26

INFORMATION SOURCES

Figure 27 displays the mean probability of respondents paying attention to information about how to prevent the contamination of the ocean, bays, and beaches in various places on a scale of one to four where one equals definitely not and four equals definitely. As this graphic indicates, most of the information sources achieved an overall probability of less than probably (mean value of 3.00). Most likely to be attended to was information on television (3.34), mailed to respondents' homes (3.13), and on the radio (3.05).

PROBABILITY OF PAYING ATTENTION TO INFORMATION ON HOW TO PREVENT OCEAN, BAY, AND BEACH CONTAMINATION IN VARIOUS PLACES

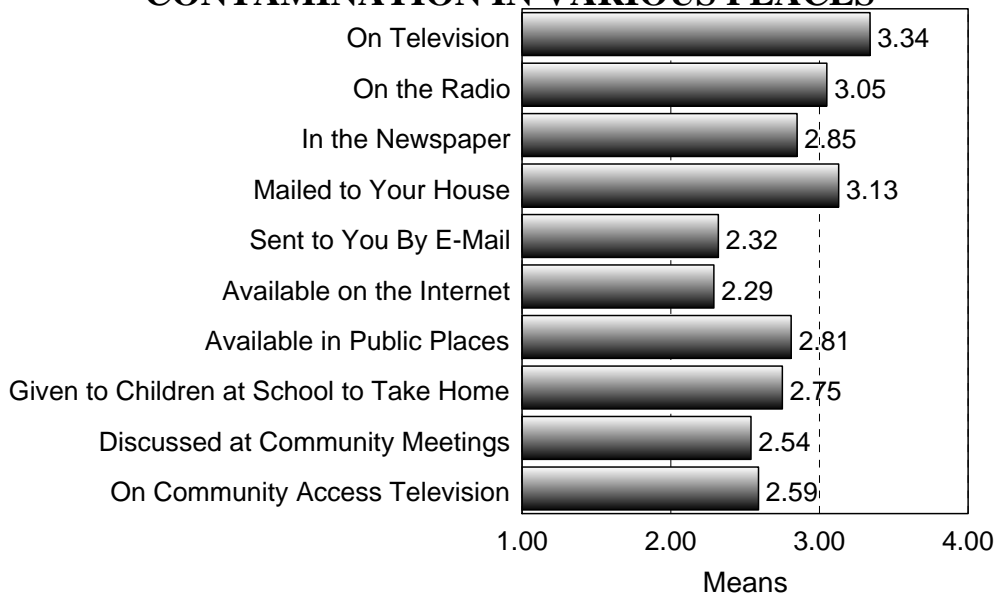


Figure 27

RESPONDENT DEMOGRAPHICS

Tables 15 through 19 and Figures 28 through 29 portray the demographics of the responding sample. These illustrations indicate the following.

- A majority of respondents (55 percent) live in single-family homes, with about a third (35 percent) living in apartments or condominiums.

	Frequency	Percent
Single Family	243	54.9
Duplex/Triplex	23	5.2
Townhouse	19	4.3
Apartment/Condominium	154	34.8
Live in Recreational Vehicle	1	.2
Refused	3	.7

- About half of respondents (51 percent) own their homes.

HOME OWNERSHIP STATUS

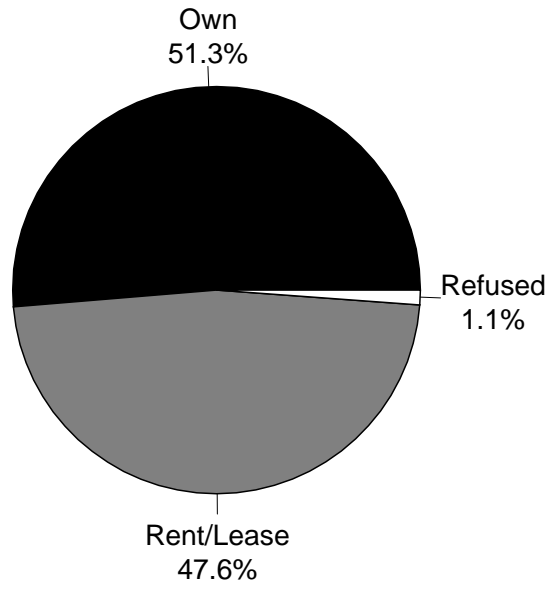


Figure 28

- The largest group of respondents (38 percent) have a four-year degree or more education; over two-thirds (69 percent) have at least some college.

	Frequency	Percent
Less Than High School	33	7.4
High School Graduate	96	21.7
Vocational/Trade Certificate	2	.5
Some College	60	13.5
Two-Year Degree	75	16.9
Four-Year Degree or Higher	169	38.1
Refused	8	1.8

- Most respondents (65 percent) are between the ages of 25 and 54, with the largest single group (25 percent) being those aged 25 to 34.

	Frequency	Percent
18 to 24	51	11.5
25 to 34	112	25.3
35 to 44	94	21.2
45 to 54	83	18.7
55 to 64	40	9.0
65 and Over	50	11.3
Refused	13	2.9

- About three-fifths of respondents (61 percent) are Caucasian; almost one in five (19 percent) are Hispanic.

Table 18

ETHNICITY

	Frequency	Percent
Caucasian/White	269	60.7
African-American	25	5.6
Asian/Pacific Islander	20	4.5
Latino/Hispanic	86	19.4
Other	31	7.0
Refused	12	2.7

- The largest group of respondents (25 percent) have household incomes of \$25,000 to \$49,999. Incomes of \$50,000 or more account for two-fifths of respondents (40 percent).

