



SACRAMENTO STORMWATER QUALITY PARTNERSHIP

Baseline Quantitative Study
September 2014



PROPROSE
Social Marketing Solutions

TABLE OF CONTENTS

BACKGROUND	3
OBJECTIVES	3
METHODOLOGY	3 to 5
Sample.....	4
Areas Of Questioning.....	5
Statistical Accuracy.....	5
WAVE 1 FINDINGS.....	6 to 21
Behaviors	6
Perceptions About Storm Drains & The Threat To Sacramento	9
Advertising & Messaging Recall	14
Improving Compliance.....	19
IMPLICATIONS & RECOMMENDATIONS	22 to 23
APPENDIX	
Questionnaire.....	24 to 35

BACKGROUND:

The Sacramento Stormwater Quality Partnership (SSQP) is a multi-jurisdictional program comprised of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova. The SSQP program goal is to educate and inform the public about urban runoff pollution and how simple changes in everyday activities can protect the area's fragile ecosystem.

The SSQP wants to understand the awareness, perceptions and motivations of Sacramento area residents. Such a research study can be used to set goals, establish benchmarks, and stimulate behavioral change. It also provides empirical measures that meet the requirements of the program's National Pollution Discharge Elimination System (NPDES) permit.

Accordingly, this public opinion survey seeks to gauge and track the level of awareness and behavior change within the community. This report presents the findings of the first "baseline" wave of interviewing among Sacramento County residents who were interviewed May 19-29, 2014.

OBJECTIVES:

1. Measure public awareness and attitudes toward stormwater pollution.
2. Assess the general public's compliance with behaviors that help ensure clean stormwater, including the use and disposal patterns of specific products.
3. Set a baseline level for later assessment of any potential shift in such awareness, attitudes and behaviors as a result of the new campaign.
4. Determine the needs and concerns of customers relative to their behaviors affecting stormwater pollution. This includes an understanding of the association between awareness and beliefs and actual behaviors and purchase decisions.
5. Determine the effectiveness of each element of the SSQP media campaign
6. Examine similarities and differences in the above areas by different demographic groups within the area.

METHODOLOGY:

SAMPLE:

A total of 411 Sacramento County residents were interviewed online from May 19-29, 2014. All were at least 18 years of age. Age and gender quotas were applied to ensure a reasonably equivalent mix by gender and age. General nationwide online research panels comprised of several million households were used to gather the sample. A representative mix of respondents was obtained (see next page).

NUMBER OF INTERVIEWS COMPLETED -- GENDER & AGE

	Total	Male	Female	Age 18- 34	Age 35- 54	Age 55+
Gender						
Male	211	211		59	75	77
Female	200		200	61	78	61
Age						
18-34 (NET)	120	59	61	120		
18-24	36	17	19	36		
25-34	84	42	42	84		
35-54 (NET)	153	75	78		153	
35-44	74	37	37		74	
45-54	79	38	41		79	
55+ (NET)	138	77	61			138
55-64	74	40	34			74
65 or over	64	37	27			64
Mean (yrs.)	46	47	46	27	45	65
Median (yrs.)	46	47	45	28	45	63

PROPORTION OF INTERVIEWS COMPLETED -- HOUSEHOLD INCOME & TYPE OF RESIDENCE

	Total	Income: Under \$75k	Income: \$75k+	Single Family Home	Condo/ Townhouse/ Apartment	Owns	Rents
Household Income	%	%	%	%	%	%	%
Under \$75,000 (NET)	64	100	0	58	82	49	89
Less than \$20,000	11	17	0	9	17	5	21
\$20,000 to \$29,999	10	16	0	8	18	6	17
\$30,000 to \$39,999	9	14	0	8	13	5	15
\$40,000 to \$49,999	11	18	0	11	14	9	15
\$50,000 to \$59,999	13	20	0	13	14	12	14
\$60,000 to \$74,999	9	15	0	10	6	11	7
\$75,000+ (NET)	36	0	100	42	18	51	11
\$75,000 to \$99,999	18	0	50	20	14	23	9
\$100,000 to \$149,999	12	0	33	15	1	19	0
\$150,000 or more	6	0	17	7	3	9	1
Mean (\$000)	68	41	115	73	49	82	43
Median (\$000)	57	42	100	63	42	76	38
	%	%	%	%	%	%	%
Residence							
Owner of single family home	60	46	84	78	0	94	0
Renter of single family home	17	24	5	22	0	0	47
Owner of townhome or condominium	4	3	5	0	16	6	0
Renter of townhome or condominium	5	6	4	0	23	0	15
Renter of apartment	14	21	2	0	61	0	38
Single Family Home (NET)	77	70	89	100	0	94	47
Townhome, condo, or apartment (NET)	23	30	11	0	100	6	53
Townhome or condo (SUBNET)	9	9	9	0	39	6	15
Owner (NET)	64	49	89	78	16	100	0
Renter (NET)	36	51	11	22	84	0	100

It should be noted that all respondents contacted for this first wave will be excluded from the second wave (whether they participated or not). To maximize comparability, a nearly identical questionnaire will be used for the post-wave.


AREAS OF QUESTIONING:


A copy of the questionnaire is appended to this report. Topics included:

- √ Frequency of engaging in positive or negative behavior
 - When controlling pests or weeds outdoors
 - When using fertilizer
 - Choosing organic when using pesticides or fertilizer
 - Looking for paints labeled "latex" or "cleans with water"
 - When rinsing out paint brushes
 - When dog poops
 - When changing car or truck's motor oil at home
 - Frequency of littering
- √ Perceived threat/importance to Sacramento area of various environmental issues
- √ Awareness of presence of storm drains in neighborhood
- √ Perception of where these drains go to and how
- √ Perceived contribution to water pollution of various actions or entities
- √ Awareness of various public service messages in past 12 months
- √ Media source of awareness
- √ Recall of creative elements of advertising about keeping storm drains clean
- √ Main message and tagline recall of advertising about keeping storm drains clean
- √ Stated influence of this advertising
- √ Likelihood would adopt specific new behaviors if saw messages explaining it would help keep local waterways clean

STATISTICAL ACCURACY:

The sample size of 411 yields results that are accurate to within $\pm 4.8\%$ at the 95% confidence level. There is greater variability when comparing subgroups. In the tables that follow, meaningful differences that are statistically different at the 95% level are boxed.

 Statistically greater with 95% confidence.

 Statistically lower with 95% confidence.

WAVE 1 FINDINGS:

BEHAVIORS:

1. There is considerable opportunity for improvement for Sacramento County residents to engage in behaviors that ensure clean stormwater. Averaging across all eight behaviors investigated, fewer than four in ten Sacramentans (38%) *always* do the desired action. One in four (25%) *usually* do the *undesired* action that leads to unclean stormwater.

Proper motor oil change tops all other behaviors in compliance, likely due to the public education and outreach requirements for the past two decades. Only a minority of residents (22%) change their own motor oil at home, but the overwhelming majority of those who do (78%) always take their used motor oil to a certified collection center. Of the nearly half who own a dog, just over half always bag the poop and throw it in the trash. Half (50%) of Sacramentans “never, ever litter” and another third (36%) “almost never litter”.

From here, compliance decreases. Just over a third (37%) of household paint shoppers always look for paints labeled "latex" or "cleans with water". A similar proportion (35%) “absolutely always” rinse out paint brushes inside the house. A significant minority (26%) usually or always rinse outside. One in seven (14%) typically do not look for latex or other paints that clean with water.

Getting those with a yard or garden to stop using fertilizer is the most challenging and it leaves the most room for improvement. Four in ten (23%) say they freely use fertilizer whenever they need to. Slightly fewer (17%) say they freely use pesticides/herbicides whenever they need to control pests or weeds. Three quarters (73%) use fertilizer and 60% use pesticides/herbicides at least sometimes.

Lastly, shopping for organic or green-friendly pesticides/herbicides resembles stopping use of pesticides/herbicides. Similar number of consumers (60%) buy these products at least sometimes and they do not look for organic versions.

POSITIVE AND NEGATIVE BEHAVIORS OF SACRAMENTO RESIDENTS

	N =*	Always Positive	Usually Positive	Some-times Pos/Neg	Usually Negative	Always Negative
		%	%	%	%	%
Take my used motor oil to a certified collection center	(90)	78	8	4	9	1
Bag my dog's poop and throw it in the trash	(192)	58	20	6	7	9
Never litter	(411)	50	36	6	7	1
Look for paints labeled "latex" or "cleans with water"	(251)	37	35	14	6	8
Rinse out paint brushes inside the house	(251)	35	25	14	16	10
Use an organic or green-friendly pesticide or fertilizer	(331)	15	25	29	18	13
Stop yourself from using pesticides/herbicides	(331)	14	27	20	22	17
Stop yourself from using fertilizer	(331)	14	13	17	33	23
Average of these 8 behaviors	(2188)	38	24	14	15	10

Positive behaviors help ensure clean stormwater; Negative behaviors contribute to polluted stormwater.

* Sample size for each activity based to those respondents who engage in that activity (i.e., 90 of 411 respondents change their own motor oil at home, 192 have a dog, 251 buy paints, and 331 have a yard or garden).

- Q. *Do you take your used motor oil to a certified collection center or do you throw it in the trash instead?*
- Q. *Regardless of where your dog poops, do you bag your dog's poop and throw it in the trash?*
- Q. *About how often do you litter?*
- Q. *Of all the times you buy paints, how often do you look for paints labeled "latex" or "cleans with water"?*
- Q. *Do you rinse out paint brushes inside the house, or do you freely rinse out paint brushes outside?*
- Q. *Of all the times you need to use pesticides or fertilizer in your yard or garden, how often do you use an organic or green-friendly pesticide or fertilizer in your yard or garden instead?*
- Q. *Of all the times you need to control pests or weeds outdoors, how often do you stop yourself from using pesticides/herbicides?*
- Q. *Of all the times you need to use fertilizer in your yard or garden, how often do you stop yourself from using fertilizer in your yard or garden?*

2. Men are more likely to engage in negative behavior that risks clean stormwater in the Sacramento area by their significantly greater use of fertilizer, pesticides/herbicides, and non-organic versions of these products. Younger people 18-34 years are less compliant when it comes to changing their motor oil, shopping for latex paints, or never littering. Older people age 55+ are less compliant about not using fertilizer, pesticide/herbicide, or using organic versions of these products. On the other hand, this age group (55+ years) is more likely to look for latex paints.

Income does not affect compliance. Wealthier and less wealthy households are equally likely to engage (or not engage) in these actions.

- The only exception is that less income households are more likely to stop using fertilizer. This likely reflects a spurious association between age and income: Older people are less likely to stop using fertilizer, and older people have higher incomes.

FULL COMPLIANCE WHEN DOING ACTIVITY - BY GENDER, AGE & HOUSEHOLD INCOME
 (% ENGAGES IN POSITIVE ACTIONS -- Among Those Engaged in Activity)

	Total	Male	Female	Age 18-34	Age 35-54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%
Take used motor oil to certified collection center	78	81	72	67	87	83	78	78
Bag my dog's poop and throw it in the trash	58	56	59	53	60	60	57	59
Never litter	50	49	52	39	55	55	48	54
Look for paints labeled "latex" or "cleans w/ water"	37	37	36	18	30	54	39	34
Rinse out paint brushes inside the house	35	32	38	33	37	33	32	37
Use organic or green-friendly pesticide/fertilizer	15	14	15	17	18	10	16	14
Stop yourself from using pesticides/herbicides	14	12	15	22	14	6	16	10
Stop yourself from using fertilizer	14	8	20	20	15	7	18	7
N =	(411)	(211)	(200)	(120)	(153)	(138)	(261)	(150)

NON-COMPLIANCE WHEN DOING ACTIVITY - BY GENDER, AGE & HOUSEHOLD INCOME
 (% ENGAGES IN NEGATIVE ACTIONS -- Among Those Engaged in Activity)

	Total	Male	Female	Age 18-34	Age 35-54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%
Stop yourself from using pesticides/herbicides	60	65	54	48	63	65	55	67
Stop yourself from using fertilizer	73	78	69	61	73	84	67	83
Use organic / green-friendly pesticide/fertilizer	60	67	52	53	60	65	59	62
Look for paints labeled "latex" or "cleans w/ water"	28	26	31	39	38	13	27	30
Rinse out paint brushes inside the house	40	41	38	45	37	41	43	36
Bag my dog's poop and throw it in the trash	22	23	22	24	21	23	25	19
Take used motor oil to certified collection center	14	12	19	17	13	13	14	16
Never litter	14	16	11	26	8	9	16	9
N =	(411)	(211)	(200)	(120)	(153)	(138)	(261)	(150)

PERCEPTIONS ABOUT STORM DRAINS & THE THREAT TO SACRAMENTO:

3. Of six environmental concerns, Sacramentans rank polluted lakes, rivers, and streams 4th in terms of how critical an issue it is to the area. Water supply, traffic congestion, and air pollution are considered more pressing. Population growth and toxic waste disposal are considered less pressing. Nevertheless, four in ten (39%) consider polluted waterways a “very serious” threat and another 44% say it is “somewhat serious”.
- Environmental concerns of Sacramentans fall into three tiers. Easily the most concerning is the water supply. Next, the public is concerned with traffic and air pollution. Lastly, they are concerned with polluted waterways, population growth, and toxic waste.

PERCEIVED THREAT TO THE SACRAMENTO AREA TODAY

	Very Serious	Somewhat Serious	Not That Much	Most Critical Or Pressing	Top 3 Most Critical Or Pressing
	%	%	%	%	%
Inadequate water supply	62	29	9	44	75
Increased traffic congestions	55	39	6	19	65
Air pollution	46	45	9	18	60
Polluted lakes, rivers and streams	39	44	17	9	32
Population growth	36	39	25	5	45
Toxic garbage waste disposal	30	45	24	5	24
N =	(411)	(411)	(411)	(411)	(411)

- Q For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the area today, or not that much of a threat to the area today.
- Q Now, please rank these issues in order of how important they are to the people of the Sacramento area today.

4. Perhaps explaining why Sacramentans are only moderately concerned with polluted local waterways, pollution in local waterways is typically seen as having *somewhat* serious consequences.
- More than half (56%) of residents say that pollution to Sacramento's bodies of water has *somewhat* serious consequences. The remainder are about equally likely to say the consequences are *very* serious (23%) as they are to say the consequences are not particularly serious (20%).

**PERCEIVED SERIOUSNESS OF POLLUTION TO SACRAMENTO'S BODIES OF WATER –
BY COMPLIANCE LEVEL**

	Total
	%
Very/Somewhat/Not That Serious	98
Very/Somewhat Serious	80
Very serious	23
Somewhat serious	56
Not that serious	18
Not at all serious	2
Not That /Not At All Serious	20
N =	(411)

Q How serious of a problem do you think pollution is to Sacramento's water bodies?

5. Five in six Sacramento County residents (87%) believe they have storm drains in their neighborhood. Of these, only slightly more than half (55%) imagine that the drains lead directly to bodies of water without being treated. One-third think the water in the drains is treated before going to bodies of water (31%) and one in six (15%) think the water goes directly to a sewage plant.

- Women are more likely than men to have the misperception that stormwater is treated. Younger people 18-34 are more likely to think the storm drain water goes to a sewage plant. Income has no impact on these perceptions.

PERCEPTIONS ABOUT STORM DRAINS – BY GENDER, AGE & HOUSEHOLD INCOME
(Among Those Who Have Storm Drains in their Neighborhood)

	Total	Male	Female	Age 18-34	Age 35-54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%
Directly to bodies of water (without being treated)	55	61	48	46	56	59	55	54
They are treated, then they go to bodies of water	31	24	37	31	33	27	29	34
To a sewage plant	15	15	15	22	11	14	16	13
N =	(357)	(181)	(176)	(99)	(133)	(125)	(223)	(134)

Q Do you have storm drains in your neighborhood?

Q Thinking about the storm drains in your neighborhood, where do you think the contents of these storm drains go?

Correct response in teal. Incorrect response in brown.

6. Among all residents, not even half believe Sacramento's storm drain and sewage treatment systems are completely/mainly separate systems (45%) or completely/mainly flow directly to bodies of water (46%). A substantial minority (26-35%) believe the drains are equally likely to be treated and as to flow direct, or that they are equally likely to be the same and separate systems.

- Men are more likely to believe storm drainage flows directly to bodies of water while higher income household members are more likely to believe the storm drain and sewage systems are separate. Younger people 18-34 years are less likely to have these beliefs.

**UNDERSTANDING OF SACRAMENTO'S STORM DRAIN SEWER SYSTEMS –
BY GENDER, AGE & HOUSEHOLD INCOME**

	Total	Male	Female	Age 18- 34	Age 35- 54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%
Correct								
Completely/Mainly Separate Systems	45	46	43	32	46	54	41	51
Incorrect								
Completely/Mainly Same System/Pipes	21	19	23	28	21	14	22	19
Equally Separate & Same System	35	35	35	40	33	31	37	30
Correct								
Completely/Mainly Flow Directly to Bodies of Water	46	51	42	39	52	47	45	49
Incorrect								
Completely/Mainly Treated/Filtered	27	22	34	30	24	29	28	26
Equally Flows Direct & Treated/Filtered	26	27	25	31	24	24	26	25
N =	(411)	(211)	(200)	(120)	(153)	(138)	(261)	(150)

Q Two statements are given below, one on the left and one on the right. Please read each statement and then click on the number that best describes what you think.

7. Water pollution in the Sacramento area is ascribed to several sources and no single source is dominant. Motor oil and automotive fluids, pesticides, and paints are attributed more blame than littering, dirty rainwater, or people not picking up after their dog. Half (51%) think the single primary cause of local water pollution is industry (23%), agriculture (17%), or sewage treatment (11%).

CONTRIBUTION OF SOURCES TO WATER POLLUTION IN SACRAMENTO AREA

	Contributes A Lot	Contributes At Least Moderately	Contributes At Least A Little	Primary Cause	Top 3 Causes
	%	%	%	%	%
Motor oil and automotive fluids disposed outside	31	60	84	11	43
Industrial and manufacturing plants	28	58	86	23	43
Pesticides and fertilizers used in the people's yards	27	58	88	16	47
Paints that are not disposed of properly	25	55	80	3	27
Agriculture	23	52	86	17	36
Litter in the streets and roadways	22	54	84	8	32
Sewer / Waste water treatment plants	16	43	71	11	29
Water that runs into storm drains when it rains	14	36	68	7	25
People not picking up their dog's poop	12	36	68	1	12
N = (411)					

- Q How much do you think each of the following contributes to water pollution in the Sacramento area? Please answer from 1 to 5 with a "5" being "a lot" and 1 being "not at all".
- Q If you had to guess, what would you say are the three major causes of water pollution in the Sacramento area? Type a "1" next to the primary cause, a "2" next to the second most cause, and a "3" next to the third most cause.

ADVERTISING & MESSAGING RECALL:

8. Although public service messages or advertising about using less water predominate, more than one-third (39%) say they recall messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.
- Although the campaign had not yet begun when this research was conducted, this likely reflects the sustained impact of the multi-year effort to communicate this message through a variety of media.
 - It is unknown how much of this is false recall. Typically this is 5-10% of the public. On one level, this recall level (39%) is encouraging but at the same time the 40%-point gap behind messages about water conservation (39% vs. 79%) shows that the SSQP's message faces a challenge of getting drowned-out.

RECALL PUBLIC SERVICES MESSAGES OR ADVERTISING CAMPAIGNS

	Total
Messages or advertising about...	%
Using less water	79
The benefits of eating five servings of fruits and vegetables everyday	55
The benefits of eating a diet that is high in fiber	49
The importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted	39
How it is bad to litter or throw trash into the environment	25
N =	(411)

Q *In the past six months, do you recall reading, seeing or hearing any.....*

9. The primary sources of this recall are TV commercials (28%), news reports (12%), water company inserts or flyers (11%), billboards (9%), and radio ads (7%).
- Survey participants routinely overstate the role of TV commercials as being a source of awareness (i.e., they "think" they saw it in TV since that's traditionally where most promotion is done). To the extent that is happening here, the leading role of TV advertising should be seen as directional and not finite.

SOURCE OF RECALL OF MESSAGES
(Among Those Who Recall Messages or Advertising)

	Primary Source	All Sources
	%	%
TV commercial	28	46
News Reports/News Reporters	12	33
Bill insert or flyer from water company	11	32
Billboard	9	28
Radio commercial	7	29
Newspaper	6	26
On the storm drain/curb	4	6
Internet/online ad	3	21
Bus Advertising	2	23
Magazine	0	15
Other	1	2
Don't remember	16	15
N =	(254)	(254)

Q *Where did you read, see or hear these messages?*

10. No single creative element is consistently played back. Recall of specific messages or creative elements is very general. There appears to be an opportunity to generate a cohesive focused message.

**MESSAGES OR ELEMENTS RECALLED ABOUT ADVERTISING
FOR KEEPING STORM DRAINS CLEAN AND UNPOLLUTED**

	Total Recall	Main Message Recall
	%	%
Being Environmentally Responsible (NET)	52	70
Specific to Clean Water (SUBNET)	44	54
Keep Storm Drains Clean (SUBSUBNET)	17	23
Keep storm drains free from trash/debris/waste	11	10
Keep storm drains clean	4	6
Be careful what you put in drains/storm drains	0	6
Water from storm drains goes directly into the rivers/lakes/ocean	14	0
Proper Disposal of Toxic Waste/Chemicals/Pollutants (SUBSUBNET)	10	15
Don't pour pesticides/chemicals down storm drains	5	4
Don't dump oil down storm drains	3	5
Keep pollutants out of drains n.s.	3	4
Stormwater drainage affects/can kill fish/wild life	7	4
Water from storm drains goes directly into the rivers/lakes/ocean	0	7
Contaminated stormwater contributes to polluted lakes/rivers	0	5
Not Specific to Clean Water (SUBNET)	10	17
Importance of a clean environment/being environmentally conscious	4	6
Don't litter/dump	2	3
Don't pollute	2	5
Creative Ad Recall (NET)	20	2
Visual (SUBNET)	16	1
Recall message near storm drain	4	1
Remember seeing picture of drain	4	0
Remember a drawing/stencil of a fish on sidewalk	4	0
Remember seeing people cleaning/sad people/children	3	0
Type of Creative (SUBNET)	6	0
Nothing/NA	17	15
Don't know	11	11
N =	(254)	(254)

Q *What do you remember about the advertising about keeping storm drains clean and unpolluted?*

Q *What was the one main message that this advertising told you?*

11. Residual recall of past taglines can still be felt. Twelve percent (12%) of residents recall "Be River Friendly" on an aided basis. Another 9% recall "We All Live Downstream".
- These proportions are slightly higher if examining only those who recall the campaign.

RECALL OF TAGLINES

	Among The Total Sample	Among Those Who Recall Campaign
	%	%
"Be River Friendly"	12	19
"We All Live Downstream"	9	15
"Slow the Flow"	2	3
"Blue Stakes"	1	1
Other	1	1
Can't remember/Not sure/Don't know	37	61
Don't recall campaign	38	NA
N =	(411)	(254)

Q What was the specific tag line used in the advertising about keeping storm drains free from pollution?

12. Potential exists for greater influence of advertising and media messages. Among those who have seen or heard the advertising or media messages, 35% unequivocally say it has influenced them. Another 23% say it has impacted them “but just a little”. .

PERCEIVED INFLUENCE OF ADVERTISING

	Among the Total Sample	Among Those Who Recall Campaign
	%	%
Yes	22	35
Yes, but just a little	14	23
Maybe a little bit, but not really	15	24
No	11	17
Don't recall campaign	38	0
N =	(411)	(254)

Q *Having seen or heard this advertising, do you think it has influenced you at home?"*

IMPROVING COMPLIANCE:

13. Of six potential messages that explain how residents can help keep local waterways clean, always bagging their dog’s poop and always reading and following instructions when applying fertilizer are thought to be most influential. Half (52% and 48%, respectively) of residents for whom this is relevant say they would “absolutely always” comply.

Four in ten (39%) would always take empty paint cans to a hazardous waste facility instead of throwing them in the trash. Three in ten (31%) would immediately have their vehicle checked and repaired if they noticed a slow leak in a parking place.

By contrast, just 21% would always buy non-toxic pesticides or herbicides, or always dispose of fluorescent bulbs at a hazardous waste facility (23%).

**LIKELIHOOD OF TAKING THIS ACTION IF
SAW MESSAGES THAT IT HELPS KEEP LOCAL WATERWAYS CLEAN**

Would Take This Action:	Absolutely Always	Absolutely Always/ Almost Always	Absolutely Always/ Almost Always/ Probably Usually
	%	%	%
Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash	53	71	86
Instead of guessing how to apply pesticides or fertilizers, you would need to always read the instructions before using them and then follow those instructions exactly	48	73	90
Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility	39	65	78
If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks	31	63	84
If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster	23	41	62
Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic	21	49	77
N = (411)			

Q If you saw messages that explained how you could help keep local waterways clean simply by adopting that new behavior, how likely would you be to always take that action?

14. As part of this survey analysis, each respondent’s level of compliance across the eight behaviors was calculated. Respondents were then classified into three groups:

“Most Compliant” are people whose average response fell between 1.0-2.0 (i.e., “always” or “usually” engage in the positive behavior).

“Mid Compliant” are people whose average response fell between 2.1-2.7 (i.e., between “usually positive” and “sometimes”).

“Least Compliant” are people whose average response fell between 2.8-5.0 (i.e., between “sometimes” or “usually” engage in the negative behavior).

Women are significantly more compliant than men. Interestingly, higher income means less compliance. This may be the result of being a homeowner, as those who live in a single family residence tend to engage in more actions that threaten the cleanliness of Sacramento’s storm drains.

INDICATORS OF COMPLIANCE -- CHARACTERISTICS & BELIEFS OF THE MOST COMPLIANT & LEAST PEOPLE

	Most Compliant	Mid Compliant	Least Compliant
	%	%	%
Male	41	51	60
Female	59	49	40
Mean Income	\$51K	\$74	\$70
Live in a Single Family Home	55	83	83
Live in a Townhouse, Condo, Apt.	45	17	17
N =	(88)	(206)	(117)

NOTE: For each respondent, an average level of compliances was calculated for the activities relevant to that individual. 1 point was awarded for “Always” doing the positive behavior, 2 points for “usually” doing the positive behavior, 3 points for sometimes doing the positive behavior, 4 points for usually doing the negative behavior, and 5 points for always doing the negative behavior.

“Most Compliant” are people whose average response fell between 1.0-2.0 (i.e., “always” or “usually” engage in the positive behavior).

“Mid Compliant” are people whose average response fell between 2.1-2.7 (i.e., between “usually positive” and “sometimes”).

“Least Compliant” are people whose average response fell between 2.8-5.0 (i.e., between “sometimes” or “usually” engage in the negative behavior).

15. Beliefs about the seriousness of the threat to the area's waterways is instrumental in promoting behaviors that help keep the storm drains clean. Many Sacramentans do not believe that polluted waterways pose a serious to Sacramento. However, the degree that a person believes that polluted lakes, rivers, and streams poses a serious threat to Sacramento, the more likely they are to engage in behaviors to ensure clean stormwater.

Beliefs about the way the storm drainage system functions separate from the sewage system has limited impact on compliance. The public does not seem to think much about the storm drainage infrastructure. Perception that the drains go directly to bodies of water without being treated generally does not lead to greater compliance. The belief that sewage and storm drains are separate systems does not generate more compliance. The public simply needs to know that bad stuff goes through the storm drainage system and ends up in Sacramento's waterways.

Nevertheless, advertising can and does work. Recall of public service messages or ad campaigns about keeping the water that goes into Sacramento's storm drains clean and unpolluted is strongly associated with positive behaviors.

INDICATORS OF COMPLIANCE -- CHARACTERISTICS & BELIEFS OF THE MOST COMPLIANT & LEAST RESIDENTS

	Most Compliant	Mid Compliant	Least Compliant
	%	%	%
Believe Polluted Lakes Rivers & Streams			
Is "A Very Serious Threat"	52	37	32
Is "A Somewhat Serious Threat"	32	50	43
Is "Not That Much of a Threat"	16	13	26
Think drains almost completely/mainly go directly to bodies of water (without being treated for pollutants, etc.)	41	51	43
Think storm drain & sewer systems are almost completely/mainly separate systems	45	42	48
Recall public service messages or ad campaigns about keeping the water that goes into Sacramento's storm drains clean & unpolluted	49	41	28
Advertising has influenced behavior at home (total sample)	34	23	10
Advertising has influenced behavior at home (among those that recall)	50	36	18
N =	(88)	(206)	(117)

NOTE: For each respondent, an average level of compliances was calculated for the activities relevant to that individual. 1 point was awarded for "Always" doing the positive behavior, 2 points for "usually" doing the positive behavior, 3 points for sometimes doing the positive behavior, 4 points for usually doing the negative behavior, and 5 points for always doing the negative behavior.

"Most Compliant" are people whose average response fell between 1.0-2.0 (i.e., "always" or "usually" engage in the positive behavior).

"Mid Compliant" are people whose average response fell between 2.1-2.7 (i.e., between "usually positive" and "sometimes").

"Least Compliant" are people whose average response fell between 2.8-5.0 (i.e., between "sometimes" or "usually" engage in the negative behavior).

IMPLICATIONS:

1. There is considerable opportunity for improvement for Sacramento County residents to engage in behaviors that ensure clean stormwater.
2. The greatest potential for impact is with convincing Sacramento residents to use less fertilizer, less pesticides/herbicides, and to shop for organic or non-toxic versions of these products.
3. Getting residents to shop for latex/"cleans with water" paints and to rinse their paintbrushes indoors is next most important.
4. While certainly detrimental and worth addressing, a focus on convincing the public to take their used motor oil to a certified collection center, or to bag their dog's poop, or to never litter is bound to be less impactful because residents are more likely to already engage in these positive behaviors.
5. Message style and media should attempt to be unique and distinct from the mass plethora of "competing" campaigns focused on water conservation.
6. Targeting areas where litter is the greatest problem could have a significant impact on pollution reduction.
7. Older adults are less compliant with pollution prevention practices such as using less or non-toxic fertilizers and pesticides. Other work focused on behavior change shows that older adults generally are the most unwilling to change their behavior.
8. Focusing on how the storm drainage system works doesn't change behavior. For example, women are more compliant and are more likely to prevent pollution to help the quality of the water and reduce pollution but have less understanding of the system while men have a greater understanding of how the system works but continue with pollution causing behaviors even knowing and understanding the negative result.
9. Residents only need to know that "bad stuff" gets into the river through residential storm drain systems.
10. Messages about purchasing nontoxic fertilizer, pesticides, and herbicides and messages about properly disposing fluorescent bulbs at hazardous waste facilities are the most challenging and represent both the greatest reward and risk.

RECOMMENDATIONS:

1. Focus more on behavior changing messages rather than how the system works.
2. Consider supplemental efforts targeted specifically toward men and homeowners regarding the importance and effectiveness (scientific data) of using less-toxic fertilizers, pesticides and herbicides, and/or using organic, nontoxic versions of these products.
3. Target younger residents age 18-34 with messages that encourage them to look for latex or "cleans with water" paints and to litter less often.
4. Communicate that pollution to Sacramento's lakes, rivers and streams poses a very severe threat to the area. The public still needs to be convinced of the serious consequences of polluted local waterways.
5. Sacramento residents simply need to know that the "bad" material they leave on the ground ends up in local waterways. There appears to be little need to emphasize that the storm drainage system is distinct from the sewer system, or that it leads to bodies of water without treatment.
6. Concentrate on communicating a simple focused message. This will help avoid the muddled playback and confusion about messages that may have limited past campaigns.
7. A great tagline can work. Due to the familiarity of "Be River Friendly" and "We all live downstream," continuing to incorporate these messages would be beneficial.
8. Messages about bagging dog poop and messages about reading instructions to properly apply pesticides or fertilizers are most likely to make an immediate impact as residents are open to adapting these actions.
9. Consider a paint pollution prevention campaign or program – a quarter of residents admit to always rinsing paint brushes outside.
10. Message recommendation:
 - a. Approximately 80% of water pollution is caused by residents...not businesses or agriculture
 - b. Look for products with packaging that says words like "eco", "natural", "safer" – they are generally less toxic and work just as well as other pesticides and fertilizers.
 - c. Shortening the length of time you water your yard prevents runoff and reduces water pollution.
11. Create a school science project to test pesticides vs. less toxic pesticides vs. nontoxic pesticides to gather data, inform parents and use for public education campaigns on integrated pest management.
12. Encourage drought tolerant landscapes. Green grass isn't always better. This will lessen use of toxic pesticides/fertilizers and reduce water usage preventing runoff.
13. For those residents who reject a drought tolerant landscape and insist on green grass, encourage use of less toxic pesticides and fertilizers. Make this the new norm.
14. Create an easier system for residents to properly dispose of toxics. For instance, provide residents with a personal garage storage container and create partnerships for easier, convenient drop-off sites so they can collect toxic materials and dispose of them safely.

APPENDIX

QUESTIONNAIRE

SACRAMENTO STORMWATER AWARENESS, BEHAVIORS & ATTITUDES STUDY
CONSUMERQUEST # 1544 -- 03/14
2038 Armacost Ave., 1st Floor
Los Angeles CA 90025
tele (310) 207-6605

QUESTIONNAIRE

(DISABLE BACK BROWSER BUTTON. HALF OF INVITATIONS SHOULD BE SENT TO MALE HEAD OF HOUSEHOLD, HALF TO FEMALE HEAD OF HOUSEHOLD. DESCRIBE THE SUBJECT MATTER OF SURVEY AS: "living in Sacramento County.")

A1. Are you....

1. Male
2. Female

A2. Which of these groups includes your age?

1. Under 18
2. 18-24
3. 25-34
4. 35-44
5. 45-54
6. 55-64
7. 65 or over

IF "1", TERMINATE. GET A MIX OF AGES.

A3. Considering the income of all members of your household, which category best describes your total annual household income before taxes?

1. Less than \$20,000
2. \$20,000 to \$29,999
3. \$30,000 to \$39,999
4. \$40,000 to \$49,999
5. \$50,000 to \$59,999
6. \$60,000 to \$74,999
7. \$75,000 to \$99,999
8. \$100,000 to \$149,000
9. \$150,000 or more

GET A MIX OF INCOMES.

B1. Do you live in California?

1. Yes
2. No → TERMINATE.

B2. Which of these metropolitan areas do you live in or near? (READ LIST, BEGINNING WITH DMA BASED ON AREA CODE. RECORD ONE:)

- Los Angeles-Orange County 1
- San Bernardino-Riverside 2
- San Francisco-Oakland-San Jose..... 3
- San Diego..... 4
- Sacramento 5
- Fresno..... 6
- Bakersfield..... 7
- Some other area of California 8

TERMINATE IF ANSWER IS NOT "5".

B3. Our survey today is only for people who live in a certain geographic area. Can you please tell us the ZIP code of where you live so we can determine if you live in the right area.

ENTER 5-DIGIT ZIP CODE: _ _ _ _ _

IF NON-QUALIFYING ZIP CODE, TERMINATE.

C1. Do you live in.... (Click one:)

- 1. A single family home that you own
- 2. A single family home that you rent
- 3. A townhome or condominium that you own
- 4. A townhome or condominium that you rent
- 5. An apartment

1-Intro. Our survey is about issues that involve living in Sacramento County. Before we get to that, we have a few questions about what you normally do. On the pages that follow, you'll see a particular behavior. We want you to think about all times you might want to engage in that behavior, but then stop yourself from doing so. If it is something that you do not want to do at all, then you can indicate that too.

1.1. For example, let's take "Eat at a fast food restaurant". Of all the times you want to eat at fast food restaurant, how often do you stop yourself from eating there?

- 1. I always stop myself from eating at a fast food restaurant
- 2. I usually stop myself from eating at a fast food restaurant, but once in a while I eat there
- 3. I sometimes stop myself from eating at a fast food restaurant, but sometimes I do eat there
- 4. I usually do not stop myself from eating at a fast food restaurant – I usually eat fast food when I want
- 5. I never stop myself from eating at a fast food restaurant – I eat fast food whenever I want

ASK EACH SERIES IN Q.2-6 IN RANDOM ORDER:

2a. Do you have a yard or garden?

1. Yes
2. No → SKIP TO Q.3.

2.1. Of all the times you need to control pests or weeds outdoors, how often do you stop yourself from using pesticides/herbicides?

1. I always stop myself from using pesticides/herbicides
2. I usually stop myself from using pesticides/herbicides, but once in a while I use them to control pests or weeds
3. I sometimes stop myself from using pesticides/herbicides, but sometimes I use them to control pests or weeds
4. I usually do not stop myself from using pesticides/herbicides: I usually use them when needed to control pests or weeds.
5. I never stop myself from using pesticides/herbicides: I use them whenever I need to control pests or weeds.

2.2. Of all the times you need to use fertilizer in your yard or garden, how often do you stop yourself from using fertilizer in your yard or garden?

1. I always stop myself from using fertilizer
2. I usually stop myself from using fertilizer, but once in a while I use fertilizer
3. I sometimes stop myself from using fertilizer, but sometimes I use fertilizer
4. I usually do not stop myself from using fertilizer: I usually use fertilizer as needed
5. I never stop myself from using fertilizer – I use fertilizer whenever I need to

2.3. Of all the times you need to use pesticides or fertilizer in your yard or garden, how often do you use an organic or green-friendly pesticide or fertilizer in your yard or garden instead?

1. I always use an organic or green-friendly pesticide or fertilize
2. I usually use an organic or green-friendly pesticide or fertilizer, but once in a while I use a regular pesticide or fertilizer
3. I sometimes use an organic or green-friendly pesticide or fertilizer, but sometimes I use a regular pesticide or fertilizer
4. I usually do not use organic or green-friendly pesticide or fertilizer: I usually use regular fertilizer as needed
5. I never use organic or green-friendly pesticide or fertilizer – I use regular pesticide or fertilizer

3a. Do you ever buy household paints?

1. Yes
2. No → SKIP TO Q.4

- 3.1. Of all the times you buy paints, how often do you look for paints labeled "latex" or "cleans with water"?
1. I always look for paints labeled "latex" or "cleans with water"
 2. I usually look for paints labeled "latex" or "cleans with water"
 3. I sometimes look for paints labeled "latex" or "cleans with water"
 4. I usually do not look for paints labeled "latex" or "cleans with water"
 5. I never look for paints labeled "latex" or "cleans with water"
- 3.2. Do you rinse out paint brushes inside the house, or do you freely rinse out paint brushes outside?
1. I absolutely always rinse out paint brushes inside the house
 2. I almost always rinse out paint brushes inside the house, but once in a while do not
 3. I usually rinse out paint brushes inside the house, but sometimes I freely rinse them outside
 4. I usually freely rinse out paint brushes outside
 5. I always freely rinse out paint brushes outside
- 4a. Do you have dog?
1. Yes
 2. No → SKIP TO Q.5.
- 4.1. Regardless of where your dog poops, do you bag your dog's poop and throw it in the trash?
1. I absolutely always bag my dog's poop and throw it in the trash
 2. I almost always bag my dog's poop and throw it in the trash, but once in a while do not
 3. I usually bag my dog's poop and throw it in the trash, but sometimes I do not
 4. I usually do not bag my dog's poop and throw it in the trash
 5. I never bag my dog's poop and throw it in the trash
- 5a. Do you ever change your car or truck's motor oil at your home?
1. Yes
 2. No → SKIP TO Q.6.
 3. No, I take it somewhere to have the oil changed → SKIP TO Q.6.
- 5.1. Do you take your used motor oil to a certified collection center or do you throw it in the trash instead?
1. I always take my used motor oil to a certified collection center
 2. I usually take my used motor oil to a certified collection center, but once in a while I throw it in the trash
 3. I sometimes take my used motor oil to a certified collection center, and I sometimes throw it in the trash
 4. I usually throw it in the trash
 5. I always throw it in the trash

6. Let's face it: Almost everyone litters at least once. For example, some people litter by tossing a plastic wrapper or cigarette butt out the window of a car. About how often do you litter?

1. I never, ever litter
2. I almost never litter. It is really rare that I ever litter.
3. I hardly ever litter
4. I sometimes litter when it's unavoidable
5. I don't care about littering because it gets picked up anyways

7. Here are some different environmental issues that the people of the Sacramento area may face today and in the near future. For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the Valley today, or not that much of a threat to the Valley today.

RANDOMIZE:

1. Polluted lakes, rivers and streams
2. Inadequate water supply
3. Air pollution
4. Toxic garbage waste disposal
5. Increased traffic congestion
6. Population growth

SCALE IS:

1. A very serious threat to the Sacramento area today
2. A somewhat serious threat to the Sacramento area today
3. Not that much of a threat to the Sacramento area today

7.1. Now, please rank these issues in order of how important they are to the people of the Sacramento area today. Put a 1 next to the most critical or pressing issue, a 2 next to the next most important or pressing issue, and so on, until you've ranked them all.

- 7.2. A storm drain or storm drainage system is designed to drain excess rain and ground water from paved streets, parking lots, sidewalks, and roofs. Storm drains vary in design from small residential dry wells to large municipal systems. They are fed by street gutters on most busy roads. There are two main types of storm drain (storm sewer) inlets: side inlets and grated inlets.



- 7.3. Do you have storm drains in your neighborhood?

1. Yes
2. No
3. Don't know/Not sure

ASK IF Q.7.3 = 1:

- 7.4. Thinking about the storm drains in your neighborhood, where do you think the contents of these storm drains go?

1. To a sewage plant
2. Directly to bodies of water (without being treated)
3. They are treated, then they go to bodies of water

7.5. Two statements are given below, one on the left and one on the right. Please read each statement and then click on the number that best describes what you think.

RANDOMIZE Q.7.3.A-B, AND ROTATE LEFT AND RIGHT WITHIN EACH:

a) *Sacramento's storm drain and Sacramento's sewer system are separate systems. They have different underground pipes.*

Sacramento's sewer system and Sacramento's storm drain system are part of the same system. They use the same underground pipes.

1
Almost Completely
Applies to the
Sacramento area

2
Mainly Applies
to the
Sacramento area

3
Each Describes
The Area Equally

4
Mainly Applies
to the
Sacramento area

5
Almost Completely
Applies to the
Sacramento area

b) *Water and other substances that flow through Sacramento's storm drains go to a treatment plant to be processed and filtered to remove pollutants.*

Water and other substances that flow through Sacramento's storm drains flow directly to bodies of water

1
Almost Completely
Applies to the
Sacramento area

2
Mainly Applies
to the
Sacramento area

3
Each Describes
The Area Equally

4
Mainly Applies
to the
Sacramento area

5
Almost Completely
Applies to the
Sacramento area

- 7.6. How serious a problem do you think pollution is to Sacramento's water bodies?
1. Very serious – Rivers, lakes and streams in the area are polluted and it has serious consequences
 2. Somewhat serious – There's some pollution to rivers, lakes and streams in the area and it has some consequences
 3. Not that serious – There's some pollution to rivers, lakes and streams in the area but it has minor consequences
 4. Not at all serious – There's very little pollution to rivers, lakes and streams in the area and it is of little consequence

IF "4", SKIP TO Q.8.

- 7.7. How much do you think each of the following contributes to water pollution in the Sacramento area? Please answer from 1 to 5 with a "5" being "a lot" and 1 being "not at all".

RANDOMIZE:

1. Industrial and manufacturing plants
 2. Sewer / Waste water treatment plants
 3. Litter in the streets and roadways
 4. Agriculture
 5. Water that runs into storm drains when it rains
 6. People not picking up their dog's poop
 7. Pesticides and fertilizers used in the people's yards
 8. Motor oil and automotive fluids disposed outside
 9. Paints that are not disposed of properly
- 7.8. If you had to guess, what would you say are the three major causes of water pollution in the Sacramento area? Type a "1" next to the primary cause, a "2" next to the second most cause, and a "3" next to the third most cause.

LIST ANY ANSWERED "5" IN Q.7.7.

IF FEWER THAN 3 ARE ANSWERED "5", ADD ITEMS ANSWERS "4".

IF FEWER THAN 3 ARE ANSWERED "4" OR "5", ADD ITEMS ANSWERS "3".

IF FEWER THAN 3 ARE ANSWERED "3", "4" OR "5", ADD ITEMS ANSWERS "2".

OTHERWISE, SHOW ALL STATEMENTS.

8. Here are some different public service messages or advertising campaigns that may or may not have run in your area in the past 12 months. Think about messages and ads you've seen or heard on TV or radio, or read online, in newspapers or magazines, or outdoors (billboards, bus shelters, etc.). For each message listed, please tell us whether or not you read, saw or heard about it.

In the past six months, do you recall reading, seeing or hearing any..... (CLICK ONE ANSWER FOR EACH LISTED:) [RANDOMIZE:]

YES

NO

NOT SURE

- a) Messages or advertising about the benefits of eating five servings of fruits and vegetables everyday

.....
1

.....
23

- b) Messages of advertising about the benefits of eating a diet that is high in fiber

.....
1

.....
23

- c) Messages or advertising about how it is bad to litter or throw trash into the environment

.....
1

.....
23

- d) Messages or advertising about using less water

.....
1

.....
23

- e) Messages or advertising about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted

.....
1

.....
23

8.1. (IF ANSWER TO Q8.E IS "2", SKIP TO END. OTHERWISE, ASK:) You said that you may have read, heard or seen messages or advertising about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

Where did you read, see or hear these messages? Please check the primary place you recall reading, seeing or hearing this message in the last six months in column A and any other places you can recall it from in column B.

	[A] PRIMARY <u>PLACE</u>	[B] ALL OTHER <u>PLACES</u>
Billboard	1	1
Bus Advertising	2	2
Bill insert or flyer from water company	3	3
Internet / online ad	4	4
Magazine	5	5
Newspaper	6	6
Radio commercial	7	7
TV commercial	8	8
News Reports / News Reporters	9	9
Other (SPECIFY: _____) .	10	10
Don't Remember	11	11

Q.8.2A AND Q.8.2B APPEAR ON THE SAME PAGE:

8.2a. What do you remember about the advertising about keeping storm drains clean and unpolluted? Please be specific as possible.

8.2b. What was the one main message that this advertising told you? Please be as specific as possible about what the advertising was trying to tell you.

8.3. (ASK:) What was the specific tag line used in the advertising about keeping storm drains free from pollution? (RANDOMIZE 1-4, FOLLOWED BY RANDOMIZED 5-6. ALLOW ONE ANSWER).

1. "Slow the Flow"
2. "Be River Friendly"
3. "We All Live Downstream"
4. "Blue Stakes"
5. Other (SPECIFY: _____)
6. Can't remember / Not sure / Don't know

8.4. Having seen or heard this advertising, do you think it has influenced you at home?"

1. Yes
2. Yes, but just a little
3. Maybe a little bit, but not really
4. No

9. Finally, before you go, one more question.....

Listed below are different actions people can take to keep local waterways clean and free of harmful materials. If you saw messages that explained how you could help keep local waterways clean simply by adopting that new behavior, how likely would you be to always take that action?

ASK EVERYONE 5, 6. ASK 1-4 UNLESS:

IF Q2A=2, DO NOT ASK 1, 2.

IF Q3A=2, DO NOT ASK 3.

IF Q4A=2, DO NOT ASK 4.

RANDOMIZE ORDER:

1. Instead of guessing how to apply pesticides or fertilizers, you would need to *always* read the instructions before using them and then follow those instructions exactly.
2. Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic.
3. Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.
4. Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash.
5. If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks
6. If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster.

SCALE IS:

1. Absolutely, I would always do this, no exceptions
2. Definitely, I would almost always do this
3. Probably, I would usually do this
4. I might or might not do this
5. Realistically, I probably would not do this all the time

END. That's all the questions I have today! Thank you very much for your help!



2016 SACRAMENTO STORMWATER QUALITY PARTNERSHIP
AWARENESS ANALYSIS:
WAVE 2 – POST CAMPAIGN RESULTS

A Market Research Report
Prepared For

THE SACRAMENTO STORMWATER QUALITY PARTNERSHIP
&
SAGENT MARKETING

October 10, 2016

TABLE OF CONTENTS

BACKGROUND 3

OBJECTIVES 3

METHODOLOGY 3 to 5

 Sample..... 4

 Areas Of Questioning..... 5

 Statistical Accuracy..... 5

WAVE 2 FINDINGS 6 to 21

 Behaviors 6

 Perceptions About Storm Drains & The Threat To Sacramento 10

 Advertising & Messaging Recall 15

 Improving Compliance..... 20

CONCLUSIONS & IMPLICATIONS..... 24

APPENDIX

 Questionnaire..... 25 to 38

BACKGROUND:

The Sacramento Stormwater Quality Partnership (SSQP) is a multi-jurisdictional program comprised of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova. The goal of the SSQP is to educate and inform the public about urban runoff pollution and how simple changes in everyday activities can protect the area's fragile ecosystem. To help the SSQP achieve its goal, Sagent Marketing implemented a multi-tiered public education and marketing program that concluded this August.

The SSQP wants to understand changes in awareness, perceptions and motivations of Sacramento area residents. This research can be used to redefine goals, re-establish benchmarks, and understand behavioral change. It also provides empirical measures of the program's performance and fulfills the requirements of its National Pollution Discharge Elimination System (NPDES) permit.

Accordingly, a multi-wave public opinion survey sought to gauge and track the level of awareness and behavior change within the community. This report presents the findings of the second wave of interviewing among Sacramento County residents. These "post wave" surveys were conducted August 25-30, 2016 at the conclusion of the program's campaign. To assess change over time, the results of this research are compared to the first "baseline" wave of interviewing among Sacramento County residents interviewed May 19-29, 2014.

OBJECTIVES:

1. Measure public awareness and attitudes toward stormwater pollution.
2. Quantify the general public's adoption of behaviors that help ensure clean stormwater, including the use and disposal patterns of specific products.
3. Assess potential shifts in awareness, attitudes and behaviors as a result of the new campaign.
4. Determine the needs and concerns of customers relative to their behaviors affecting stormwater pollution. This includes an understanding of the association between awareness and beliefs and actual behaviors and purchase decisions.
5. Determine the effectiveness of each element of the SSQP media campaign.
6. Examine similarities and differences in the above areas by different demographic groups within the area.

METHODOLOGY:

SAMPLE:

A total of 402 Sacramento County residents were interviewed online from August 25-30, 2016. All were at least 18 years of age. Age and gender quotas were applied to ensure a reasonably equivalent mix by gender and age. General nationwide online research panels comprised of several million households were used to gather the sample. A representative mix of respondents was obtained. The demographics of the sample for this post wave is equivalent to that obtained in the pre wave that serves as its benchmark (see next page).

NUMBER OF INTERVIEWS COMPLETED -- GENDER & AGE

	Total 2016	Total 2014	Male	Female	Age 18-34	Age 35-54	Age 55+
Total Sample	402	411	188	214	139	137	126
[Gender]							
Male	188	211	188		62	61	65
Female	214	200		214	77	76	61
[Age]							
18-34 (NET)	139	120	62	77	139		
18-24	44	36	21	23	44		
25-34	95	84	41	54	95		
35-54 (NET)	137	153	61	76		137	
35-44	70	74	33	37		70	
45-54	67	79	28	39		67	
55+ (NET)	126	138	65	61			126
55-64	66	74	34	32			66
65 or over	60	64	31	29			60
Mean	45	46	46	44	27	45	65
Median	43	46	44	42	27	44	64

PROPORTION OF INTERVIEWS COMPLETED -- HOUSEHOLD INCOME & TYPE OF RESIDENCE

	Total 2016	Total 2014	Income: Under \$75k	Income: \$75k+	Single Family Home	Condo/ Townhouse/ Apartment
Household Income	%	%	%	%	%	%
[Under \$75,000] (NET)	62	64	100	0	56	84
Less than \$20,000	11	11	17	0	7	22
\$20,000 to \$29,999	10	10	16	0	7	19
\$30,000 to \$39,999	10	9	17	0	9	14
\$40,000 to \$49,999	11	11	18	0	11	12
\$50,000 to \$59,999	10	13	16	0	11	8
\$60,000 to \$74,999	10	9	16	0	10	9
[\$75,000+] (NET)	38	36	0	100	44	16
\$75,000 to \$99,999	17	18	0	44	19	11
\$100,000 to \$149,999	11	12	0	30	14	4
\$150,000 or more	10	6	0	25	12	1
Mean (\$000)	71	68	40	121	78	46
Median (\$000)	58	57	40	109	67	37
[Residence]						
Owner of single family home	57	60	41	82	73	0
Renter of single family home	21	17	28	8	27	0
Owner of townhome or condominium	3	4	3	4	0	15
Renter of townhome or condominium	4	5	5	1	0	16
Renter of apartment	15	14	22	5	0	68
Single Family Home (NET)	77	77	69	90	100	0
Townhome, condo, or apartment (NET)	23	23	31	10	0	100
Townhome or condo (SUBNET)	7	9	8	5	0	32
Owner (NET)	60	64	45	86	73	15
Renter (NET)	40	36	55	14	27	85

It should be noted that regardless of whether they participated or not, all respondents contacted for the first wave were excluded from the second wave. To maximize comparability, a nearly identical questionnaire was used for each wave. To address the added focus on reducing harmful pesticides in stormwater and the “Some Jeepers Are Keepers” campaign, questions were added to quantify awareness of messages, taglines and the influence of that portion of the campaign.