Table 19

HOUSEHOLD INCOME

	Frequency	Percent
Under \$25,000	66	14.9
\$25,000 - \$49,999	109	24.6
\$50,000 - \$74,999	88	19.9
\$75,000 or More	90	20.3
Don't Know	15	3.4
Refused	75	16.9

- Slightly more than half of respondents (53 percent) are men.

GENDER

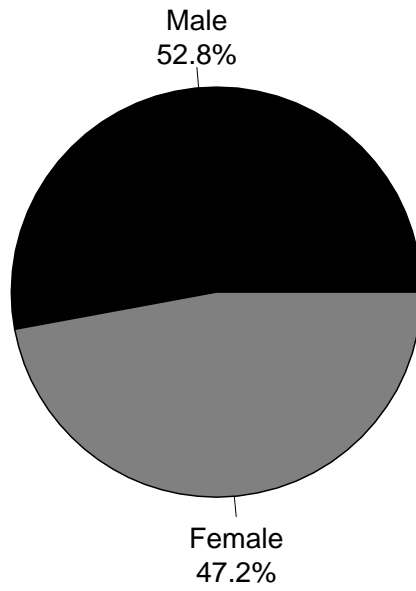


Figure 29

IV. CONCLUSIONS AND RECOMMENDATIONS

From the research results presented in this report, it would appear that the City of San Diego will be confronting a number of challenges in working toward the prevention of storm water pollution. First and foremost of these challenges may reflect the realization that relatively few people know three critical facts about this type of pollution: it occurs because storm water flows to waterways, it is particularly acute because storm water is not treated, and most beach contamination is caused by urban runoff rather than by sewage spills. Before it can attempt to change behavior, the City will need to impart basic knowledge.

Fortunately, residents of San Diego view pollution of the ocean, bays, and beaches as being the most important of the issues listed on the questionnaire, so it can be presumed that they are motivated to learn. The fact that they view litter as the least important of the problems, however, suggests that it may take some effort to make the connection between supportive attitudes and the actual behaviors that foul residents' marine environment.

Insofar as the behaviors themselves are concerned, three things seem clear. First, there are a number of things San Diegans are doing that are harmful to the ocean, bays, and beaches. Second, there are so many of these things that it will almost undoubtedly be impossible for the City to address them all in a single year. And third, where there have been concerted efforts to get people to change their behaviors, they appear to have worked².

Considering first the last of these remarks, we note as an example that by far the majority of residents are recycling used motor oil, a behavior that has been heavily stressed in public education campaigns. Thus it seems reasonable to presume that if people know what they are not supposed to do and supposed to do instead, most (albeit not and probably never all) will comply.

² Both an understanding of human nature and anecdotal reports from survey interviewers suggest that some respondents were understating negative behaviors and overstating positive ones. Accordingly, the behavioral measures in this survey should probably be viewed as being relative to one another rather than absolute.

Insofar as the first and second points are concerned, it is apparent that there are many possibilities San Diego policy makers will have to weigh. Criteria for deciding which behaviors to emphasize in the first year of a campaign might include the (relative) proportion of the population behaving inappropriately, the ease of changing the behavior, the availability of reasonable alternatives, the magnitude of the behavior's effect on the environment, or some other measure.

Behaviors having the potential to contribute to storm water pollution and the proportions of those eligible (e.g., of all respondents or of dog owners, depending on the question) who admitted to them in the survey were as follows³:

- Letting water from car washing run onto pavement (78 percent)
- Letting water from garden watering run into the gutter or street (23 percent)
- Failing always to pick up dog droppings while walking the dog (16 percent)
- Failing to clean up dog droppings in the yard on a regular basis (23 percent)
- Failing to use formal a waste station for recreational vehicle waste (32 percent)
- Failing to use the waste station in the correct manner (various percentages)

³ Only those behaviors practiced by more than about ten percent of those answering the question are included here. Our reasons for this are two: this percentage is probably too small to attend to in the early stages of any campaign, and it may well represent those who have no intention of changing regardless what they know.

- Cleaning paint brushes, rollers, and pans in an inappropriate location (29 percent)
- Disposing of paint improperly (29 percent)
- Disposing of cooking grease improperly (19 percent)
- Failure to clean sewer lines between homes and the street on a regular basis (42 percent)
- Littering (23 percent)
- Feeding birds at the beach (15 percent)
- Using the water rather than a restroom at the beach (23 percent)

Our recommendation in this regard is that the City pick two to three key themes for its inaugural year and focus its efforts on these themes rather than trying to encompass many behaviors. Tackling too many things risks diluting the City's message and accomplishing little or nothing.

Finally and parenthetically on this topic, we might note that putting green waste in the trash or garbage, while not harmful to storm water, is a pity from an overall environmental perspective. Residents of San Diego currently have no viable alternative, however. We would therefore encourage the City to consider the establishment of a convenient green waste recycling program.

Insofar as what San Diego has done so far is concerned, it would appear that the “Think Blue” slogan is fairly well-recognized, well-received, and generally understood. We would therefore encourage the City to retain its slogan and to continue endeavoring to make people understand what they need to know, what they need to do, and what “Think Blue” really means.

Finally, we note that although there was relatively little enthusiasm for any of the vehicles of information transmission, this is not unusual in general public surveys. In addition, the City did receive guidance on what residents would prefer. At least insofar as the research is concerned, people want to receive information on television, on the radio, and in the mail.

APPENDIX A

Survey Instruments

APPENDIX B

Detailed Data Tabulations