AREAS OF QUESTIONING:

A copy of the questionnaire is appended to this report. Topics included:

- √ Frequency of engaging in positive or negative behavior
 - When controlling pests or weeds outdoors
 - When using fertilizer
 - Choosing organic when using pesticides or fertilizer
 - Looking for paints labeled ‘latex’ or ‘cleans with water’
 - When rinsing out paint brushes
 - When dog poops
 - When changing car or truck’s motor oil at home
 - Frequency of littering
- √ Perceived threat/importance to Sacramento area of various environmental issues
- √ Awareness of presence of storm drains in neighborhood
- √ Perception of where these drains go to and how
- √ Perceived contribution to water pollution of various actions or entities
- √ Awareness of various public service messages in past 12 months
- √ Media source of awareness
- √ Recall of creative elements of advertising about keeping storm drains clean
- √ Main message and tagline recall of advertising about keeping storm drains clean
- √ Stated influence of this advertising
- √ Main message and tagline recall of advertising about not killing all yard insects because some are beneficial (“Some Jeepers Are Keepers”)
- √ Stated influence of this advertising
- √ Likelihood would adopt specific new behaviors if saw messages explaining it would help keep local waterways clean

STATISTICAL ACCURACY:

The sample size of 402 yields results that are accurate to within $\pm 4.8\%$ at the 95% confidence level. Comparisons between the August 2016 Post and May 2014 Pre waves are typically statistically significant at the 95% confidence level with differences ranging from 4.2%-6.8%, depending on the proportions involved. There is greater variability when comparing subgroups. In the tables that follow, meaningful differences that are statistically different at the 95% level are boxed.



Statistically greater with 95% confidence.



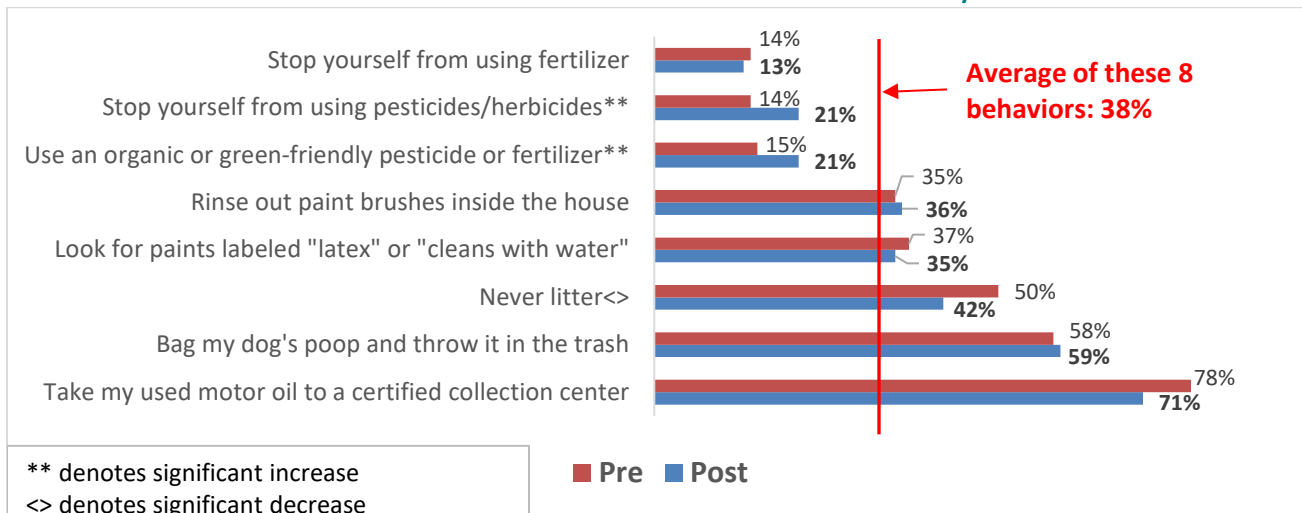
Statistically lower with 95% confidence.

WAVE 2 FINDINGS:

BEHAVIORS:

1. While most other behaviors remained constant, the number of Sacramento County residents who always choose organic pesticides/herbicides or always choose not to use a pesticide/herbicide product at all increased significantly (each from 14-15% in 2014 to 21% in 2016). This suggests that the "Some Jeepers Are Keepers" public education campaign had an impact. *See graphs on page 7.*
2. By contrast, those who claim to never litter declined from 50% to 42%. This may be the result of erosion after pauses in Caltrans "Don't Trash California", "Keep California Beautiful", and "Littering Is Wrong Too" campaigns in 2014-15 and "Protect Every Drop" in 2016. *See graphs on page 7.*
3. Similar to 2014, there remains considerable opportunity for improvement for Sacramento County residents to engage in behaviors that ensure clean stormwater. Averaging across all eight behaviors investigated, fewer than four in ten Sacramentans (37%) *always* do the desired action, similar to 2014 (38%). One in four (24%) *usually* do the *undesired* action that leads to unclean stormwater, also similar to 2014 (25%). *See graphs on page 7.*
4. Proper motor oil change continues to top all other behaviors in compliance, likely due to the public education and outreach requirements for the past two decades. Only a minority of residents (22%) change their own motor oil at home, but the overwhelming majority of those who do (71%) always take their used motor oil to a certified collection center. Of the nearly half who own a dog, more than half always bag the poop and throw it in the trash. Nearly half (42%) of Sacramentans "never, ever litter" and another third (37%) "almost never litter". *See graphs on page 7.*
5. From here, compliance decreases. Just over a third (35%) of household paint shoppers always look for paints labeled "latex" or "cleans with water". A similar proportion (36%) "absolutely always" rinse out paint brushes inside the house. A significant minority (29%) usually or always rinse outside. One in five (21%) typically do not look for latex or other paints that clean with water. *See graphs on page 7.*
6. Encouragingly, directionally fewer Sacramentans report using pesticides/herbicides at least sometimes (56%, down from 59% in 2014). This is the focus of the "Some Jeepers Are Keepers" campaign, and this represents a directional improvement from 2014. *See page 9.*
7. Despite the gains seen as a result of the campaign, the behavior with the most room for improvement continues to be getting those with a yard or garden to stop using fertilizer. One in four (25%) say they freely use fertilizer whenever they need to, similar to 2014 (23%). Slightly fewer (17%) continue to say they freely use pesticides/herbicides whenever they need to control pests or weeds. Three quarters (75%) use fertilizer at least sometimes, similar to 2014 (73%). Shopping for organic or green-friendly pesticides/herbicides remained constant, with six in ten (60%) buying these products at least sometimes. *See pages 7,9.*

POSITIVE BEHAVIORS OF SACRAMENTO RESIDENTS - PRE/POST



POSITIVE AND NEGATIVE BEHAVIORS OF SACRAMENTO RESIDENTS – WAVE 2

	N =*	Always Positive	Usually Positive	Some-times Pos/Neg	Usually Negative	Always Negative
Take my used motor oil to a certified collection center	(90)	71	13	12	2	1
Bag my dog's poop and throw it in the trash	(183)	59	20	9	7	5
Never litter	(402)	42	37	12	8	0
Look for paints labeled "latex" or "cleans with water"	(246)	35	28	16	7	14
Rinse out paint brushes inside the house	(246)	36	21	15	17	12
Use an organic or green-friendly pesticide or fertilizer	(332)	21	20	32	13	15
Stop yourself from using pesticides/herbicides	(332)	21	24	21	18	17
Stop yourself from using fertilizer	(332)	13	12	21	29	25
Average of these 8 behaviors	(2163)	37	22	17	13	11

POSITIVE AND NEGATIVE BEHAVIORS OF SACRAMENTO RESIDENTS – WAVE 1

	N =*	Always Positive	Usually Positive	Some-times Pos/Neg	Usually Negative	Always Negative
Take my used motor oil to a certified collection center	(90)	78	8	4	9	1
Bag my dog's poop and throw it in the trash	(192)	58	20	6	7	9
Never litter	(411)	50	36	6	7	1
Look for paints labeled "latex" or "cleans with water"	(251)	37	35	14	6	8
Rinse out paint brushes inside the house	(251)	35	25	14	16	10
Use an organic or green-friendly pesticide or fertilizer	(331)	15	25	29	18	13
Stop yourself from using pesticides/herbicides	(331)	14	27	20	22	17
Stop yourself from using fertilizer	(331)	14	13	17	33	23
Average of these 8 behaviors	(2188)	38	24	14	15	10

Positive behaviors help ensure clean stormwater; Negative behaviors contribute to polluted stormwater.

* Sample size for each activity based on those respondents who engage in that activity (i.e., 90 of 402 respondents change their own motor oil at home, 183 have a dog, 246 buy paints, and 332 have a yard or garden).

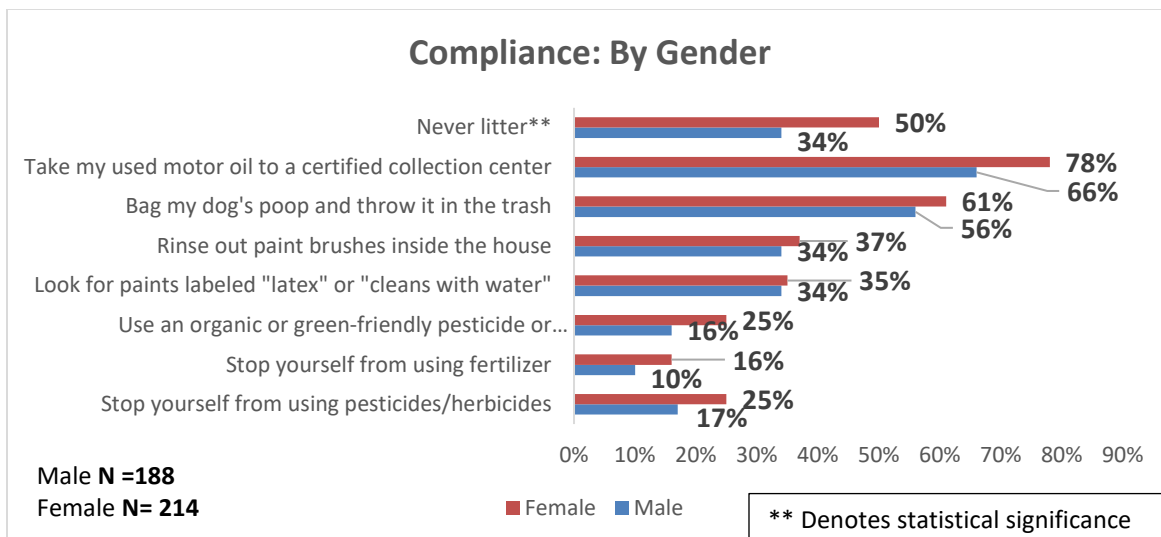
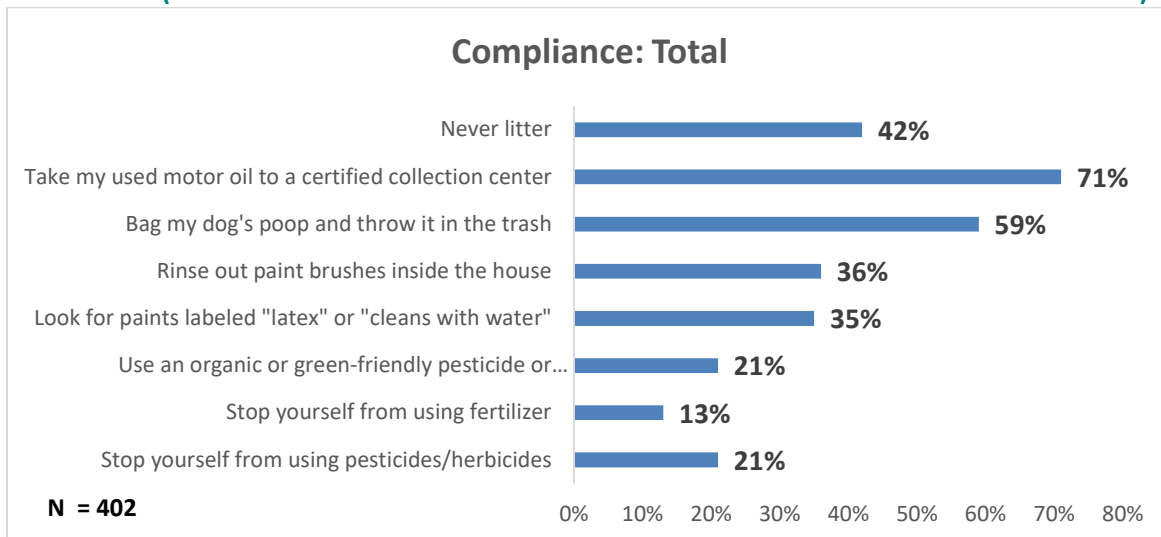
- Q. *Do you take your used motor oil to a certified collection center or do you throw it in the trash instead?*
- Q *Regardless of where your dog poops, do you bag your dog's poop and throw it in the trash?*
- Q *About how often do you litter?*
- Q *Of all the times you buy paints, how often do you look for paints labeled "latex" or "cleans with water"?*
- Q *Do you rinse out paint brushes inside the house, or do you freely rinse out paint brushes outside?*
- Q *Of all the times you need to use pesticides or fertilizer in your yard or garden, how often do you use an organic or green-friendly pesticide or fertilizer in your yard or garden instead?*
- Q *Of all the times you need to control pests or weeds outdoors, how often do you stop yourself from using pesticides/herbicides?*
- Q *Of all the times you need to use fertilizer in your yard or garden, how often do you stop yourself from using fertilizer in your yard or garden?*

2. Men continue to be more likely to engage in negative behavior that risks clean stormwater in the Sacramento area by their significantly greater use of fertilizer, pesticides/herbicides, and non-organic versions of these products. Younger people 18-34 years are less compliant when it comes to changing their motor oil, shopping for latex paints, or never littering. Older people age 55+ are much more likely to look for latex paints and properly dispose of their pet's waste.

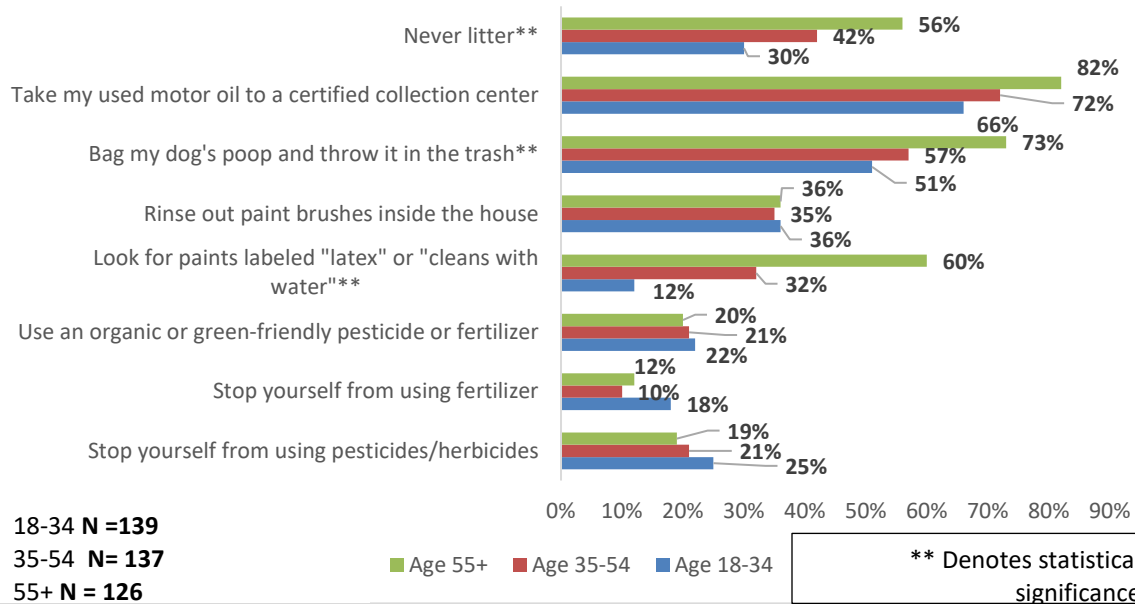
The campaign has been especially effective with low to moderate income households. In 2014, income did not affect compliance. Wealthier and less wealthy households were equally likely to engage (or not engage) in these actions. Now in 2016, low to moderate income households display greater compliance when it comes to the campaign-related behaviors of not using pesticides/herbicides or using organic versions of these products.

- While speculative, two explanations for wealthier households being more resistant to the desired behaviors regarding pesticide/herbicide usage are 1) they have larger landscapes, lawns, and gardens, and therefore are more invested in protecting and cultivating them in traditional ways and 2) they are more likely to use contractors to tend to their property and therefore are less involved in the decision process.

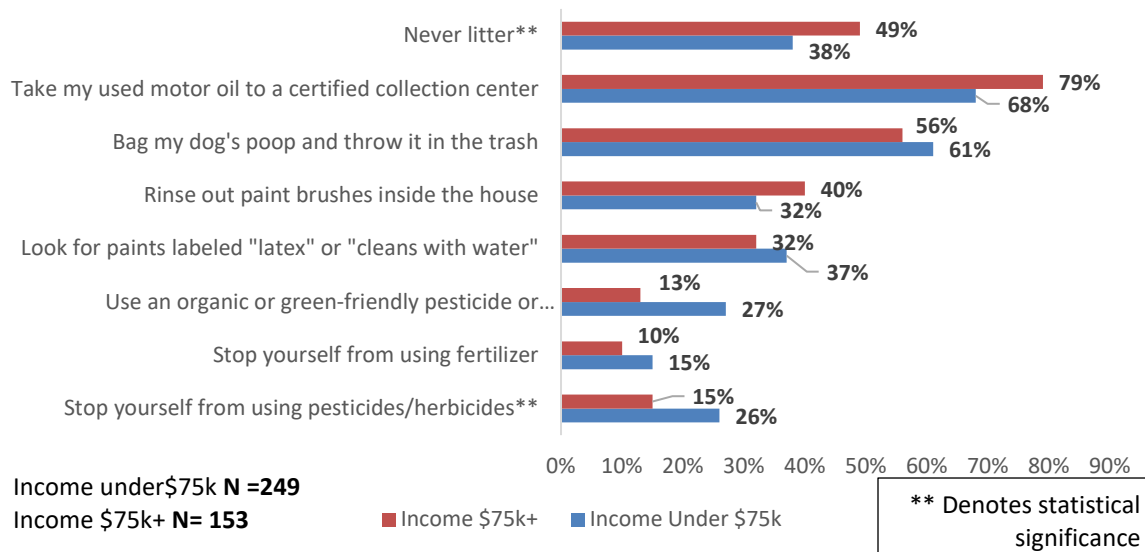
**FULL COMPLIANCE WHEN DOING ACTIVITY - BY GENDER, AGE & HOUSEHOLD INCOME
(% WHO ENGAGE IN POSITIVE ACTIONS -- AMONG THOSE ENGAGED IN ACTIVITY)**



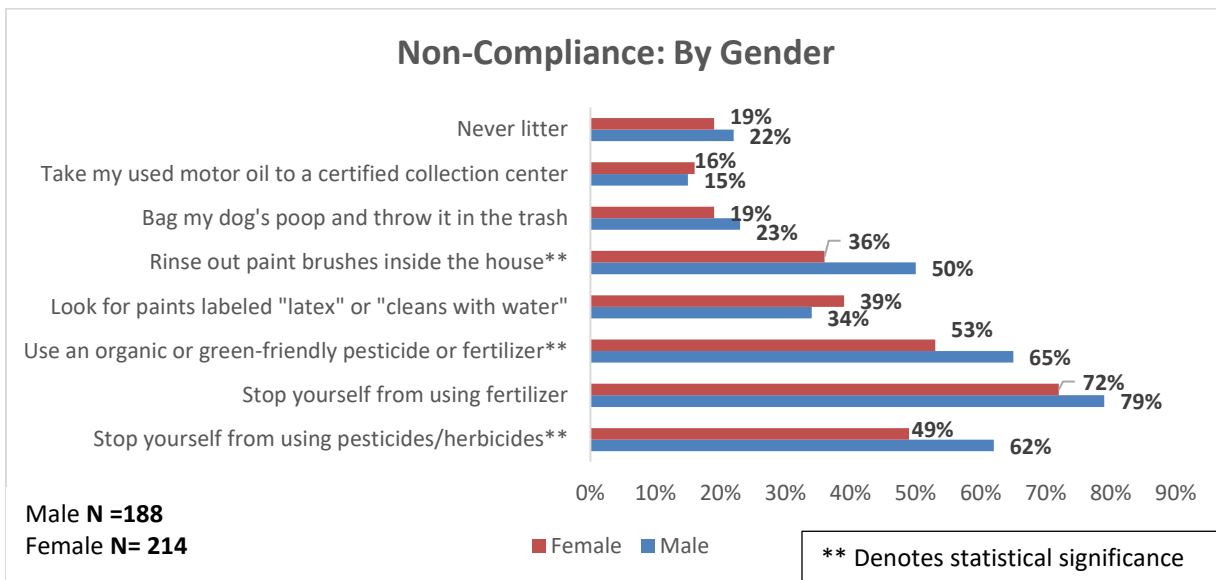
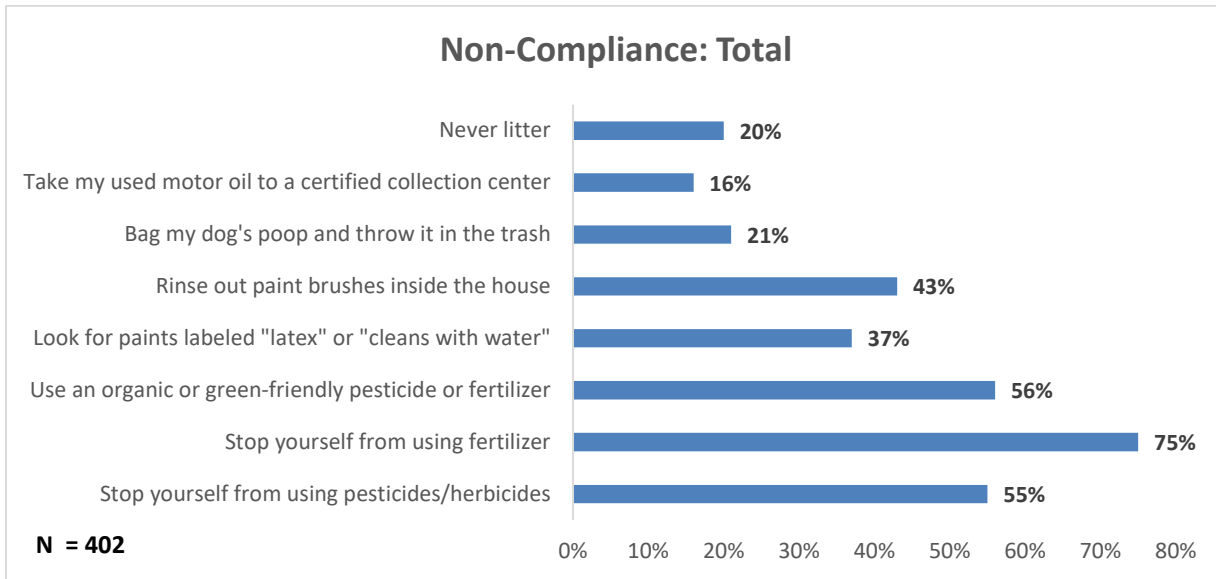
Compliance: By Age



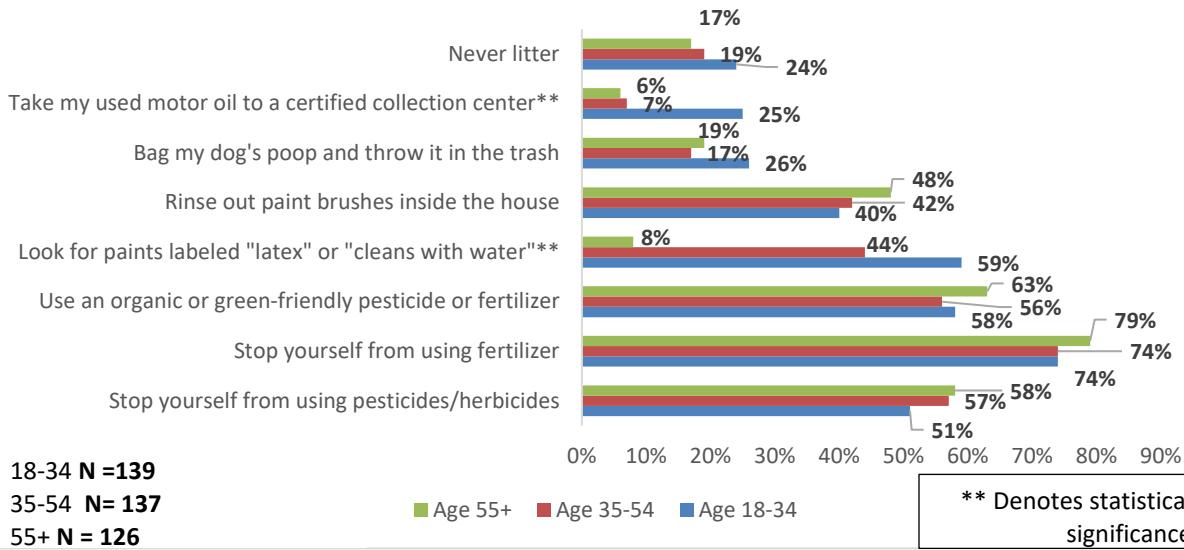
Compliance: By Income



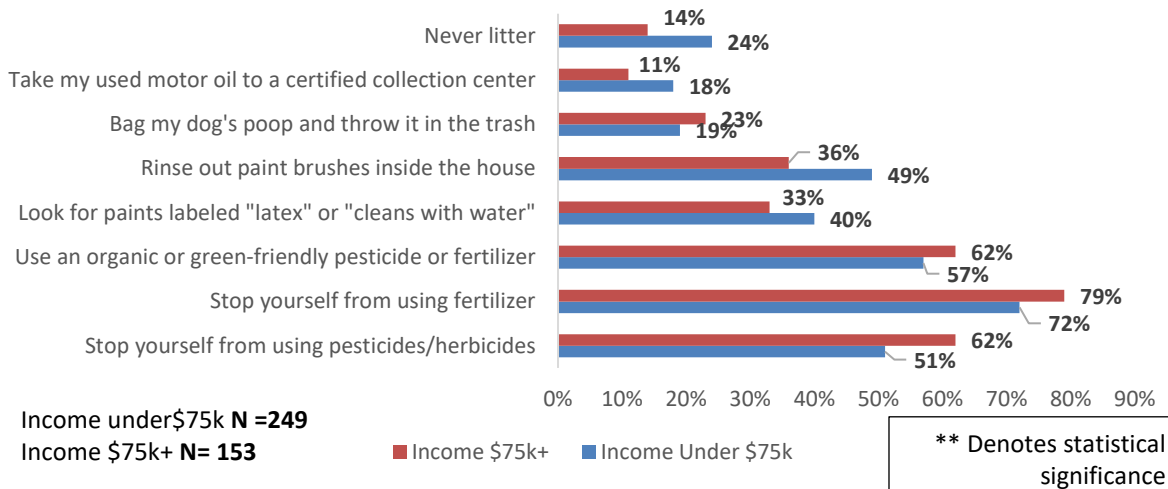
**NON-COMPLIANCE WHEN DOING ACTIVITY - BY GENDER, AGE & HOUSEHOLD INCOME
(% ENGAGES IN NEGATIVE ACTIONS – Among Those Engaged in Activity) – AT LEAST SOMETIMES**



Non-Compliance: By Age



Non-Compliance: By Income



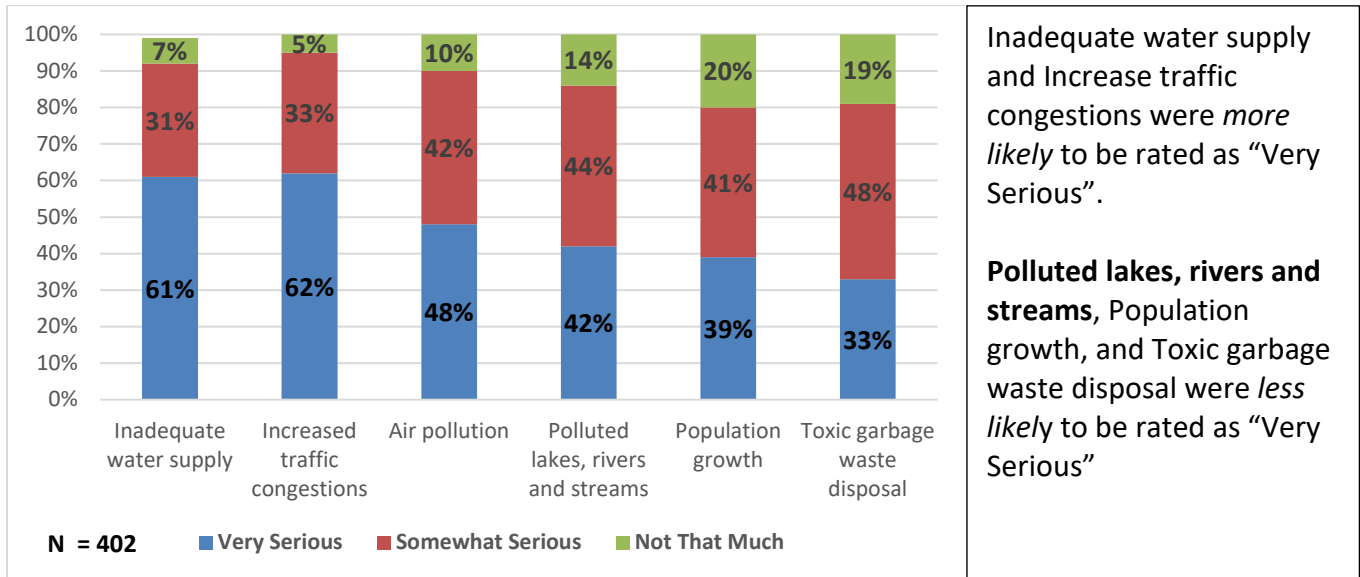
PERCEPTIONS ABOUT STORM DRAINS & THE THREAT TO SACRAMENTO:

- Of six environmental concerns, Sacramentans continue to rank polluted lakes, rivers, and streams 4th in terms of how critical an issue it is to the area. Water supply, traffic congestion, and air pollution are considered more pressing, just as they were in 2014. Population growth and toxic waste disposal are considered less pressing. Nevertheless, four in ten (42%) consider polluted waterways a "very serious" threat and another 44% say it is "somewhat serious".
 - Increasing traffic congestion has joined the water supply as the top concern (in 2014, traffic was in the second tier). Next, the public is concerned with air pollution, followed by polluted waterways, then population growth, and lastly toxic waste.

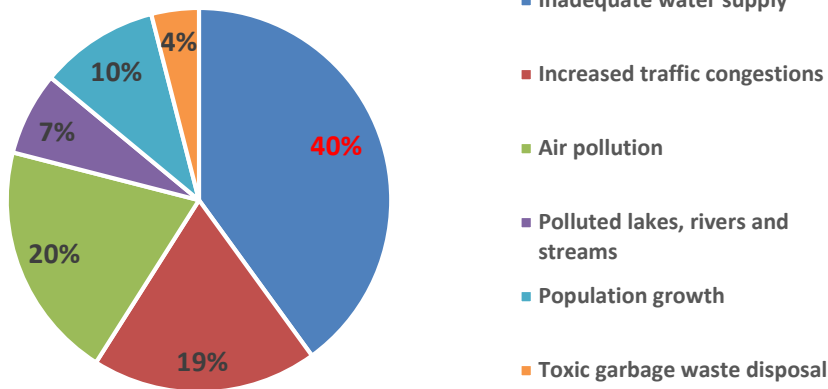
PERCEIVED THREAT TO THE SACRAMENTO AREA TODAY

	Very Serious		Most Critical Or Pressing		Top 3 Most Critical Or Pressing	
	2016	2014	2016	2014	2016	2014
	%	%	%	%	%	%
Inadequate water supply	61	62	40	44	76	75
Increased traffic congestions	62	55	19	19	63	65
Air pollution	48	46	20	18	58	60
Polluted lakes, rivers and streams	42	39	7	5	39	45
Population growth	39	36	11	9	39	32
Toxic garbage waste disposal	33	30	4	5	25	24
N =	(402)	(411)	(402)	(411)	(402)	(411)

PERCEIVED THREAT TO THE SACRAMENTO AREA TODAY – WAVE 2



Most Critical or Pressing Issue

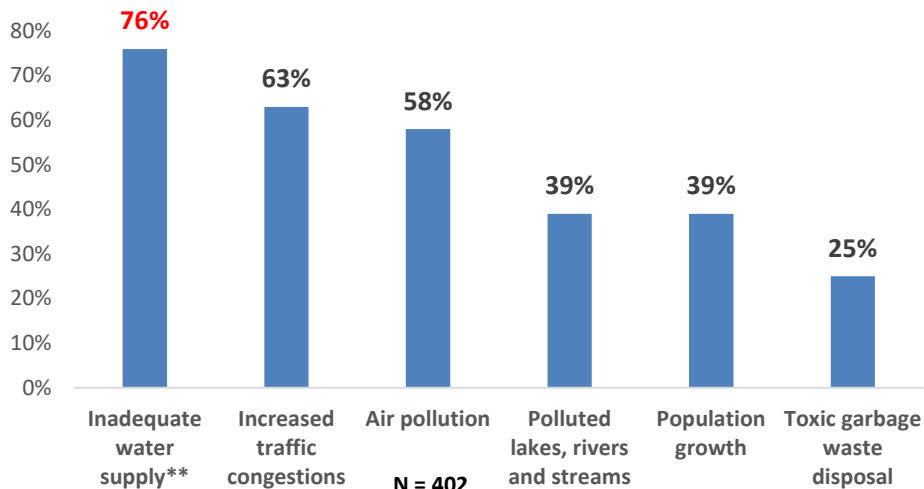


Inadequate water supply was statistically *more likely* to be rated as the most critical issue.

N = 402

** Denotes statistical significance

Top 3 Most Critical Or Pressing Issues



Inadequate water supply was statistically *more likely* to be rated in the top 3 Most Critical or Pressing Issues

Q For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the area today, or not that much of a threat to the area today.

Q Now, please rank these issues in order of how important they are to the people of the Sacramento area today.

4. Perhaps explaining why Sacramentans are only moderately concerned with polluted local waterways, pollution in local waterways is typically seen as having *somewhat* serious consequences. This is unchanged from 2014.

- More than half (54%) of residents say that pollution to Sacramento's bodies of water has *somewhat* serious consequences. The remainder are about equally likely to say the consequences are *very* serious (28%) as they are to say the consequences are not particularly serious (18%).

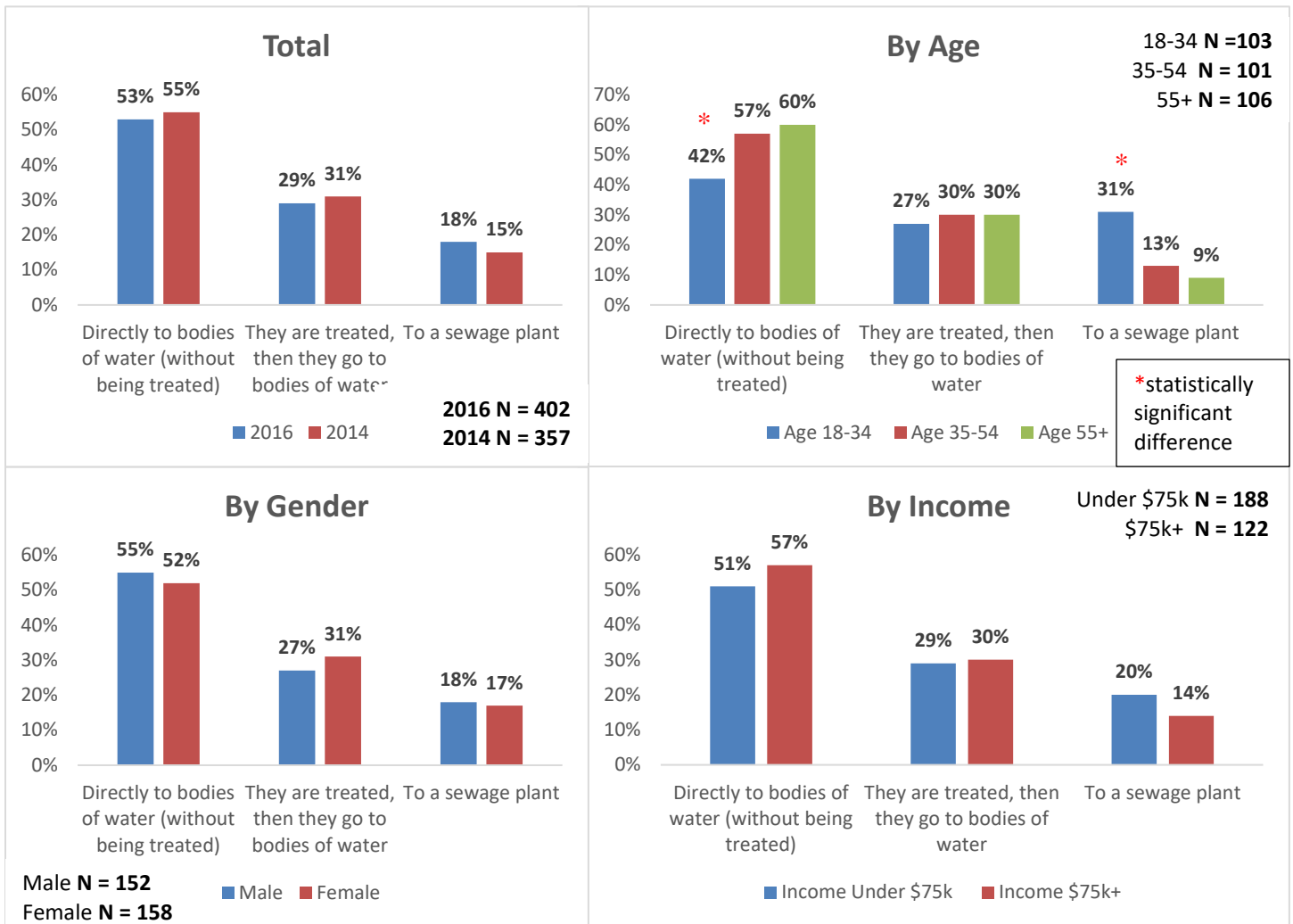
PERCEIVED SERIOUSNESS OF POLLUTION TO SACRAMENTO'S BODIES OF WATER

	2016 Total	2014 Total
	%	%
Very/Somewhat/Not That Serious	99	98
Very/Somewhat Serious	82	80
Very serious	28	23
Somewhat serious	54	56
Not that serious	17	18
Not at all serious	1	2
Not That /Not At All Serious	18	20
N =	(402)	(411)

Q *How serious of a problem do you think pollution is to Sacramento's water bodies?*

5. Five in six Sacramento County residents (82%) believe they have storm drains in their neighborhood, unchanged since 2014. Of these, only slightly more than half (53%) imagine that the drains lead directly to bodies of water without being treated. Just under one-third think the water in the drains is treated before going to bodies of water (29%) and one in six (18%) think the water goes directly to a sewage plant.
- Whereas the 2014 study found that women were more likely than men to have the misperception that stormwater is treated, this study found no such difference. Younger people 18-34 continue to be more likely to think the storm drain water goes to a sewage plant. Income continues to have no impact on these perceptions.

PERCEPTIONS ABOUT STORM DRAINS – BY GENDER, AGE & HOUSEHOLD INCOME
(Among Those Who Have Storm Drains in their Neighborhood)



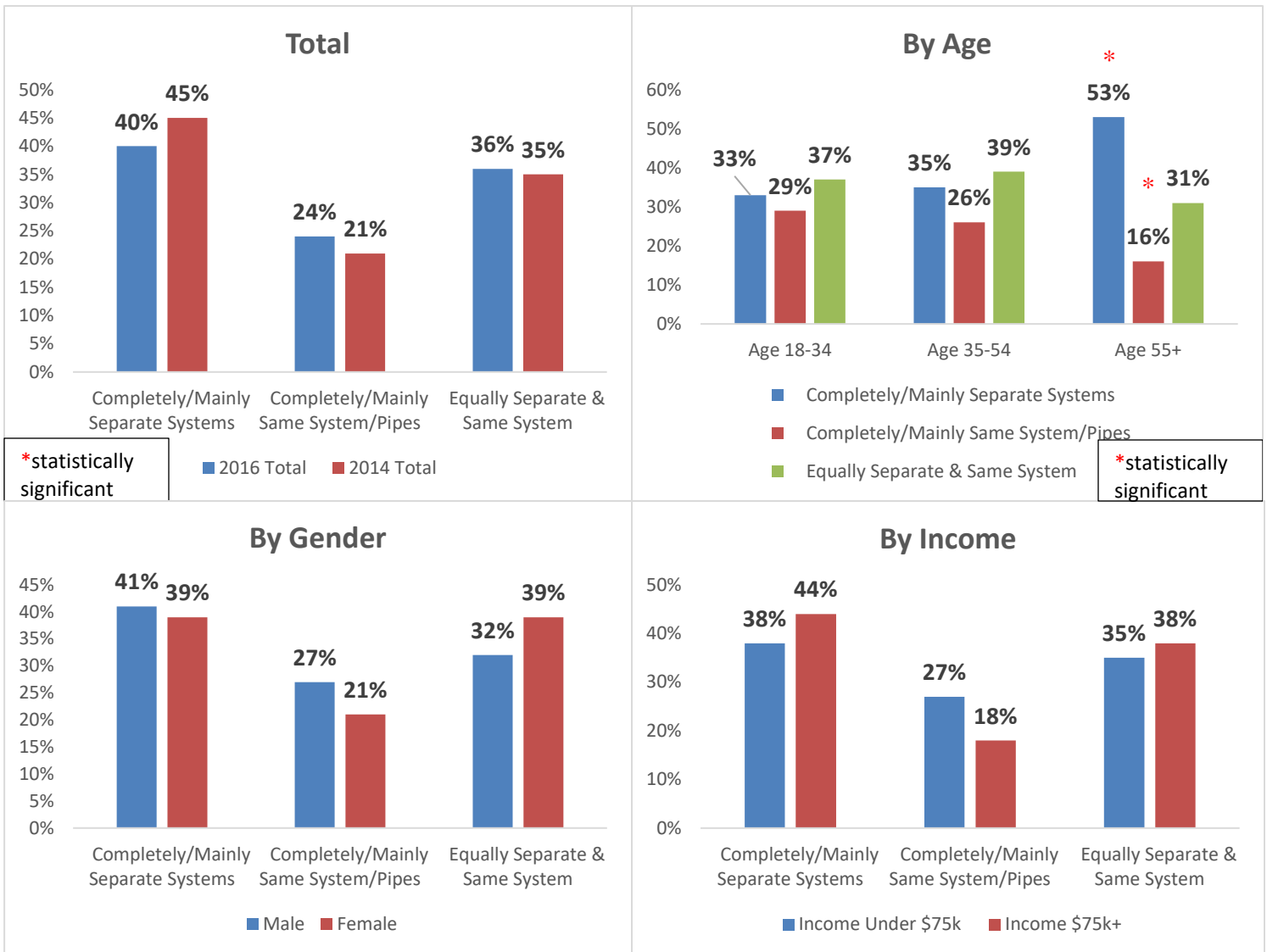
Q Do you have storm drains in your neighborhood?

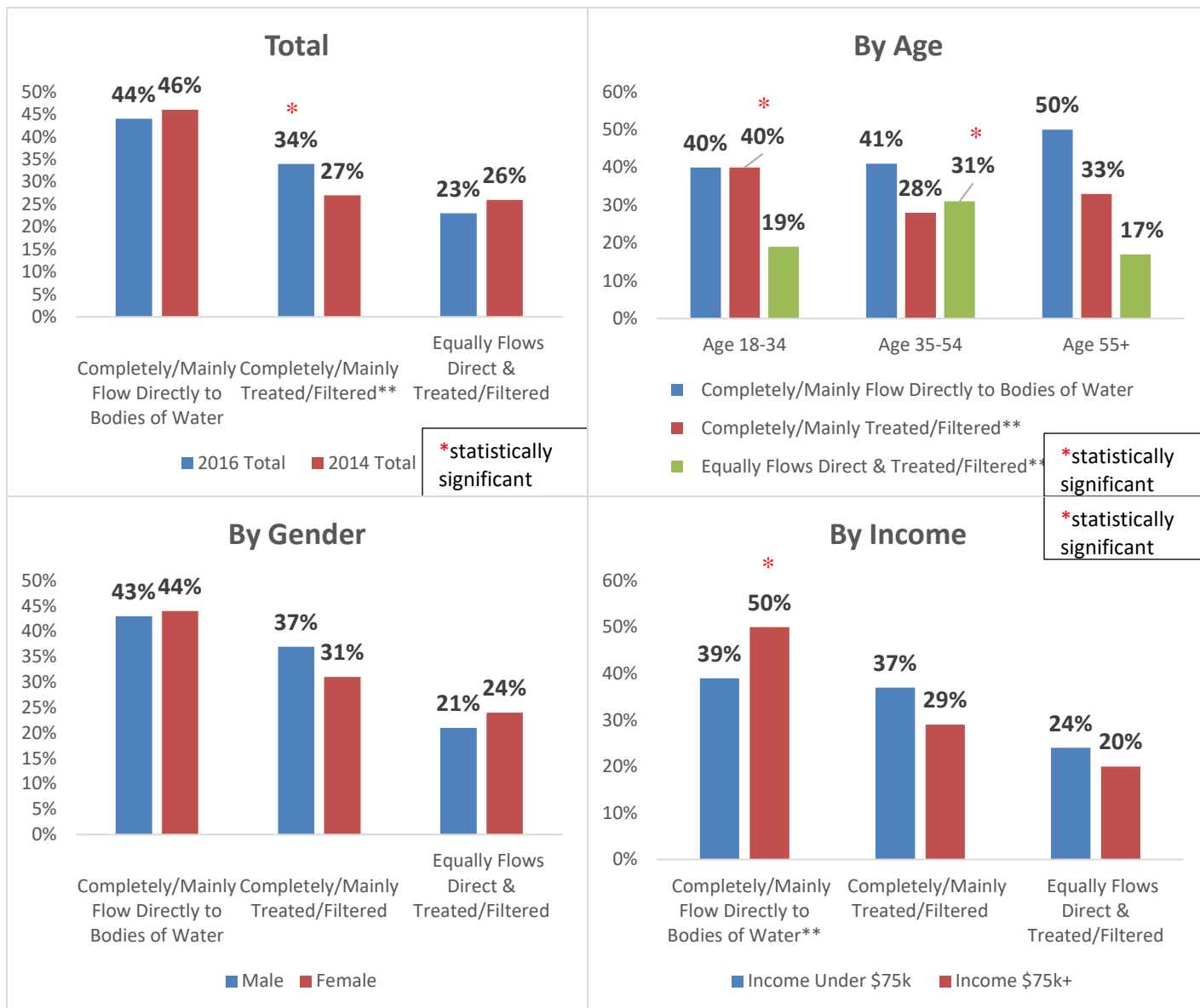
Q Thinking about the storm drains in your neighborhood, where do you think the contents of these storm drains go?

6. More Sacramento County residents falsely believe that storm drain water is treated before it reaches a body of water than had this misperception in 2014 (34% vs. 27%). Other perceptions remain constant. Among all residents, 40% believe Sacramento's storm drain and sewage treatment systems are completely/mainly separate systems or completely/mainly flow directly to bodies of water (44%). A substantial minority (23-35%) believe the storm drains are equally likely to be treated and to flow directly to bodies of water.

- The decline in accurate understanding of how the storm drain system and sewage treatment systems work may mirror the decline in efforts to educate the public about these systems. Fortunately, misperceptions about how these systems work do not result in less compliance. (See page 23).
- Higher income household members are more likely to correctly believe the storm drain and sewage systems are separate. Younger people 18-34 years are less likely to have these beliefs.

UNDERSTANDING OF SACRAMENTO'S STORM DRAIN SEWER SYSTEMS – BY GENDER, AGE & HOUSEHOLD INCOME





Q Two statements are given below, one on the left and one on the right. Please read each statement and then click on the number that best describes what you think.

	2016	2014	Male	Female	Age 18-34	Age 34-54	Age 55+	Income under \$75k	Income over \$75k
N =	402	411	188	214	139	137	126	249	153

7. Water pollution in the Sacramento area is ascribed to several sources and no single source is dominant. However, more Sacramento residents today believe water running into storm drains contributes a lot to water pollution than had this belief in 2014. The contribution of litter and pet waste to water pollution is also up. A strong outdoor advertising presence in July-September 2016 for "Protect Every Drop" and involvement in events such as Pet-A-Palooza may have helped.

Motor oil and automotive fluids, industrial waste, and pesticides continue to be attributed the most blame along with littering. Almost half (46%) think the single primary cause of local water pollution is industry (20%), agriculture (18%), or sewage treatment (8%). The perceived contribution of pet waste to water pollution rose while that of paint disposal declined.

CONTRIBUTION OF SOURCES TO WATER POLLUTION IN SACRAMENTO AREA - PRE/POST

	Contributes A Lot		Primary Cause		Top 3 Causes	
	2016	2014	2016	2014	2016	2014
	%	%	%		%	
Motor oil and automotive fluids disposed outside	29	31	11	11	41	43
Industrial and manufacturing plants	27	28	20	23	44	43
Pesticides and fertilizers used in the people's yards	26	27	13	16	46	47
Paints that are not disposed of properly	22	25	1	3	19	27
Agriculture	22	23	18	17	36	36
Litter in the streets and roadways	27	22	14	8	36	32
Sewer / Waste water treatment plants	20	16	8	11	27	29
Water that runs into storm drains when it rains	21	14	9	7	29	25
People not picking up their dog's poop	18	12	4	1	17	12
N =	(402)	(411)	(402)	(411)	(402)	(411)

CONTRIBUTION OF SOURCES TO WATER POLLUTION IN SACRAMENTO AREA – WAVE 2

	Contributes A Lot	Contributes At Least Moderately	Contributes At Least A Little	Primary Cause	Top 3 Causes
Motor oil and automotive fluids disposed outside	29	60	85	11	41
Industrial and manufacturing plants	27	57	85	20	44
Pesticides and fertilizers used in the people's yards	26	59	87	13	46
Paints that are not disposed of properly	22	49	80	1	19
Agriculture	22	50	83	18	36
Litter in the streets and roadways	27	60	87	14	36
Sewer / Waste water treatment plants	20	43	74	8	27
Water that runs into storm drains when it rains	21	42	76	9	29
People not picking up their dog's poop	18	40	70	4	17
N = (402)					

Q How much do you think each of the following contributes to water pollution in the Sacramento area? Please answer from 1 to 5 with a "5" being "a lot" and 1 being "not at all".

Q If you had to guess, what would you say are the three major causes of water pollution in the Sacramento area? Type a "1" next to the primary cause, a "2" next to the second most cause, and a "3" next to the third most cause.

ADVERTISING & MESSAGING RECALL:

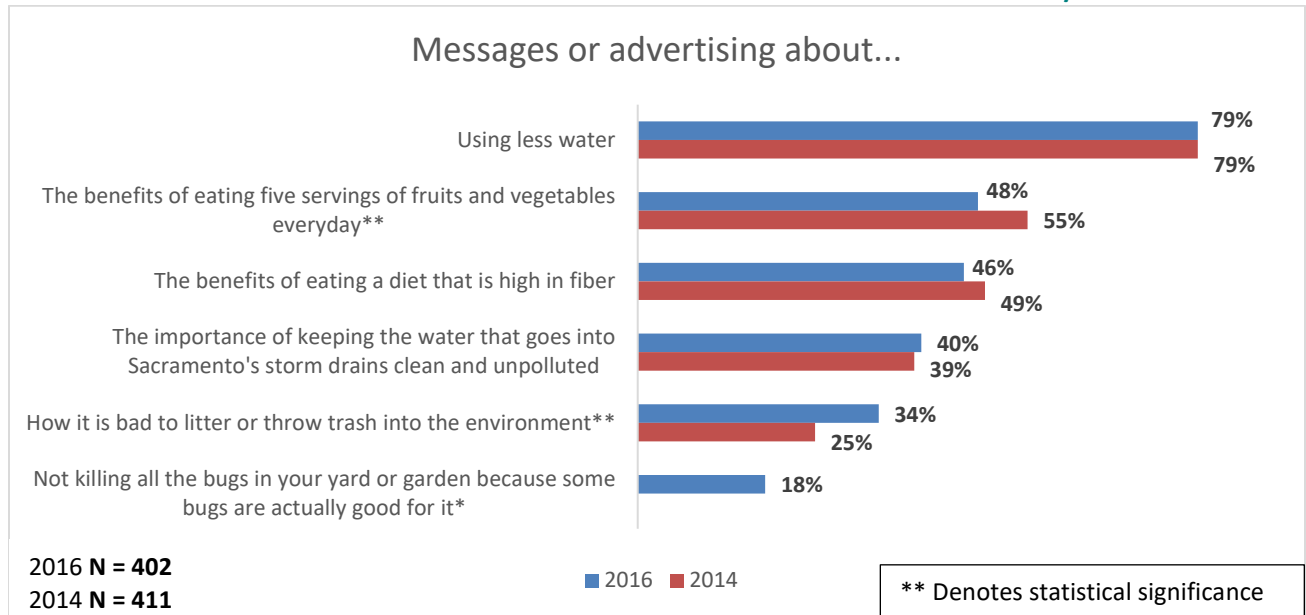
8. Significant inroads into public awareness of messages or advertising have been made since the launch of "Some Jeepers Are Keepers". However, and not surprisingly, recall of messages about not killing all the bugs in your yard or garden because some are actually good for it lags behind recall of other long-standing public service messages and advertising.

At the same time, and likely because it has not been a direct focus of the campaign, recall of messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted has not increased. Fortunately, it has remained steady despite the focus of the campaign on insecticide. Although public service messages or advertising about using less water predominate, four in ten (40%) continue to say they recall messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

Perhaps as a result of Caltrans' "Protect Every Drop" campaign, recall of anti-litter messages increased since 2014 (up from 25% to 34%).

- On the whole, recall of four other public service messages asked about in the survey remained the same, one increasing and one decreasing.
- It is unknown how much of the level of recall is false recall. Typically this is 5-10% of the public. On one level, the "some bugs are good" recall level (18%) is encouraging but at the same time the 22%-point and 61%-point gap behind it and messages about keeping storm drains clean and about water conservation (18% vs. 40% vs. 79%) shows that the SSQP's new message has room for growth.

RECALL PUBLIC SERVICES MESSAGES OR ADVERTISING CAMPAIGNS – PRE/POST

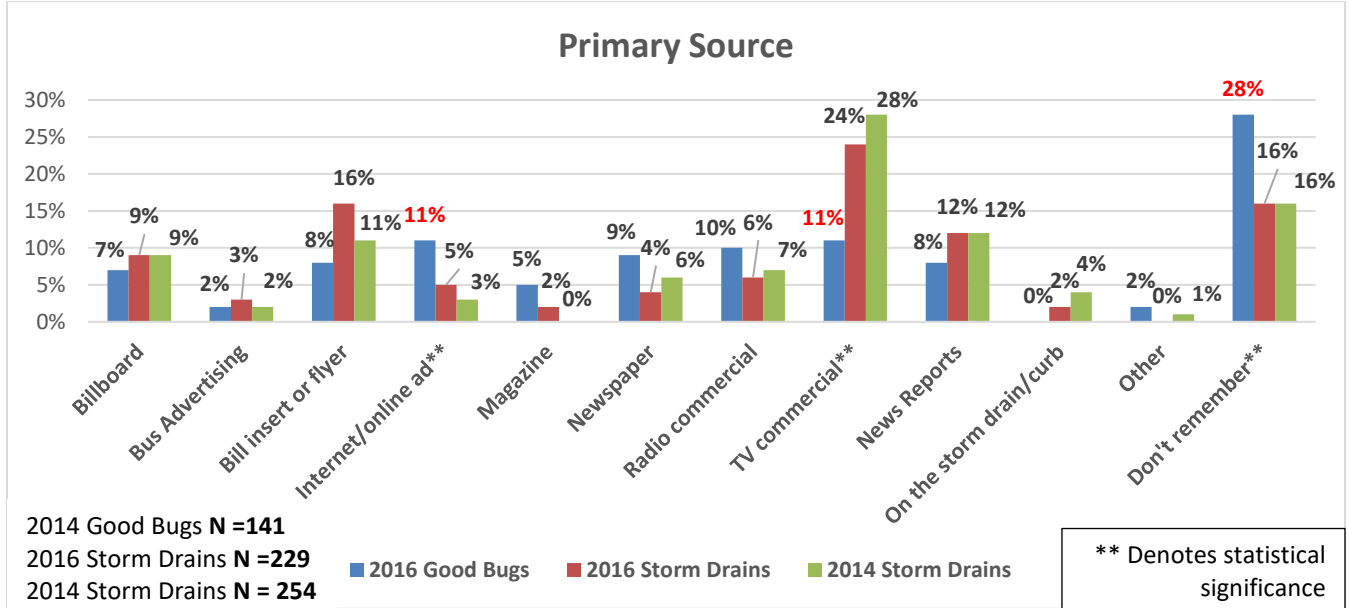


* Not asked about in the pre-wave, but assumed to be <10% in 2014 and to have statistically significantly increased as indicated by lighter red box.

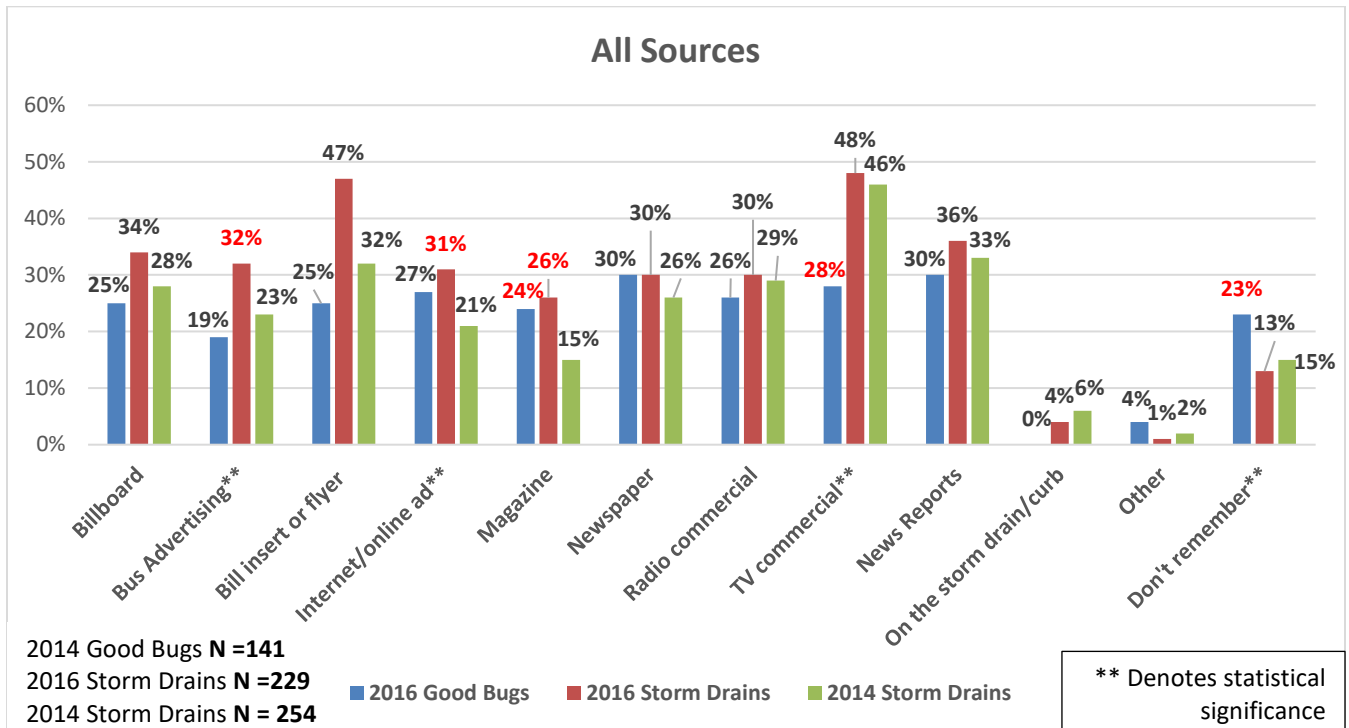
Q *In the past six months, do you recall reading, seeing or hearing any....*

9. Sacramento residents cite several sources for their recall of messages about not killing all the bugs/some are actually good, with no single source being particularly dominant. Internet is more prevalent as a source relative to storm drain messaging, while TV advertising is less likely to be cited. Many people do not remember where they heard or saw such messaging.

**SOURCE OF RECALL OF MESSAGES – PRE/POST
(Among Those Who Recall Messages or Advertising)**



NOTE: "Good Bugs" refers to advertising or messages about not killing all the bugs in your yard or garden because some bugs are actually good for it. "Storm Drains" refers to advertising or messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.



Q Where did you read, see or hear these messages?

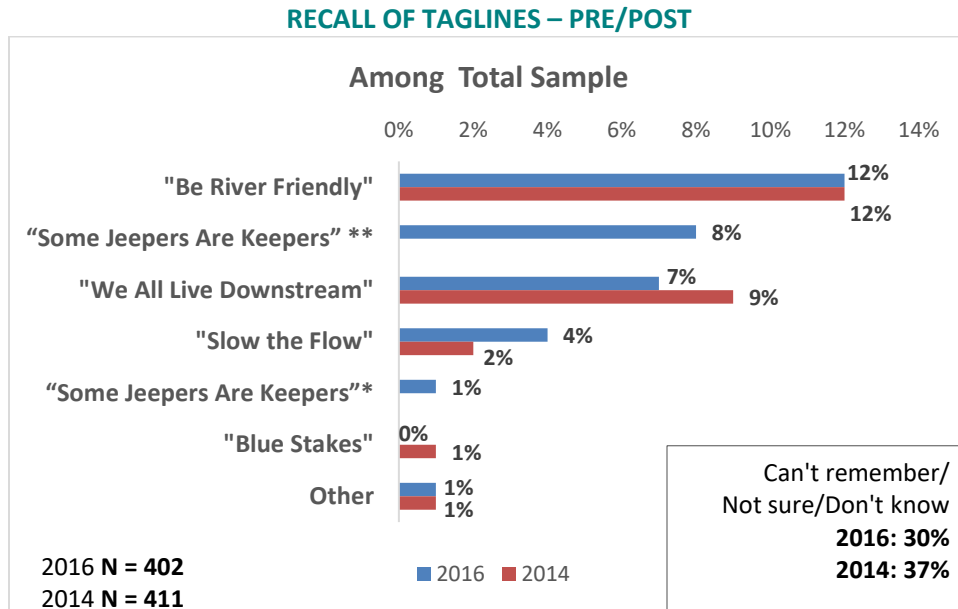
10. As in 2014, no single creative element of storm drain advertising is consistently played back. Recall of specific messages or creative elements about keep Sacramento's storm drains clean is very general. There is little volunteered connection between storm drain advertising and advertising about not killing all the bugs in your yard or garden because some bugs are actually good for it.

**MESSAGES OR ELEMENTS RECALLED ABOUT ADVERTISING
FOR KEEPING STORM DRAINS CLEAN AND UNPOLLUTED – WAVE 2**

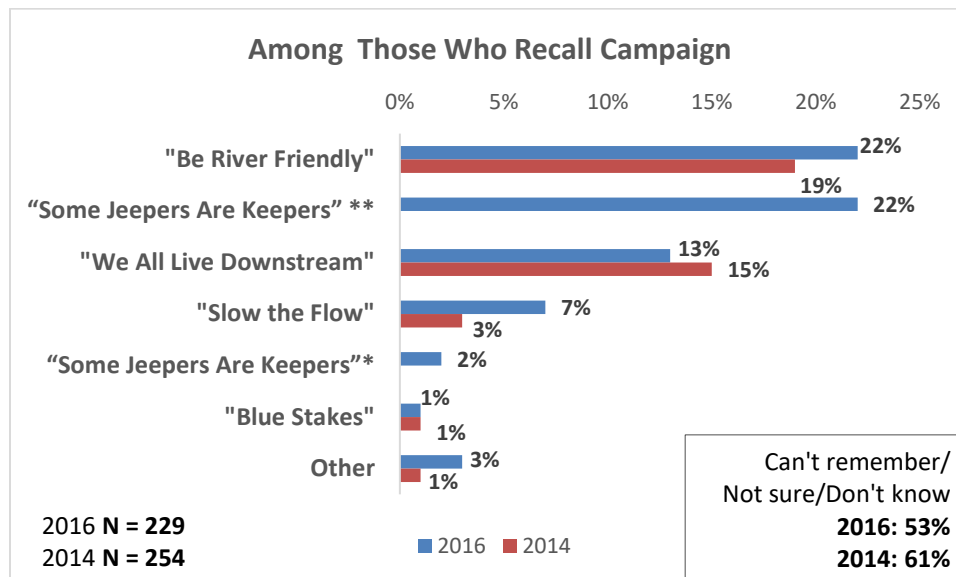
	Total Recall	Main Message Recall
	%	%
Being Environmentally Responsible (NET)	53	74
Specific to Clean Water (SUBNET)	48	51
Keep Storm Drains Clean (SUB-SUBNET)	19	15
Keep storm drains free from trash/debris/waste	10	6
Keep storm drains clean	5	3
Be careful what you put in drains/storm drains	3	3
Removing trash/debris from storm drains prevents flooding	3	3
Water from storm drains goes directly into the rivers/lakes/ocean	14	10
Proper Disposal of Toxic Waste/Chemicals/Pollutants (SUB-SUBNET)	13	16
Don't dump oil down storm drains	7	3
Keep pollutants out of drains n.s.	3	10
Stormwater drainage affects/can kill fish/wild life	7	7
Keep our water clean	3	6
Not Specific to Clean Water (SUBNET)	5	24
Creative Ad Recall (NET)	22	1
Visual (SUBNET)	15	0
Recall message near storm drain	5	0
Remember seeing picture of drain	5	0
Remember a fish	4	0
Type of Creative (SUBNET)	7	1
Other media mentions (TV, radio, online)	3	0
Nothing/NA	16	13
Don't know	14	11
N =	(229)	(229)

- Q *What do you remember about the advertising about keeping storm drains clean and unpolluted?*
Q *What was the one main message that this advertising told you?*

11. Recall of the "Some Jeepers Are Keepers" tagline has approached that of residual recall of "Be River Friendly". Twelve percent (12%) of residents recall "Be River Friendly" on an aided basis versus 8% for "Some Jeepers Are Keepers". Another 7% recall "We All Live Downstream".
- These proportions are higher when examining only those who recall the campaign and "Some Jeepers Are Keepers" matches the "Be River Friendly" among residents who recall each respective campaign.



* In reference to storm drain advertising.
** In reference to good bugs advertising.



- Q What was the specific tag line used in the advertising about keeping storm drains free from pollution?
- Q What was the specific tag line used in the advertising about not killing all the bugs in your yard or garden because some bugs are actually good?

12. Despite the gains in recall and awareness of “Good Bug” advertising, residents of Sacramento are less likely to say that it has influenced their behavior than has storm drain advertising. However, an examination of actual behavior (as reported by their compliance level, either not using pesticides or using organic pesticides) reveals that those who are at least partially compliant ascribe significantly greater influence to the advertising. (See page 6).

PERCEIVED INFLUENCE OF ADVERTISING – PRE/POST

	Among The Total Sample			Among Those Who Recall Campaign		
	2016 Good Bugs	2016 Storm Drains	2014 Storm Drains	2016 Good Bugs	2016 Storm Drains	2014 Storm Drains
		%	%	%	%	%
Yes	10	21	22	30	37	35
Yes, but just a little	10	17	14	28	30	23
Maybe a little bit, but not really	6	10	15	18	18	24
No	9	9	11	24	15	17
Don't recall campaign	65	43	38	NA	0	0
N =	(141)	(402)	(411)	(141)	(229)	(254)

NOTE: “Good Bugs” refers to advertising or messages about not killing all the bugs in your yard or garden because some bugs are actually good for it. “Storm Drains” refers to advertising or messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

**PERCEIVED INFLUENCE OF ADVERTISING – BY COMPLIANCE
(AMONG THOSE WHO RECALL EITHER CAMPAIGN)**

	Fully Compliant	Partially Compliant	Non- Compliant
	%	%	%
Weighted Influence*	41	45	34
Yes	32	26	23
Yes, but just a little	17	42	23
Maybe a little bit, but not really	17	16	11
No	12	7	15
Don't recall campaign	33	23	35
N =	(100)	(57)	(175)

NOTE: Fully Compliant refers to residents who either never use pesticides or always use organic pesticides. Partially Compliant refers to residents who sometimes stop using pesticides or sometimes use organics. Non-complaint always use pesticides and never organic pesticides.

* Weighted Influence is calculated by multiplying the percentage of respondents in each influence level (e.g. yes, yes but just a little etc.) by a coefficient as follows: Yes = 1, Yes, but just a little = 0.4, Maybe = 0.1, No/Don't recall = 0, and then summing up the results by compliance level.

Q *Having seen or heard this advertising, do you think it has influenced you at home?"*

IMPROVING COMPLIANCE:

13. Likelihood of complying with each of six potential ways of keeping local waterways clean was asked. Interest in both of the ways related to the use of pesticides has increased since 2014. While the increase is not statistically significant, together they represent an 11%-point gain, while the other four ways remained on average constant.

Eight in ten (79%) now say they would follow instructions before using pesticides or fertilizers, up from 73%, and over half (54%) say they would use less toxic pesticides or herbicides, up from 49%.

- In addition to the “Some Jeepsers Are Keepers” campaign, “Protect Every Drop” and Pet-A-Palooza may have helped boost positive behaviors.

**LIKELIHOOD OF TAKING THIS ACTION IF
SAW MESSAGES THAT IT HELPS KEEP LOCAL WATERWAYS CLEAN – PRE/POST**

Absolutely / Almost Always Would Take This Action:	2016	2014	N=
	%	%	2016
Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash	79	71	(183)
Instead of guessing how to apply pesticides or fertilizers, you would need to always read the instructions before using them and then follow those instructions exactly	79	73	(332)
Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.	63	65	(246)
If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks	61	63	(402)
Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic	54	49	(332)
If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster	45	41	(402)

- Scooping up pet waste and reading instructions on pesticides and fertilizers receive the greatest interest, while buying less toxic pesticides/herbicides and properly disposing of fluorescent bulbs receive the least interest.

**LIKELIHOOD OF TAKING THIS ACTION IF
SAW MESSAGES THAT IT HELPS KEEP LOCAL WATERWAYS CLEAN – WAVE 2**

Would Take This Action:	Absolutely Always	Absolutely Almost Always	Absolutely Always/ Almost Always/ Probably Usually
	%	%	%
Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash	58	79	92
Instead of guessing how to apply pesticides or fertilizers, you would need to always read the instructions before using them and then follow those instructions exactly	52	79	92
Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.	37	63	80
If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks	37	61	84
Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic	29	54	83
If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster	26	45	62

Q If you saw messages that explained how you could help keep local waterways clean simply by adopting that new behavior, how likely would you be to always take that action?

14. As part of this survey analysis, each respondent's level of compliance across two pesticide-related behaviors was calculated. Respondents were then classified into three groups:

- *Fully Compliant* refers to residents who either never use pesticides or always use organic pesticides.
- *Partially Compliant* refers to residents who sometimes stop using pesticides or sometimes use organics.
- *Non-compliant* always use pesticides and never organic pesticides.

Women are significantly more compliant than are men. Low to moderate income households tend to be more compliant, as are those who live in a townhouse or condominium. This may in part be due to their having smaller gardens/yard areas to care for.

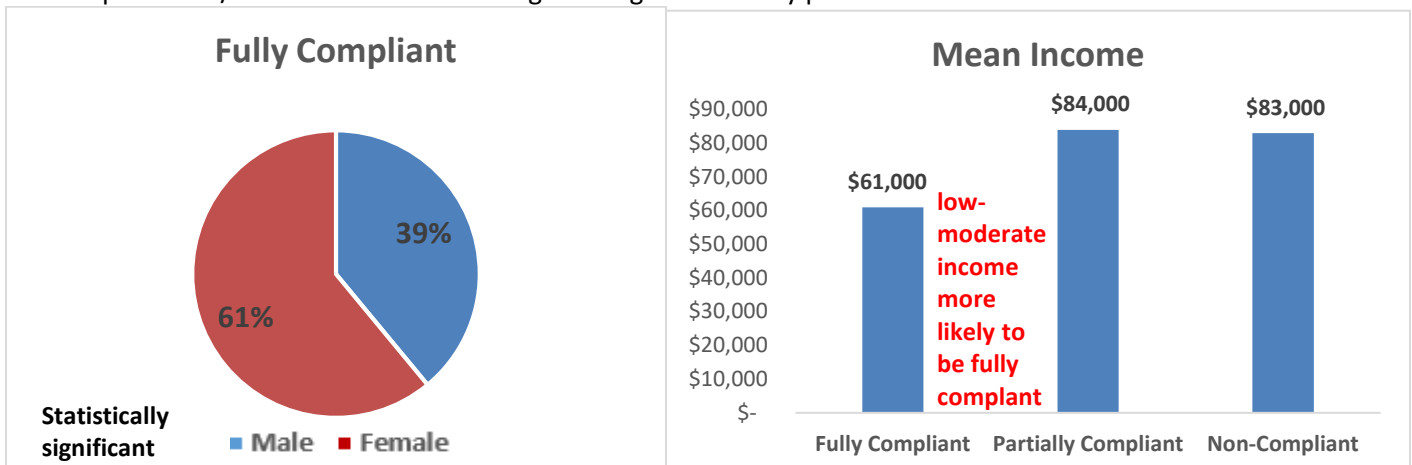
INDICATORS OF COMPLIANCE WITH PESTICIDE-RELATED USE -- CHARACTERISTICS & BELIEFS OF THE MOST & LEAST COMPLIANT RESIDENTS WAVE 2

	Fully Compliant	Partially Compliant	Non-Compliant
	%	%	%
Male	39	47	53
Female	61	53	47
Mean Income	\$61K	\$84K	\$83K
Live in a Single Family Home	84	93	94
Live in a Townhouse, Condo, Apt.	16	7	6
N =	(100)	(57)	(175)

“Fully Compliant” are people who responded that they always “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilizer”

“Partially Compliant” are people who responded that they usually or sometimes “stop [themselves] from using pesticides/herbicides” and “use an organic or green-friendly pesticide or fertilizer”

“Non-Compliant” are people who responded that they usually do not or never “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilize”



15. Beliefs about the seriousness of the threat to the area's waterways is instrumental in promoting behaviors that help keep storm drains clean. Many Sacramentans do not believe that polluted waterways pose a serious threat to Sacramento. However, the degree that a person believes that polluted lakes, rivers, and streams poses a serious threat to Sacramento, the more likely they are to engage in behaviors to ensure clean stormwater.

Beliefs about the way the storm drainage system functions separately from the sewage system has limited impact on compliance. The public does not seem to think much about the storm drainage infrastructure. Perception that the drains go directly to bodies of water without being treated generally does not lead to greater compliance. The belief that sewage and storm drains are separate systems does not generate more compliance. This reinforces the decision to focus on other messages. The public simply needs to know that bad stuff goes through the storm drainage system and ends up in Sacramento's waterways.

Nevertheless, advertising can and does work. Recall of public service messages or ad campaigns about not killing all the bugs is strongly associated with full or partial compliance. Recall of public service messages or ad campaigns about keeping the water that goes into Sacramento's storm drains clean and unpolluted is also strongly associated with positive behavior.

INDICATORS OF COMPLIANCE—CHARACTERISTICS & BELIEFS OF THE MOST COMPLIANT & LEAST RESIDENTS

	Fully Compliant	Partially Compliant	Non-Compliant
	%	%	%
Believe Polluted Lakes Rivers & Streams			
Is "A Very Serious Threat"	57	28	35
Is "A Somewhat Serious Threat"	36	56	45
Is "Not That Much of a Threat"	7	16	20
Think drains almost completely/mainly go directly to bodies of water (without being treated for pollutants, etc.)	56	44	58
Think storm drain & sewer systems are almost completely/mainly separate systems	42	35	40
Recall public service messages or ad campaigns about not killing all the bugs in your yard or garden because some bugs are actually good for it	22	30	16
Recall public service messages or ad campaigns about keeping the water that goes into Sacramento's storm drains clean & unpolluted	42	53	41
Advertising has influenced behavior at home (total sample)	32	26	23
Advertising has influenced behavior at home (among those that recall)	48	34	36
N =	(100)	(57)	(175)

“Fully Compliant” are people who responded that they always “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilize”

“Partially Compliant” are people who responded that they usually or sometimes “stop [themselves] from using pesticides/herbicides” and “use an organic or green-friendly pesticide or fertilizer”

“Non-Compliant” are people who responded that they usually do not or never “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilize”

CONCLUSIONS & IMPLICATIONS:

1. The "Some Jeepers Are Keepers" campaign has been successful in both reducing Sacramento County residents' use of pesticides and in increasing their use of organic/non-toxic pesticides.
 - These areas were identified as most important in 2014 and this research confirms the benefit of this strategic focus.
2. Advertising has led to greater compliance among Sacramento residents. Continue to advertise to the public. The campaign is working.
3. There is room for further growth when it comes to the public's awareness that not all bugs are bad and to lower their killing of them.
 - While a gap exists compared to other long-established campaigns, this is a relatively new campaign and the inroads made in just two years suggest that it can attain even higher levels.
4. The campaign has not impacted other behaviors that contribute to poorer stormwater quality. There remains an opportunity for improvement for Sacramento County residents to engage in other behaviors that also help maintain clean stormwater.
5. In addition to reducing pesticide usage, an analogous campaign opportunity exists to focus on reducing fertilizer and herbicide usage and encouraging organics/non-toxics.
6. After fertilizer/herbicide usage, getting residents to shop for latex "clean with water" paints and to rinse their paintbrushes indoors is most important.
7. While certainly detrimental and worth addressing, a focus on convincing the public to take their used motor oil to a certified collection center, or to bag their dog's poop, or to never litter is bound to be less impactful because residents are more likely to already engage in these positive behaviors.
8. Continue to focus more on behavior-change messages rather than how the system works.
9. Target men with messages about fertilizer, pesticide, herbicide, organics and non-toxics. Target younger residents age 18 to 34 with messages that encourage them to look for latex or "clean with water" paints, to properly change their motor oil, and to litter less often.
10. Consider extra emphasis on higher income households who may be more emotionally invested in traditional staunch garden and landscape maintenance or less involved in actual maintenance. Find ways to reach and impact these residents to take initiative.
11. This research confirms the effectiveness of Internet advertising as a media choice for this campaign. Online messages are getting through.
12. Recognize that there are synergies with Caltrans' "Protect Every Drop" and other campaigns.
13. Communicate that pollution to Sacramento's lakes, rivers and streams poses a very severe threat to the area. The public still needs to be convinced of the serious consequences of polluted local waterways. Messaging does not need to explain how the water system works.

APPENDIX

QUESTIONNAIRE

QUESTIONNAIRE

SECTIONS IN RED WERE ADDED FOR WAVE 2.

(DISABLE BACK BROWSER BUTTON. HALF OF INVITATIONS SHOULD BE SENT TO MALE HEAD OF HOUSEHOLD, HALF TO FEMALE HEAD OF HOUSEHOLD. DESCRIBE THE SUBJECT MATTER OF SURVEY AS: "living in Sacramento County.")

A1. Are you....

1. Male
2. Female

A2. Which of these groups includes your age?

1. Under 18
2. 18-24
3. 25-34
4. 35-44
5. 45-54
6. 55-64
7. 65 or over

IF "1", TERMINATE. GET A MIX OF AGES.

A3. Considering the income of all members of your household, which category best describes your total annual household income before taxes?

1. Less than \$20,000
2. \$20,000 to \$29,999
3. \$30,000 to \$39,999
4. \$40,000 to \$49,999
5. \$50,000 to \$59,999
6. \$60,000 to \$74,999
7. \$75,000 to \$99,999
8. \$100,000 to \$149,000
9. \$150,000 or more

GET A MIX OF INCOMES.

B1. Do you live in California?

1. Yes
2. No → TERMINATE.

B2. Which of these metropolitan areas do you live in or near? (READ LIST, BEGINNING WITH DMA BASED ON AREA CODE. RECORD ONE:)

- Los Angeles-Orange County 1
- San Bernardino-Riverside 2
- San Francisco-Oakland-San Jose..... 3
- San Diego..... 4
- Sacramento 5
- Fresno..... 6
- Bakersfield..... 7
- Some other area of California 8

TERMINATE IF ANSWER IS NOT "5".

B3. Our survey today is only for people who live in a certain geographic area. Can you please tell us the ZIP code of where you live so we can determine if you live in the right area.

ENTER 5-DIGIT ZIP CODE: _ _ _ _ _

IF NON-QUALIFYING ZIP CODE, TERMINATE.

C1. Do you live in.... (Click one:)

- 1. A single family home that you own
- 2. A single family home that you rent
- 3. A townhome or condominium that you own
- 4. A townhome or condominium that you rent
- 5. An apartment

1-Intro. Our survey is about issues that involve living in Sacramento County. Before we get to that, we have a few questions about what you normally do. On the pages that follow, you'll see a particular behavior. We want you to think about all times you might want to engage in that behavior, but then stop yourself from doing so. If it is something that you do not want to do at all, then you can indicate that too.

1.1. For example, let's take "Eat at a fast food restaurant". Of all the times you want to eat at fast food restaurant, how often do you stop yourself from eating there?

- 1. I always stop myself from eating at a fast food restaurant
- 2. I usually stop myself from eating at a fast food restaurant, but once in a while I eat there
- 3. I sometimes stop myself from eating at a fast food restaurant, but sometimes I do eat there
- 4. I usually do not stop myself from eating at a fast food restaurant – I usually eat fast food when I want
- 5. I never stop myself from eating at a fast food restaurant – I eat fast food whenever I want

ASK EACH SERIES IN Q.2-6 IN RANDOM ORDER:

2a. Do you have a yard or garden?

1. Yes
2. No → SKIP TO Q.3.

2.1. Of all the times you need to control pests or weeds outdoors, how often do you stop yourself from using pesticides/herbicides?

1. I always stop myself from using pesticides/herbicides
2. I usually stop myself from using pesticides/herbicides, but once in a while I use them to control pests or weeds
3. I sometimes stop myself from using pesticides/herbicides, but sometimes I use them to control pests or weeds
4. I usually do not stop myself from using pesticides/herbicides: I usually use them when needed to control pests or weeds.
5. I never stop myself from using pesticides/herbicides: I use them whenever I need to control pests or weeds.

2.2. Of all the times you need to use fertilizer in your yard or garden, how often do you stop yourself from using fertilizer in your yard or garden?

1. I always stop myself from using fertilizer
2. I usually stop myself from using fertilizer, but once in a while I use fertilizer
3. I sometimes stop myself from using fertilizer, but sometimes I use fertilizer
4. I usually do not stop myself from using fertilizer: I usually use fertilizer as needed
5. I never stop myself from using fertilizer – I use fertilizer whenever I need to

2.3. Of all the times you need to use pesticides or fertilizer in your yard or garden, how often do you use an organic or green-friendly pesticide or fertilizer in your yard or garden instead?

1. I always use an organic or green-friendly pesticide or fertilize
2. I usually use an organic or green-friendly pesticide or fertilizer, but once in a while I use a regular pesticide or fertilizer
3. I sometimes use an organic or green-friendly pesticide or fertilizer, but sometimes I use a regular pesticide or fertilizer
4. I usually do not use organic or green-friendly pesticide or fertilizer: I usually use regular fertilizer as needed
5. I never use organic or green-friendly pesticide or fertilizer – I use regular pesticide or fertilizer

3a. Do you ever buy household paints?

1. Yes
2. No → SKIP TO Q.4

- 3.1. Of all the times you buy paints, how often do you look for paints labeled "latex" or "cleans with water"?
1. I always look for paints labeled "latex" or "cleans with water"
 2. I usually look for paints labeled "latex" or "cleans with water"
 3. I sometimes look for paints labeled "latex" or "cleans with water"
 4. I usually do not look for paints labeled "latex" or "cleans with water"
 5. I never look for paints labeled "latex" or "cleans with water"
- 3.2. Do you rinse out paint brushes inside the house, or do you freely rinse out paint brushes outside?
1. I absolutely always rinse out paint brushes inside the house
 2. I almost always rinse out paint brushes inside the house, but once in a while do not
 3. I usually rinse out paint brushes inside the house, but sometimes I freely rinse them outside
 4. I usually freely rinse out paint brushes outside
 5. I always freely rinse out paint brushes outside
- 4a. Do you have dog?
1. Yes
 2. No → SKIP TO Q.5.
- 4.1. Regardless of where your dog poops, do you bag your dog's poop and throw it in the trash?
1. I absolutely always bag my dog's poop and throw it in the trash
 2. I almost always bag my dog's poop and throw it in the trash, but once in a while do not
 3. I usually bag my dog's poop and throw it in the trash, but sometimes I do not
 4. I usually do not bag my dog's poop and throw it in the trash
 5. I never bag my dog's poop and throw it in the trash
- 5a. Do you ever change your car or truck's motor oil at your home?
1. Yes
 2. No → SKIP TO Q.6.
 3. No, I take it somewhere to have the oil changed → SKIP TO Q.6.
- 5.1. Do you take your used motor oil to a certified collection center or do you throw it in the trash instead?
1. I always take my used motor oil to a certified collection center
 2. I usually take my used motor oil to a certified collection center, but once in a while I throw it in the trash
 3. I sometimes take my used motor oil to a certified collection center, and I sometimes throw it in the trash
 4. I usually throw it in the trash
 5. I always throw it in the trash

6. Let's face it: Almost everyone litters at least once. For example, some people litter by tossing a plastic wrapper or cigarette butt out the window of a car. About how often do you litter?

1. I never, ever litter
2. I almost never litter. It is really rare that I ever litter.
3. I hardly ever litter
4. I sometimes litter when it's unavoidable
5. I don't care about littering because it gets picked up anyways

7. Here are some different environmental issues that the people of the Sacramento area may face today and in the near future. For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the Valley today, or not that much of a threat to the Valley today.

RANDOMIZE:

1. Polluted lakes, rivers and streams
2. Inadequate water supply
3. Air pollution
4. Toxic garbage waste disposal
5. Increased traffic congestion
6. Population growth

SCALE IS:

1. A very serious threat to the Sacramento area today
2. A somewhat serious threat to the Sacramento area today
3. Not that much of a threat to the Sacramento area today

7.1. Now, please rank these issues in order of how important they are to the people of the Sacramento area today. Put a 1 next to the most critical or pressing issue, a 2 next to the next most important or pressing issue, and so on, until you've ranked them all.

- 7.2. A storm drain or storm drainage system is designed to drain excess rain and ground water from paved streets, parking lots, sidewalks, and roofs. Storm drains vary in design from small residential dry wells to large municipal systems. They are fed by street gutters on most busy roads. There are two main types of storm drain (storm sewer) inlets: side inlets and grated inlets.



- 7.3. Do you have storm drains in your neighborhood?

1. Yes
2. No
3. Don't know/Not sure

ASK IF Q.7.3 = 1:

- 7.4. Thinking about the storm drains in your neighborhood, where do you think the contents of these storm drains go?

1. To a sewage plant
2. Directly to bodies of water (without being treated)
3. They are treated, then they go to bodies of water

7.5. Two statements are given below, one on the left and one on the right. Please read each statement and then click on the number that best describes what you think.

RANDOMIZE Q.7.3.A-B, AND ROTATE LEFT AND RIGHT WITHIN EACH:

a) *Sacramento's storm drain and Sacramento's sewer system are separate systems. They have different underground pipes.*

Sacramento's sewer system and Sacramento's storm drain system are part of the same system. They use the same underground pipes.

1
Almost Completely
Applies to the
Sacramento area

2
Mainly Applies
to the
Sacramento area

3
Each Describers
The Area Equally

4
Mainly Applies
to the
Sacramento area

5
Almost Completely
Applies to the
Sacramento area

b) *Water and other substances that flow through Sacramento's storm drains go to a treatment plant to be processed and filtered to remove pollutants.*

Water and other substances that flow through Sacramento's storm drains flow directly to bodies of water

1
Almost Completely
Applies to the
Sacramento area

2
Mainly Applies
to the
Sacramento area

3
Each Describers
The Area Equally

4
Mainly Applies
to the
Sacramento area

5
Almost Completely
Applies to the
Sacramento area

7.6. How serious a problem do you think pollution is to Sacramento's water bodies?

1. Very serious – Rivers, lakes and streams in the area are polluted and it has serious consequences
2. Somewhat serious – There's some pollution to rivers, lakes and streams in the area and it has some consequences
3. Not that serious – There's some pollution to rivers, lakes and streams in the area but it has minor consequences
4. Not at all serious – There's very little pollution to rivers, lakes and streams in the area and it is of little consequence

IF "4", SKIP TO Q.8.

7.7. How much do you think each of the following contributes to water pollution in the Sacramento area? Please answer from 1 to 5 with a "5" being "a lot" and 1 being "not at all".

RANDOMIZE:

1. Industrial and manufacturing plants
2. Sewer / Waste water treatment plants
3. Litter in the streets and roadways
4. Agriculture
5. Water that runs into storm drains when it rains
6. People not picking up their dog's poop
7. Pesticides and fertilizers used in the people's yards
8. Motor oil and automotive fluids disposed outside
9. Paints that are not disposed of properly

7.8. If you had to guess, what would you say are the three major causes of water pollution in the Sacramento area? Type a "1" next to the primary cause, a "2" next to the second most cause, and a "3" next to the third most cause.

LIST ANY ANSWERED "5" IN Q.7.7.

IF FEWER THAN 3 ARE ANSWERED "5", ADD ITEMS ANSWERS "4".

IF FEWER THAN 3 ARE ANSWERED "4" OR "5", ADD ITEMS ANSWERS "3".

IF FEWER THAN 3 ARE ANSWERED "3", "4" OR "5", ADD ITEMS ANSWERS "2".

OTHERWISE, SHOW ALL STATEMENTS.

8. Here are some different public service messages or advertising campaigns that may or may not have run in your area in the past 12 months. Think about messages and ads you've seen or heard on TV or radio, or read online, in newspapers or magazines, or outdoors (billboards, bus shelters, etc.). For each message listed, please tell us whether or not you read, saw or heard about it.

In the past six months, do you recall reading, seeing or hearing any..... (CLICK ONE ANSWER FOR EACH LISTED:) [RANDOMIZE, BUT ALWAYS ASK F IMMEDIATELY AFTER E:]

	<u>YES</u>	<u>NO</u>	<u>NOT SURE</u>
a) Messages or advertising about the benefits of eating five servings of fruits and vegetables everyday	1	2	3
b) Messages of advertising about the benefits of eating a diet that is high in fiber	1	2	3
c) Messages or advertising about how it is bad to litter or throw trash into the environment	1	2	3
d) Messages or advertising about using less water	1	2	3
e) Messages or advertising about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted	1	2	3
f) Messages or advertising about not killing all the bugs in your yard or garden because some bugs are actually good for it	1	2	3

IF ANSWER TO BOTH Q.8.E AND Q8.F ARE "2", SKIP TO Q.9.

8.1. (IF ANSWER TO Q8.E IS "1" OR "3", ASK:) You said that you may have read, heard or seen messages or advertising about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

Where did you read, see or hear these messages? Please check the primary place you recall reading, seeing or hearing this message in the last six months in column A and any other places you can recall it from in column B.

	[A] PRIMARY <u>PLACE</u>	[B] ALL OTHER <u>PLACES</u>
Billboard	1	1
Bus Advertising	2	2
Bill insert or flyer from water company	3	3
Internet / online ad	4	4
Magazine	5	5
Newspaper	6	6
Radio commercial	7	7
TV commercial	8	8
News Reports / News Reporters	9	9
Other (SPECIFY: _____) .	10	10
Don't Remember	11	11

Q.8.2A AND Q.8.2B APPEAR ON THE SAME PAGE:

8.2a. What do you remember about the advertising about keeping storm drains clean and unpolluted? Please be specific as possible.

8.2b. What was the one main message that this advertising told you? Please be as specific as possible about what the advertising was trying to tell you.

8.3. (ASK:) What was the specific tag line used in the advertising about keeping storm drains free from pollution? (RANDOMIZE 1-5, FOLLOWED BY 6-7. ALLOW ONE ANSWER).

1. "Slow the Flow"
2. "Be River Friendly"
3. "We All Live Downstream"
4. "Blue Stakes"
5. "Some Jeepers Are Keepers"
6. Other (SPECIFY: _____)
7. Can't remember / Not sure / Don't know

8.4. Having seen or heard this advertising, do you think it has influenced you at home?"

1. Yes
2. Yes, but just a little
3. Maybe a little bit, but not really
4. No

IF ANSWER TO Q8.F IS "2", SKIP TO Q.9. OTHERWISE, ASK:)

8.5. You said that you may have read, heard or seen messages or advertising about not killing all the bugs in your yard or garden because some bugs are actually good for it.

Where did you read, see or hear these messages? Please check the primary place you recall reading, seeing or hearing this message in the last six months in column A and any other places you can recall it from in column B.

	[A] PRIMARY <u>PLACE</u>	[B] ALL OTHER <u>PLACES</u>
Billboard	1	1
Bus Advertising	2	2
Bill insert or flyer from water company	3	3
Internet / online ad	4	4
Magazine	5	5
Newspaper	6	6
Radio commercial	7	7
TV commercial	8	8
News Reports / News Reporters	9	9
Other (SPECIFY: _____) .	10	10
Don't Remember	11	11

8.6. (ASK:) What was the specific tag line used in the advertising about not killing all the bugs in your yard or garden because some bugs are actually good? (RANDOMIZE 1-5, FOLLOWED BY 6-7. ALLOW ONE ANSWER).

1. "Slow the Flow"
2. "Be River Friendly"
3. "We All Live Downstream"
4. "Blue Stakes"
5. "Some Jeepers Are Keepers"
6. Other (SPECIFY: _____)
7. Can't remember / Not sure / Don't know

8.7. Having seen or heard this advertising, do you think it has influenced you at home?"

1. Yes
2. Yes, but just a little
3. Maybe a little bit, but not really
4. No

9. Finally, before you go, one more question.....

Listed below are different actions people can take to keep local waterways clean and free of harmful materials. If you saw messages that explained how you could help keep local waterways clean simply by adopting that new behavior, how likely would you be to always take that action?

ASK EVERYONE 5, 6. ASK 1-4 UNLESS:

IF Q2A=2, DO NOT ASK 1, 2.

IF Q3A=2, DO NOT ASK 3.

IF Q4A=2, DO NOT ASK 4.

RANDOMIZE ORDER:

1. Instead of guessing how to apply pesticides or fertilizers, you would need to *always* read the instructions before using them and then follow those instructions exactly.
2. Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic.
3. Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.
4. Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash.
5. If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks
6. If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster.

SCALE IS:

1. Absolutely, I would always do this, no exceptions
2. Definitely, I would almost always do this
3. Probably, I would usually do this
4. I might or might not do this
5. Realistically, I probably would not do this all the time

END. That's all the questions I have today! Thank you very much for your help!



2018 SACRAMENTO STORMWATER QUALITY PROGRAM
AWARENESS ANALYSIS:
WAVE 3 – POST CAMPAIGN RESULTS

A Market Research Report
Prepared for

THE SACRAMENTO STORMWATER QUALITY PARTNERSHIP
&
SAGENT MARKETING

September 17, 2018

TABLE OF CONTENTS

BACKGROUND3
OBJECTIVES3
METHODOLOGY4
 Sample4
 Areas Of Questioning6
 Statistical Accuracy6
WAVE 3 FINDINGS7
 Behaviors7
 Perceptions About Storm Drains & The Threat To Sacramento 11
 Advertising & Messaging Recall 16
 Improving Compliance 22
CONCLUSIONS & IMPLICATIONS 26
APPENDIX 27
 Questionnaire 27

BACKGROUND:

The Sacramento Stormwater Quality Partnership (SSQP) is a multi-jurisdictional program comprised of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova. The SSQP program goal is to educate and inform the public about urban runoff pollution and how simple changes in everyday activities can protect the area's fragile ecosystem. To help the SSQP achieve its goal, Sagent Marketing implemented a multi-tiered public education and marketing program that concluded this August.

The SSQP wants to understand changes in awareness, perceptions and motivations of Sacramento area residents. This research can be used to redefine goals, re-establish benchmarks, and understand behavioral change. It also provides empirical measures of the program's performance and fulfills the requirements of its National Pollution Discharge Elimination System (NPDES) permit.

Accordingly, a multi-wave public opinion survey has tracked and gauged the level of awareness and behavior change within the community. This report presents the findings of the third wave of interviewing among Sacramento County residents. These "post wave" surveys were conducted August 17-24, 2018 at the conclusion of the program's summer 2018 flight. To assess change over time, the results of this wave are compared to the first "baseline" wave of interviewing among Sacramento County residents interviewed May 19-29, 2014 and the second "post wave" of interviews with them conducted August 25-30, 2016. Each of the three waves was conducted among an independent sample.

OBJECTIVES:

1. Measure public awareness and attitudes toward stormwater pollution.
2. Quantify the general public's compliance with behaviors that help ensure clean stormwater, including the use and disposal patterns of specific products.
3. Assess potential shifts in awareness, attitudes and behaviors as a result of the new campaign.
4. Determine the needs and concerns of customers relative to their behaviors affecting stormwater pollution. This includes an understanding of the association between awareness and beliefs and actual behaviors and purchase decisions.
5. Determine the effectiveness of each element of the SSQP media campaign.
6. Examine similarities and differences in the above areas by different demographic groups within the area.

METHODOLOGY:

SAMPLE:

A total of 400 Sacramento County residents were interviewed online from August 17-24, 2018. All were at least 18 years of age. Age and gender quotas were applied to ensure a reasonably equivalent mix by gender and age. General nationwide online research panels comprised of several million households were used to gather the sample. A representative mix of respondents was obtained.

Results are compared to 402 residents in August 2016 (Wave 2) and 411 residents in May 2014 (Wave 1). All three samples were independent: there are no repeat respondents. The demographics of the sample for this post wave is equivalent to that obtained in Wave 1 and Wave 2.

NUMBER OF INTERVIEWS COMPLETED – GENDER & AGE

	Total 2018	Total 2016	Total 2014	Male	Female	Age 18-34	Age 35-54	Age 55+
Total Sample	400	402	411	187	213	119	145	136
Gender								
Male	187	188	211	187		51	66	70
Female	213	214	200		213	68	79	66
Age								
18-34 (NET)	119	139	120	51	68	119		
18-24	33	44	36	14	19	33		
25-34	86	95	84	37	49	86		
35-54 (NET)	145	137	153	66	79		145	
35-44	69	70	74	30	39		69	
45-54	76	67	79	36	40		76	
55+ (NET)	136	126	138	70	66			136
55-64	70	66	74	35	35			70
65 or over	66	60	64	35	31			66
Mean	47	45	46	48	46	28	45	65
Median	46	43	46	48	44	28	45	64

PROPORTION OF INTERVIEWS COMPLETED – HOUSEHOLD INCOME & TYPE OF RESIDENCE

	Total 2018	Total 2016	Total 2014	Income: Under \$75k	Income: \$75k+
Household Income	%	%	%	%	%
Under \$75,000 (NET)	59	62	64	100	0
Less than \$20,000	9	11	11	15	0
\$20,000 to \$29,999	10	10	10	17	0
\$30,000 to \$39,999	8	10	9	14	0
\$40,000 to \$49,999	10	11	11	16	0
\$50,000 to \$59,999	10	10	13	16	0
\$60,000 to \$74,999	13	10	9	22	0
\$75,000+ (NET)	41	38	36	0	100
\$75,000 to \$99,999	14	17	18	0	34
\$100,000 to \$149,999	17	11	12	0	42
\$150,000 or more	10	10	6	0	23
Mean (\$000)	75	71	68	42	124
Median (\$000)	64	58	57	42	118
Residence					
Owner of single family home	60	57	60	44	83
Renter of single family home	17	21	17	24	6
Owner of townhome or condominium	4	3	4	3	5
Renter of townhome or condominium	3	4	5	5	1
Renter of apartment	17	15	14	24	5
Single Family Home (NET)	77	77	77	68	89
Townhome, condo, or apartment (NET)	23	23	23	32	11
Townhome or condo (SUBNET)	7	7	9	7	6
Owner (NET)	64	60	64	46	88
Renter (NET)	37	40	36	54	12

It should be noted that regardless of whether they participated or not, all respondents contacted for the first and second waves were excluded from the third wave. To maximize comparability, a nearly identical questionnaire was used for each wave. Starting with Wave 2, to address the added focus on reducing harmful pesticides in stormwater and the “Some Jeeps Are Keepers” campaign, questions were added to quantify awareness of messages, taglines and the influence of that portion of the campaign.

AREAS OF QUESTIONING:

A copy of the questionnaire is appended to this report. Topics included:

- √ Frequency of engaging in positive or negative behavior
 - When controlling pests or weeds outdoors
 - When using fertilizer
 - Choosing organic when using pesticides or fertilizer
 - Looking for paints labeled "latex" or "cleans with water"
 - When rinsing out paint brushes
 - When dog poops
 - When changing car or truck's motor oil at home
 - Frequency of littering
- √ Perceived threat/importance to Sacramento area of various environmental issues
- √ Awareness of presence of storm drains in neighborhood
- √ Perception of where these drains go to and how
- √ Perceived contribution to water pollution of various actions or entities
- √ Awareness of various public service messages in past 12 months
- √ Media source of awareness
- √ Recall of creative elements of advertising about keeping storm drains clean
- √ Main message and tagline recall of advertising about keeping storm drains clean
- √ Stated influence of this advertising
- √ Main message and tagline recall of advertising about not killing all yard insects because some are beneficial ("Some Jeepers Are Keepers")
- √ Stated influence of this advertising
- √ Likelihood would adopt specific new behaviors if saw messages explaining it would help keep local waterways clean

STATISTICAL ACCURACY:

The sample size of 400 yields results that are accurate to within $\pm 4.8\%$ at the 95% confidence level. Comparisons between the August 2018 Post, August 2016 Post and May 2014 Pre waves are typically statistically significant at the 95% confidence level with differences ranging from 4.2%-6.8%, depending on the proportions involved. There is greater variability when comparing subgroups. In the tables that follow, meaningful differences that are statistically different at the 95% level are boxed.

Statistically greater with 95% confidence.

Statistically lower with 95% confidence.

WAVE 3 FINDINGS:

BEHAVIORS:

1. Positive/desired behavioral change has increased significantly since 2016. One in three (30%) say they always stop themselves from using pesticides / herbicides, up significantly from 21% in 2016 and 14% in 2014. Since the campaign started in 2014, Sacramentans are now twice as likely to not use pesticides/herbicides at all.

Use of fertilizers has also improved. Eighteen percent (18%) say they always stop themselves from using fertilizer, up significantly from 13-14% in prior waves. Use of organics for pesticide and fertilizer is up as well. 51% always/usually use organics vs. 40-41% in prior waves. 30% always use organics vs. 15-21% in prior waves.

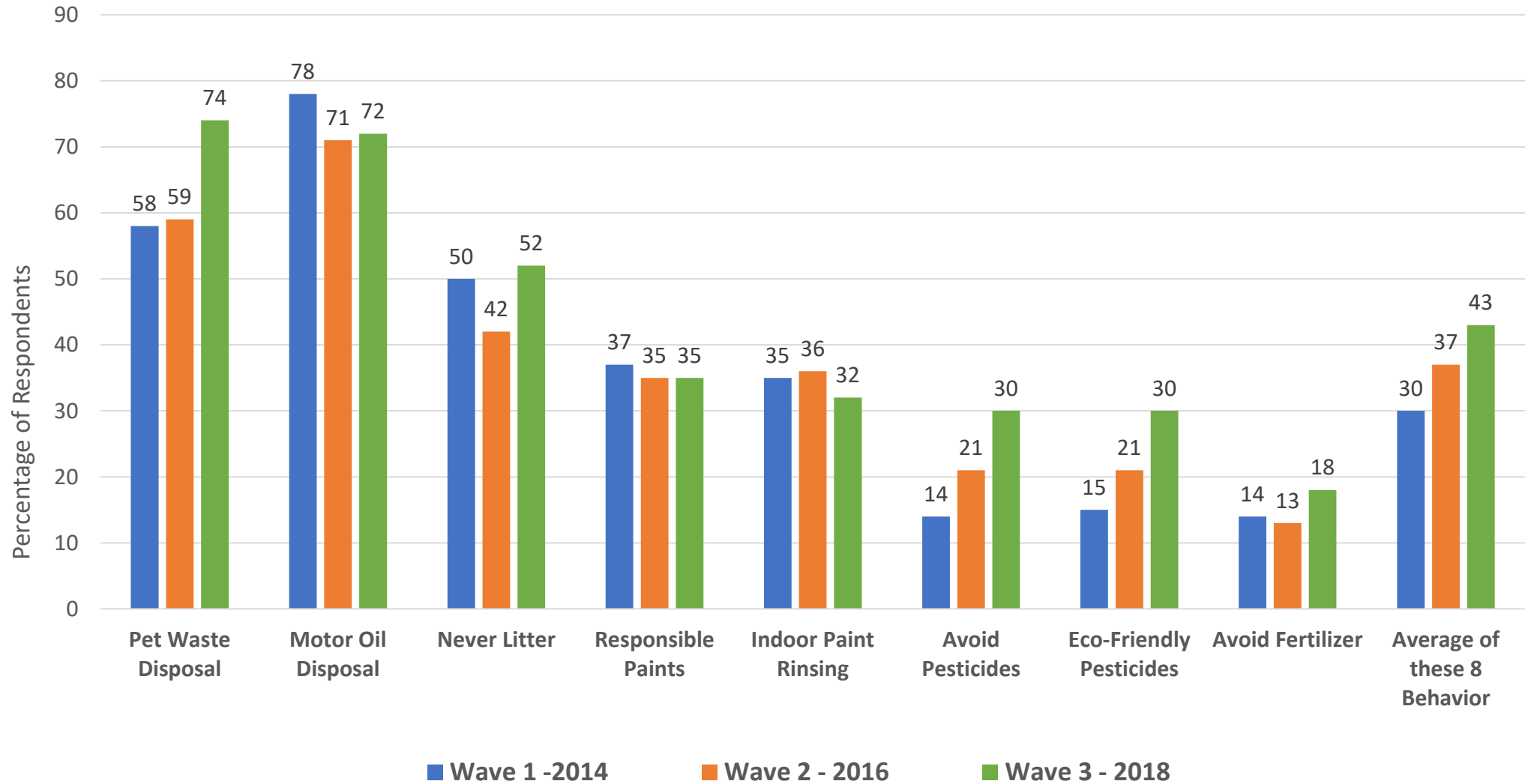
Three in four dog owners (74%) now "absolutely always" bag their dog's waste and throw it in the trash, up from 58-59% in prior waves. Half (52%) claim they "never, ever" litter. This is up from 42% in 2016 and a rebound beyond 2014 levels (50%).

There is no change in desired behaviors since 2016 when it comes to use of latex paints, proper rinsing of paint brushes, or motor oil collection.

POSITIVE BEHAVIORS OF SACRAMENTO RESIDENTS - PRE/POST

	Always Positive		
	2018	2016	2014
	%	%	%
Bag my dog's poop and throw it in the trash	74	59	58
Take my used motor oil to a certified collection center	72	71	78
Never litter	52	42	50
Look for paints labeled "latex" or "cleans with water"	35	35	37
Rinse out paint brushes inside the house	32	36	35
Stop yourself from using pesticides/herbicides	30	21	14
Use an organic or green-friendly pesticide or fertilizer	30	21	15
Stop yourself from using fertilizer	18	13	14
Average of these 8 behaviors	43	37	38

Positive Behavior Of Sacramento Residents



POSITIVE AND NEGATIVE BEHAVIORS OF SACRAMENTO RESIDENTS – WAVE 3

	N =*	Always Positive	Usually Positive	Some-times Pos/Neg	Usually Negative	Always Negative
		%	%	%	%	%
Bag my dog's poop and throw it in the trash	(195)	74	9	9	4	4
Take my used motor oil to a certified collection center	(96)	72	17	6	2	3
Never litter	(400)	52	35	8	4	1
Look for paints labeled "latex" or "cleans with water"	(234)	35	28	21	9	7
Rinse out paint brushes inside the house	(234)	32	23	15	14	16
Use an organic or green-friendly pesticide or fertilizer	(323)	30	21	26	13	11
Stop yourself from using pesticides/herbicides	(323)	30	22	16	18	14
Stop yourself from using fertilizer	(323)	18	12	16	28	26
Average of these 8 behaviors	(2128)	43	21	15	12	10

POSITIVE AND NEGATIVE BEHAVIORS OF SACRAMENTO RESIDENTS – WAVE 2

	N =*	Always Positive	Usually Positive	Some-times Pos/Neg	Usually Negative	Always Negative
		%	%	%	%	%
Take my used motor oil to a certified collection center	(90)	71	13	12	2	1
Bag my dog's poop and throw it in the trash	(183)	59	20	9	7	5
Never litter	(402)	42	37	12	8	0
Look for paints labeled "latex" or "cleans with water"	(246)	35	28	16	7	14
Rinse out paint brushes inside the house	(246)	36	21	15	17	12
Use an organic or green-friendly pesticide or fertilizer	(332)	21	20	32	13	15
Stop yourself from using pesticides/herbicides	(332)	21	24	21	18	17
Stop yourself from using fertilizer	(332)	13	12	21	29	25
Average of these 8 behaviors	(2188)	37	22	17	13	11

POSITIVE AND NEGATIVE BEHAVIORS OF SACRAMENTO RESIDENTS – WAVE 1

	N =*	Always Positive	Usually Positive	Some-times Pos/Neg	Usually Negative	Always Negative
		%	%	%	%	%
Take my used motor oil to a certified collection center	(90)	78	8	4	9	1
Bag my dog's poop and throw it in the trash	(192)	58	20	6	7	9
Never litter	(411)	50	36	6	7	1
Look for paints labeled "latex" or "cleans with water"	(251)	37	35	14	6	8
Rinse out paint brushes inside the house	(251)	35	25	14	16	10
Use an organic or green-friendly pesticide or fertilizer	(331)	15	25	29	18	13
Stop yourself from using pesticides/herbicides	(331)	14	27	20	22	17
Stop yourself from using fertilizer	(331)	14	13	17	33	23
Average of these 8 behaviors	(2188)	38	24	14	15	10

Positive behaviors help ensure clean stormwater; Negative behaviors contribute to polluted stormwater.

* Sample size for each activity based to those respondents who engage in that activity (i.e., 195 of 400 respondents have a dog, 96 change their own motor oil at home, 234 buy paints, and 323 have a yard or garden).

- Q. *Regardless of where your dog poops, do you bag your dog's poop and throw it in the trash?*
- Q *Do you take your used motor oil to a certified collection center or do you throw it in the trash instead?*
- Q *About how often do you litter?*
- Q *Of all the times you buy paints, how often do you look for paints labeled "latex" or "cleans with water"?*
- Q *Do you rinse out paint brushes inside the house, or do you freely rinse out paint brushes outside?*
- Q *Of all the times you need to use pesticides or fertilizer in your yard or garden, how often do you use an organic or green-friendly pesticide or fertilizer in your yard or garden instead?*
- Q *Of all the times you need to control pests or weeds outdoors, how often do you stop yourself from using pesticides/herbicides?*
- Q *Of all the times you need to use fertilizer in your yard or garden, how often do you stop yourself from using fertilizer in your yard or garden?*

2. Men continue to be somewhat more likely to engage in negative behavior that risks clean stormwater in the Sacramento area by their directionally (but not significantly) greater use of fertilizer and pesticides/herbicides. Younger people 18-34 years are less compliant when it comes to never littering. Older people age 55+ are much more likely to look for latex paints and properly dispose of their pet's waste.

As in 2016, low- to moderate-income households remain more compliant than high-income households when it comes to the campaign-related behavior of using organic versions of pesticides/fertilizers. On the other hand, high-income households are much more likely to never litter.

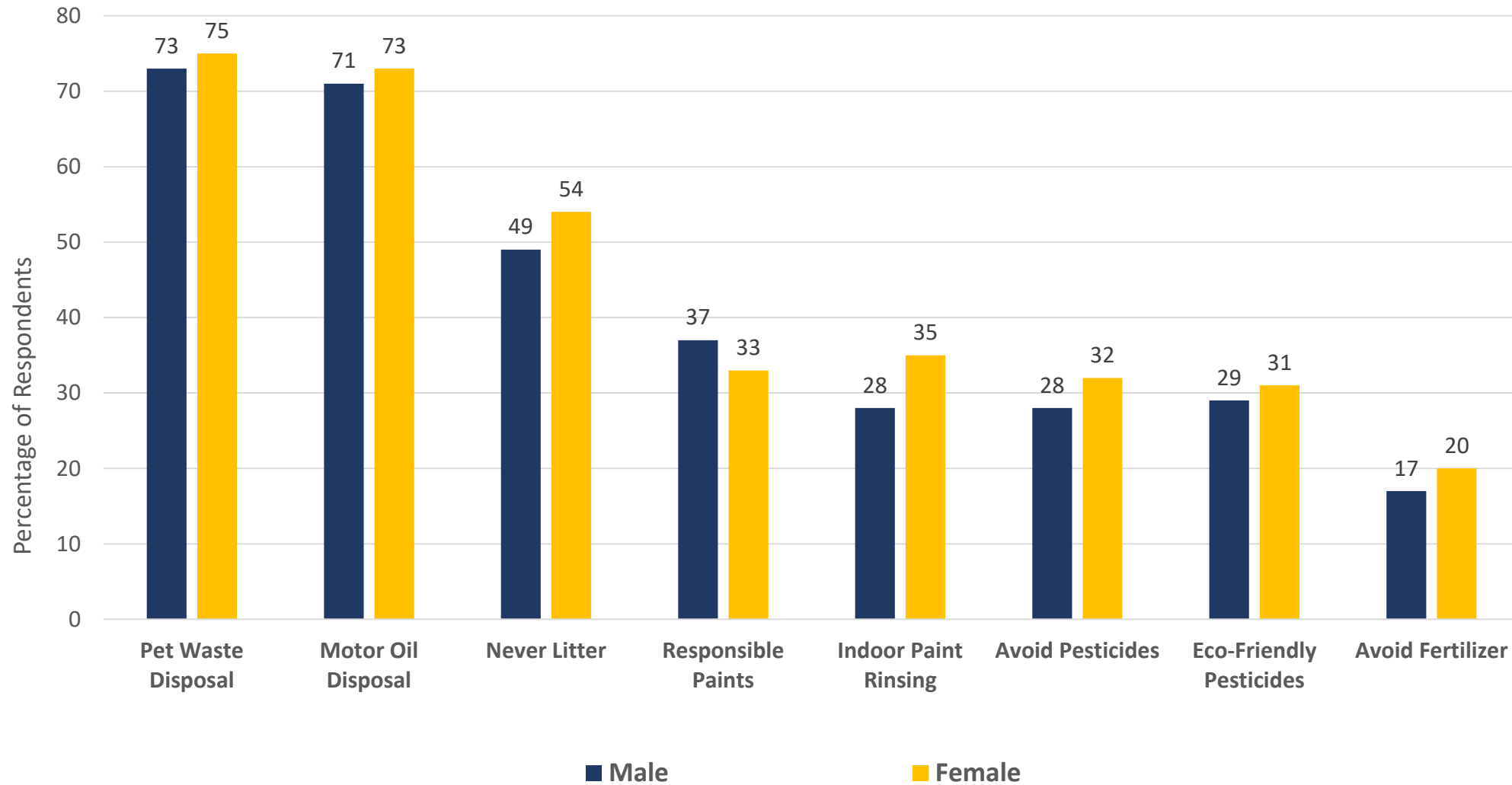
FULL COMPLIANCE WHEN DOING ACTIVITY - BY GENDER, AGE & HOUSEHOLD INCOME
 (% Who Engage In Positive Actions -- Among Those Engaged In Activity)

	Total	Male	Female	Age 18-34	Age 35-54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%
Stop yourself from using pesticides/herbicides	30	28	32	34	29	28	34	25
Stop yourself from using fertilizer	18	17	20	23	20	13	20	16
Use an organic or green-friendly pesticide or fertilizer	30	29	31	38	28	26	35	23
Look for paints labeled "latex" or "cleans with water"	35	37	33	28	26	49	37	33
Rinse out paint brushes inside the house	32	28	35	31	35	28	34	28
Bag my dog's poop and throw it in the trash	74	73	75	69	71	85	70	80
Take my used motor oil to a certified collection center	72	71	73	63	77	83	71	74
Never litter	52	49	54	43	54	57	47	59
N =	(400)	(187)	(213)	(119)	(145)	(136)	(237)	(163)

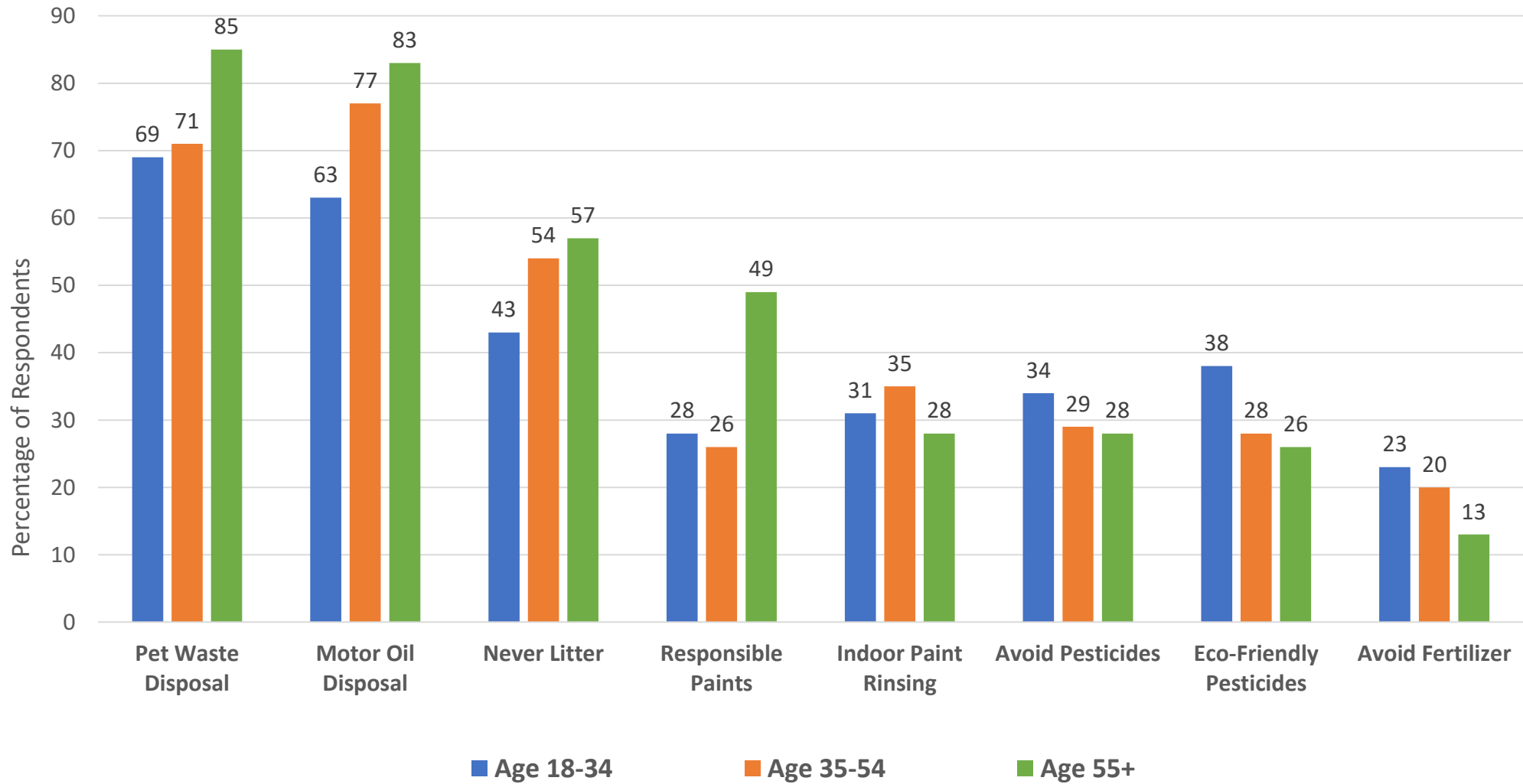
NON-COMPLIANCE WHEN DOING ACTIVITY - BY GENDER, AGE & HOUSEHOLD INCOME
 (% Engages In Negative Actions – Among Those Engaged In Activity) – At Least Sometimes

	Total	Male	Female	Age 18-34	Age 35-54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%
Stop yourself from using pesticides/herbicides	48	53	44	43	47	54	43	54
Stop yourself from using fertilizer	70	74	66	64	66	77	68	71
Use an organic or green-friendly pesticide or fertilizer	49	49	49	39	53	52	42	57
Look for paints labeled "latex" or "cleans with water"	37	32	41	46	46	22	38	35
Rinse out paint brushes inside the house	45	46	45	38	48	48	46	45
Bag my dog's poop and throw it in the trash	17	21	13	18	20	11	20	13
Take my used motor oil to a certified collection center	11	12	11	16	9	6	12	11
Never litter	14	14	13	19	12	10	16	10
N =	(400)	(187)	(213)	(119)	(145)	(136)	(237)	(163)

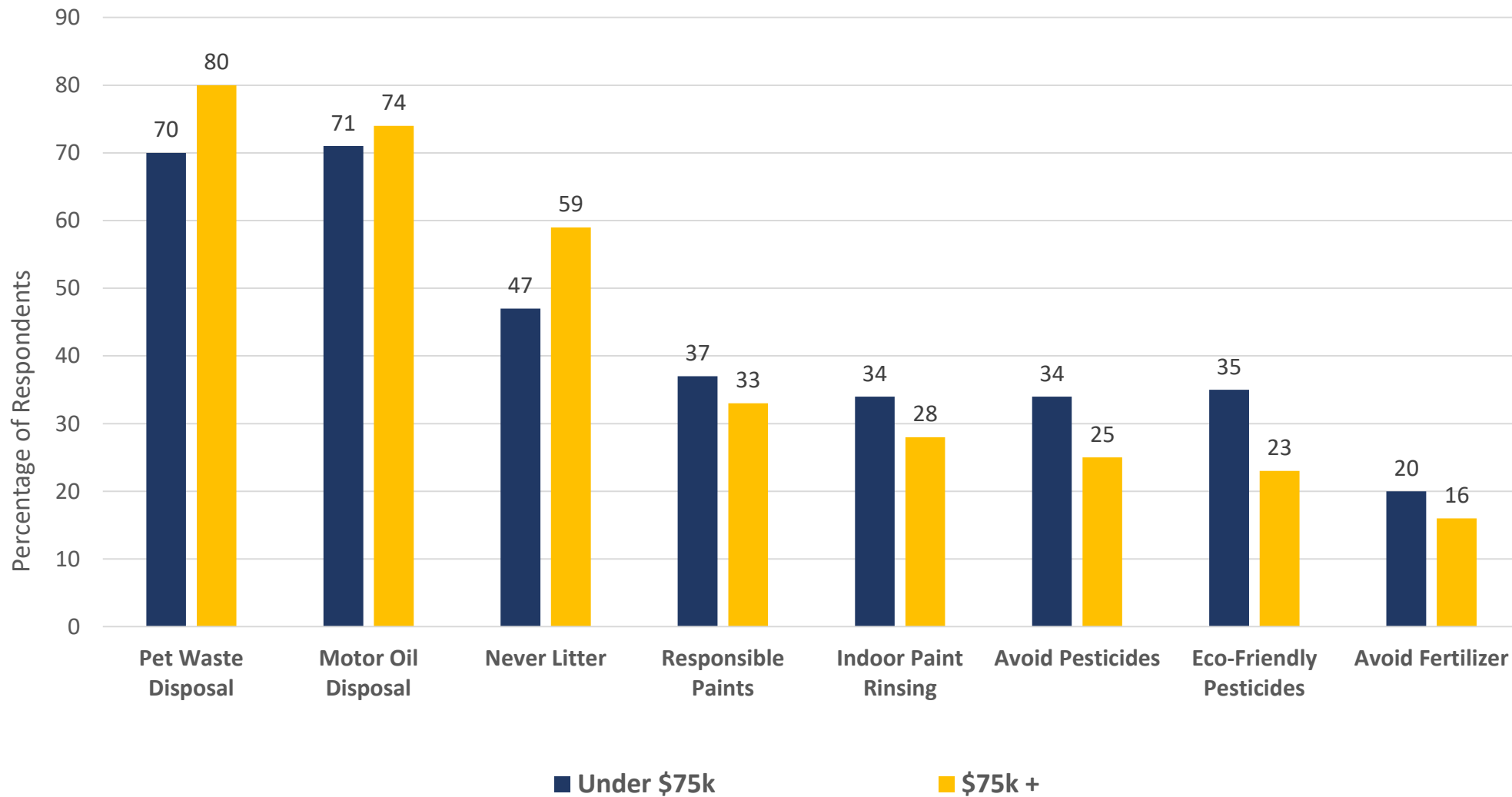
Full Compliance When Doing Activity - By Gender



Full Compliance When Doing Activity - By Age



Full Compliance When Doing Activity - By Household Income



PERCEPTIONS ABOUT STORM DRAINS & THE THREAT TO SACRAMENTO:

3. As for perceptions of environmental issues faced by the Sacramento area today, four issues have increased dramatically since 2014-16: traffic congestion (66% consider it a very serious threat, up from 55% in 2014 and 62% in 2016), air pollution (57% consider it a very serious threat, up from 46% in 2014 and 48% in 2016), population growth (49% consider it a very serious threat, up from 36% in 2014 and 39% in 2016), and toxic garbage waste disposal (39% consider it a very serious threat, up from 30% in 2014 and 33% in 2016).
4. With greater attention to these issues, concern about inadequate water supply has fallen significantly (to 42%, from 61-62% in the prior waves). Perceptions of a very serious threat posed by polluted lakes, rivers and streams, the central issue surrounding the SSQP campaign, has increased directionally but not significantly (to 45%, from 39-42% in the prior waves). In the wake of increased concern about the other unrelated issues, this modest growth may be seen favorably as an accomplishment of the campaign.

PERCEIVED THREAT TO THE SACRAMENTO AREA TODAY

	Very Serious			Most Critical Or Pressing			Top 3 Most Critical Or Pressing		
	2018	2016	2014	2018	2016	2014	2018	2016	2014
	%	%	%	%	%	%	%	%	%
Increased traffic congestions	67	62	55	27	19	19	66	63	65
Air pollution	57	48	46	23	20	18	66	58	60
Population growth	49	39	36	15	10	9	48	39	32
Polluted lakes, rivers and streams	45	42	39	8	7	5	40	39	45
Inadequate water supply	42	61	62	22	40	44	53	76	75
Toxic garbage waste disposal	39	33	30	5	4	5	27	25	24
N =	(400)	(402)	(411)	(400)	(402)	(411)	(400)	(402)	(411)

Q For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the area today, or not that much of a threat to the area today.

Q Now, please rank these issues in order of how important they are to the people of the Sacramento area today.

PERCEIVED THREAT TO THE SACRAMENTO AREA TODAY – WAVE 3

	Very Serious	Somewhat Serious	Not That Much	Most Critical Or Pressing	Top 3 Most Critical Or Pressing
	%	%	%	%	%
Increased traffic congestions	67	29	5	27	66
Air pollution	57	37	7	23	66
Population growth	49	36	15	15	48
Polluted lakes, rivers and streams	45	43	13	8	40
Inadequate water supply	42	39	19	22	53
Toxic garbage waste disposal	39	40	21	5	27
N = (400)					

Q For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the area today, or not that much of a threat to the area today.

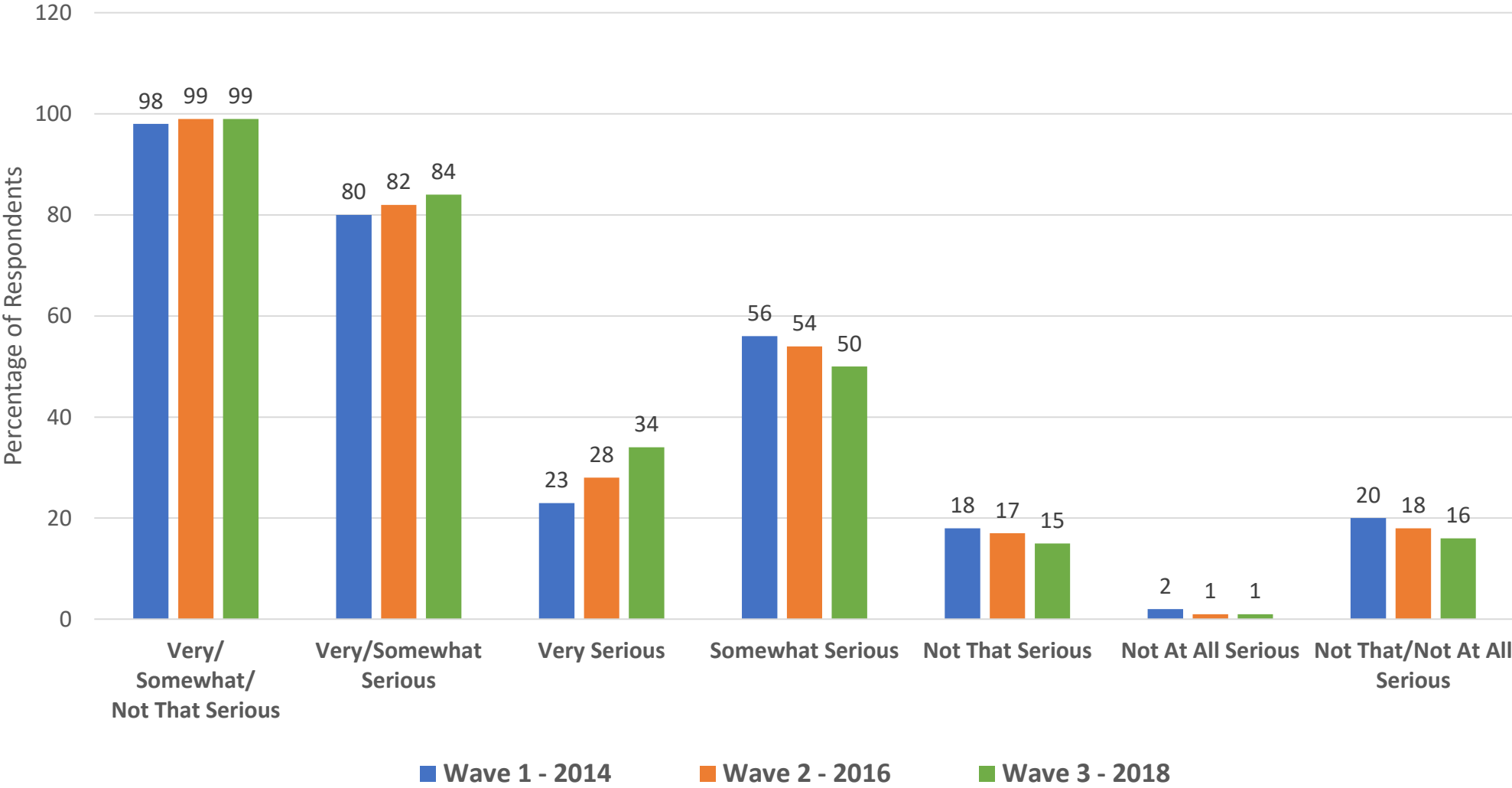
Q Now, please rank these issues in order of how important they are to the people of the Sacramento area today.

PERCEIVED SERIOUSNESS OF POLLUTION TO SACRAMENTO'S BODIES OF WATER

	2018 Total	2016 Total	2014 Total
	%	%	%
Very/Somewhat/Not That Serious	99	99	98
Very/Somewhat Serious	84	82	80
Very serious	34	28	23
Somewhat serious	50	54	56
Not that serious	15	17	18
Not at all serious	1	1	2
Not That /Not At All Serious	16	18	20
N =	(400)	(402)	(411)

Q How serious of a problem do you think pollution is to Sacramento's water bodies?

Perceived Seriousness to Sacramento Waterbodies



5. The proportion of Sacramentans who correctly understand that storm drains flow directly to bodies of water without being treated has not increased. It remains at 50% (vs. 53-55% in 2014-16). This is not surprising since this has not been a focal point of the campaign.
- Whereas the 2014 study found that women were more likely than men to have the misperception that stormwater is treated, this study (along with 2016) found no such difference. Younger people 18-34 continue to be significantly more likely to think the storm drain water goes to a sewage plant and less likely to incorrectly believe that the storm drains are treated before they go to bodies of water. Income continues to have no impact on these perceptions.
 - Higher income household members keep being more likely to correctly believe the storm drain and sewage systems are separate and flow directly to bodies of water. Younger people 18-34 years are less likely to have these beliefs.

PERCEPTIONS ABOUT STORM DRAINS – BY GENDER, AGE & HOUSEHOLD INCOME
(Among Those Who Have Storm Drains in their Neighborhood)

	2018 Total	2016 Total	2014 Total	Male	Female	Age 18- 34	Age 35- 54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%	%	%
Directly to bodies of water (without being treated)	50	53	55	51	49	43	49	56	46	55
They are treated, then they go to bodies of water	27	29	31	27	26	18	32	29	27	27
To a sewage plant	24	18	15	23	25	40	19	15	28	18
N =	(304)	(310)	(357)	(160)	(144)	(91)	(108)	(105)	(177)	(127)

Q Do you have storm drains in your neighborhood?

Q Thinking about the storm drains in your neighborhood, where do you think the contents of these storm drains go?

Correct response in teal. Incorrect responses in brown.

**UNDERSTANDING OF SACRAMENTO'S STORM DRAIN SEWER SYSTEMS –
BY GENDER, AGE & HOUSEHOLD INCOME**

	2018 Total	2016 Total	2014 Total	Male	Female	Age 18- 34	Age 35- 54	Age 55+	Income Under \$75k	Income \$75k+
	%	%	%	%	%	%	%	%	%	%
Correct										
Completely/Mainly Separate Systems	38	40	45	42	35	27	37	49	34	44
Incorrect										
Completely/Mainly Same System/ Pipes	29	24	21	31	26	34	31	21	29	28
Equally Separate & Same System	34	36	35	27	39	39	32	29	37	28
Correct										
Completely/Mainly Flow Directly to Bodies of Water	41	44	46	43	38	32	42	47	37	47
Incorrect										
Completely/Mainly Treated/Filtered	31	34	27	36	27	32	34	27	29	34
Equally Flows Direct & Treated/ Filtered	28	23	26	21	35	36	24	26	35	19
N =	(400)	(402)	(411)	(187)	(213)	(119)	(145)	(136)	(237)	(163)

Q Two statements are given below, one on the left and one on the right. Please read each statement and then click on the number that best describes what you think.

6. While the seriousness of pollution to Sacramento’s waterbodies has not significantly increased, perception that pesticides and fertilizers used in people’s yards contribute “a lot” to water pollution has increased substantially (to 34% from 26-28% in 2014-16). Belief that several other culprits contribute “a lot” to water pollution has also increased substantially: industrial and manufacturing plants (to 34% from 27-29% in 2014-16), litter in the streets and roadways (to 33% from 22-27%), improper disposal of paints (to 29% from 22-25%), and not picking up dog waste (to 25% from 12-18).

CONTRIBUTION OF SOURCES TO WATER POLLUTION IN SACRAMENTO AREA - PRE/POST

	Contributes A Lot			Primary Cause			Top 3 Causes		
	2018	2016	2014	2018	2016	2014	2018	2016	2014
	%	%	%	%	%	%	%	%	%
Pesticides and fertilizers used in the people's yards	34	26	27	13	13	16	45	46	47
Industrial and manufacturing plants	34	27	28	19	20	23	45	44	43
Motor oil and automotive fluids disposed outside	34	29	31	10	11	11	40	41	43
Litter in the streets and roadways	33	27	22	17	14	8	37	36	32
Paints that are not disposed of properly	29	22	25	4	1	3	23	19	27
Agriculture	26	22	23	14	18	17	31	36	36
People not picking up their dog's poop	25	18	12	3	3	1	19	17	12
Sewer / Waste water treatment plants	22	20	16	12	8	11	31	27	29
Water than runs into storm drains when it rains	20	21	14	10	9	7	26	29	25
N =	(400)	(402)	(411)	(400)	(402)	(411)	(400)	(402)	(411)

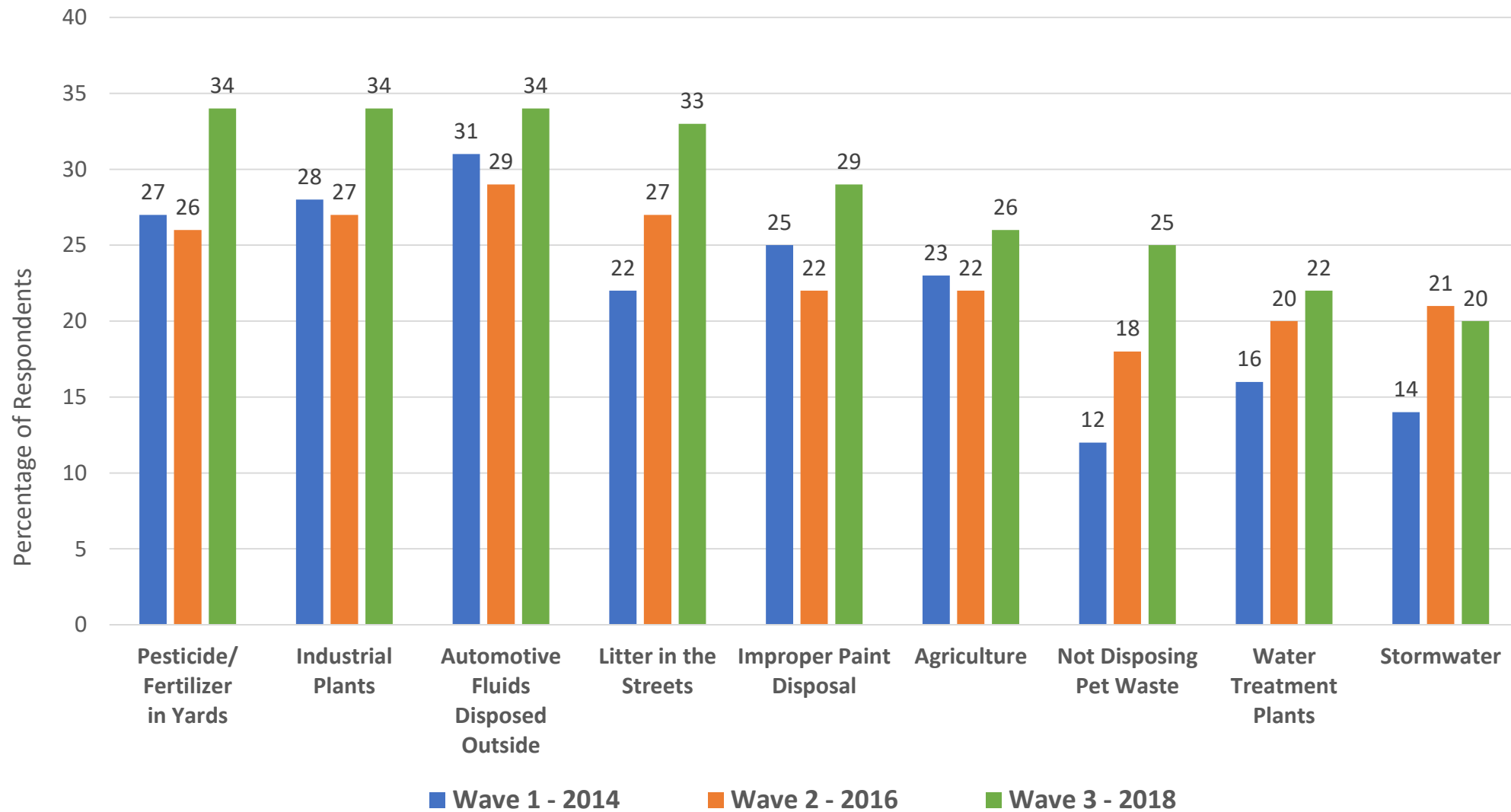
CONTRIBUTION OF SOURCES TO WATER POLLUTION IN SACRAMENTO AREA – WAVE 3

	Contributes A Lot	Contributes At Least Moderately	Contributes At Least A Little	Primary Cause	Top 3 Causes
	%	%	%	%	%
Pesticides and fertilizers used in the people's yards	34	63	89	13	45
Industrial and manufacturing plants	34	62	88	19	45
Motor oil and automotive fluids disposed outside	34	59	85	10	40
Litter in the streets and roadways	33	61	87	17	37
Paints that are not disposed of properly	29	53	83	4	23
Agriculture	26	52	84	14	31
People not picking up their dog's poop	25	46	74	3	19
Sewer / Waste water treatment plants	22	44	73	12	31
Water than runs into storm drains when it rains	20	41	71	10	26
N = (400)					

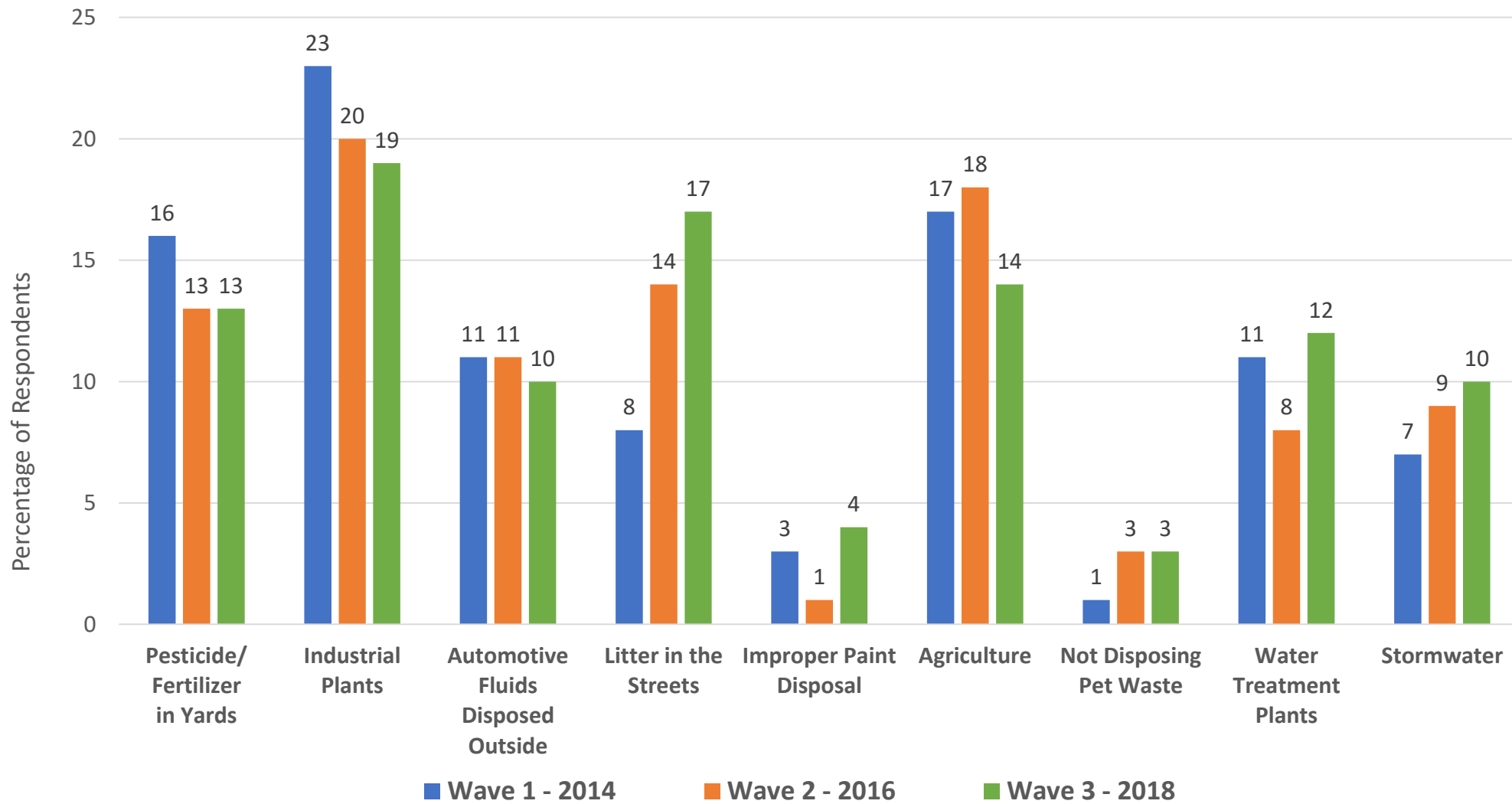
Q How much do you think each of the following contributes to water pollution in the Sacramento area? Please answer from 1 to 5 with a “5” being “a lot” and 1 being “not at all”.

Q If you had to guess, what would you say are the three major causes of water pollution in the Sacramento area? Type a “1” next to the primary cause, a “2” next to the second most cause, and a “3” next to the third most cause.

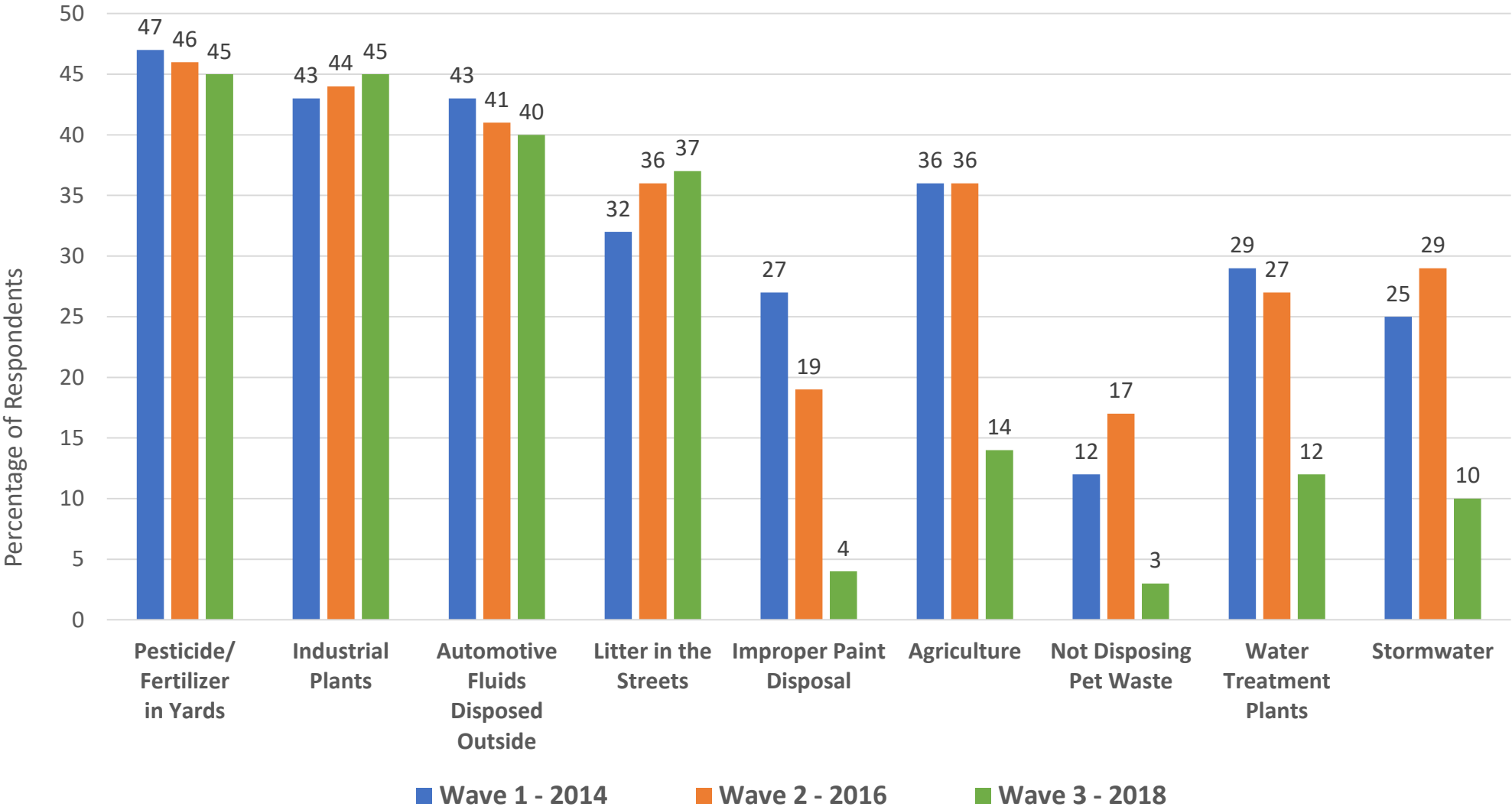
Contribution of Sources to Water Pollution in Sacramento - Contributes A Lot



Contribution of Sources to Water Pollution in Sacramento - Primary Cause



Contribution of Sources to Water Pollution in Sacramento - Top 3 Causes



ADVERTISING & MESSAGING RECALL:

7. Residents of Sacramento County do not recall the campaign in great numbers. Recall of messages or advertising about not killing all the bugs in your yard or garden because some bugs are actually good for it has not increased and remains at 15% (vs. 18% in 2016). Messages or advertising about keeping the water that goes into storm drains clean and unpolluted has fallen (to 31%, down from 39-40% in prior waves).
- On the whole, recall of four other public service messages asked about in the survey decreased: slightly for two and significantly for two others.

RECALL PUBLIC SERVICES MESSAGES OR ADVERTISING CAMPAIGNS – PRE/POST

	2018	2016	2014
Messages or advertising about...	%	%	%
Using less water	57	79	79
The benefits of eating five servings of fruits and vegetables everyday	41	48	55
The benefits of eating a diet that is high in fiber	36	46	49
The importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted	31	40	39
How it is bad to litter or throw trash into the environment	29	34	25
Not killing all the bugs in your yard or garden because some bugs are actually good for it*	15	18	NA
N =	(400)	(402)	(411)

* Not asked about in the pre-wave, but assumed to be <10% in 2014 and to have statistically significantly increased as indicated by lighter red box.

Q *In the past six months, do you recall reading, seeing or hearing any.....*

8. Sacramento residents cite several sources for their recall of messages about storm drains and not killing all the bugs, with no single source being particularly dominant. The top-3 primary sources of recall of storm drain messages are TV commercials (24%), bill insert or flyer from a water company (12%) and news reports (11%). As for the good bugs campaign, internet is still more prevalent as a source relative to storm drain messaging, while TV advertising is less likely to be cited.
- Newspapers as a source has decreased significantly vs. 2014-2016 for both campaigns. Newspapers now account for only 2% of primary sources.
 - Many people do not remember where they heard or saw such messaging. In fact, compared to 2014-2016, their number has grown slightly (it is now 20%), more than any single source other than TV.

SOURCE OF RECALL OF STORM DRAINS MESSAGES – PRE/POST
(Among Those Who Recall Messages or Advertising about Storm Drains)

	Primary Source			All Sources		
	2018	2016	2014	2018	2016	2014
	%	%	%	%	%	%
Billboard	7	9	9	35	34	28
Bus Advertising	4	3	2	27	32	23
Bill insert or flyer from water company	12	16	11	37	47	32
Internet/online ad	7	5	3	28	31	21
Magazine	2	2	0	22	26	15
Newspaper	2	4	6	24	30	26
Radio commercial	8	6	7	27	30	29
TV commercial	24	24	28	43	48	46
News Reports/News Reporters	11	12	12	36	36	33
On the storm drain/curb	3	2	4	6	4	6
Other	0	0	1	1	1	2
Don't remember	20	16	16	18	13	15
N =	(180)	(229)	(254)	(180)	(229)	(254)

SOURCE OF RECALL OF GOOD BUGS MESSAGES
(Among Those Who Recall Messages or Advertising about Good Bugs)

	Primary Source		All Sources	
	2018	2016	2018	2016
	%	%	%	%
Billboard	9	7	26	25
Bus Advertising	5	2	24	19
Bill insert or flyer from water company	11	8	28	25
Internet/online ad	11	11	27	27
Magazine	6	5	19	24
Newspaper	2	9	17	30
Radio commercial	6	10	18	26
TV commercial	9	11	24	28
News Reports/News Reporters	9	8	29	30
Other	2	2	3	4
Don't remember	30	28	24	23
N =	(119)	(141)	(119)	(141)

NOTE: "Good Bugs" refers to advertising or messages about not killing all the bugs in your yard or garden because some bugs are actually good for it. "Storm Drains" refers to advertising or messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

Q Where did you read, see or hear these messages?

9. As in 2014 and 2016, no single creative element of storm drain advertising is consistently played back. Recall of specific messages or creative elements about keeping Sacramento's storm drains clean is very general. There is little volunteered connection between storm drain advertising and advertising about not killing all the bugs in your yard or garden because some bugs are actually good for it.

**MESSAGES OR ELEMENTS RECALLED ABOUT ADVERTISING
FOR KEEPING STORM DRAINS CLEAN AND UNPOLLUTED – WAVE 3**

	Total Recall	Main Message Recall
	%	%
Being Environmentally Responsible (NET)	53	70
Specific to Clean Water (SUBNET)	43	46
Water from storm drains goes directly into the rivers/ lakes/ ocean	15	9
Keep Storm Drains Clean (SUBSUBNET)	14	11
Keep storm drains clean	6	4
Keep storm drains free from trash/debris/waste	5	6
Removing trash/debris from storm drains prevents flooding	4	1
Proper Disposal of Toxic Waste/Chemicals/Pollutants (SUBSUBNET)	12	17
Don't dump oil down storm drains	7	3
Keep pollutants out of drains n.s.	3	7
Stormwater drainage affects/can kill fish/wild life	7	6
Keep our water clean	3	7
Not Specific to Clean Water (SUBNET)	12	27
Don't litter/dump	5	7
Importance of a clean environment/being environmentally conscious	3	7
Creative Ad Recall (NET)	21	1
Visual (SUBNET)	13	1
Recall message near storm drain	3	0
Type of Creative (SUBNET)	8	0
Ad was in a mailing/ insert in water bill	3	0
It was a commercial/ad	3	0
Nothing/NA	17	13
Don't know	14	15
N =	(180)	(180)

- Q *What do you remember about the advertising about keeping storm drains clean and unpolluted?*
- Q *What was the one main message that this advertising told you?*

10. Recall of the "Some Jeepers Are Keepers" tagline remains low at 6% (as it was in 2016 at 8%). It has continued to approach that of residual recall of "Be River Friendly". Nine percent (9%) of residents recall "Be River Friendly" on an aided basis, another 8% recall "We All Live Downstream".
- These proportions are higher when examining only those who recall the campaign. "Some Jeepers Are Keepers" matches the "Be River Friendly" and "We All Live Downstream" among residents who recall each respective campaign.
 - The proportion of people who can't remember the tagline has significantly decreased: 24% in 2018 vs. 30-37% in 2016-2014.

RECALL OF TAGLINES – PRE/POST

	Among The Total Sample			Among Those Who Recall Campaign		
	2018	2016	2014	2018	2016	2014
	%	%	%	%	%	%
"Be River Friendly"	9	12	12	19	22	19
"We All Live Downstream"	8	7	9	18	13	15
"Some Jeepers Are Keepers" **	6	8	NA	21	22	NA
"Slow the Flow"	2	4	2	5	7	3
"Blue Stakes"	1	0	1	2	1	1
"Some Jeepers Are Keepers"*	1	1	NA	2	2	NA
Other	1	1	1	1	3	1
Can't remember/Not sure/Don't know	24	30	37	52	53	61
Don't recall campaign	55	43	38	NA	NA	NA
N =	(400)	(402)	(411)	(180)	(229)	(254)

* In reference to storm drain advertising. N=180 among those who recall this campaign.

** In reference to good bugs advertising. N=119 among those who recall this campaign.

- Q What was the specific tag line used in the advertising about keeping storm drains free from pollution?
- Q What was the specific tag line used in the advertising about not killing all the bugs in your yard or garden because some bugs are actually good?

11. Residents of Sacramento are still less likely to say that the good bugs advertising has influenced their behavior than has storm drain advertising. However, among those who recall each campaign, the proportion of those who admit their positive influence has slightly increased.

Perceived influence is not as powerful an indicator of change as actual influence. As seen earlier (findings from section 1), the campaign has produced substantial positive behavioral change. Residents of the area may not attribute it to advertising but advertising seems to be the cause.

PERCEIVED INFLUENCE OF STORM DRAINS ADVERTISING – PRE/POST

	Among The Total Sample			Among Those Who Recall Campaign		
	2018	2016	2014	2018	2016	2014
	%	%	%	%	%	%
Yes (NET)	32	38	36	70	67	58
Yes	17	21	22	37	37	35
Yes, but just a little	15	17	14	33	30	23
Maybe a little bit, but not really	6	10	15	12	18	24
No	8	9	11	18	15	17
Don't recall campaign	55	43	38	NA	NA	NA
N =	(400)	(402)	(411)	(180)	(229)	(254)

PERCEIVED INFLUENCE OF GOOD BUGS ADVERTISING

	Among The Total Sample		Among Those Who Recall Campaign	
	2018	2016	2018	2016
	%	%	%	%
Yes (NET)	18	20	59	58
Yes	9	10	30	30
Yes, but just a little	9	10	29	28
Maybe a little bit, but not really	6	6	18	18
No	7	9	23	24
Don't recall campaign	70	65	NA	NA
N =	(400)	(402)	(119)	(141)

NOTE: "Good Bugs" refers to advertising or messages about not killing all the bugs in your yard or garden because some bugs are actually good for it. "Storm Drains" refers to advertising or messages about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

Q *Having seen or heard this advertising, do you think it has influenced you at home?"*

IMPROVING COMPLIANCE:

12. Despite the lack of growth in messaging recall, this research suggests that the change in behaviors is due to the campaigns. Those who recall advertising or messages about not killing bugs are more likely to limit their use of pesticides/herbicides and to use organic pesticides/fertilizers. Several other gains cited above are much higher among those who recall the advertising.

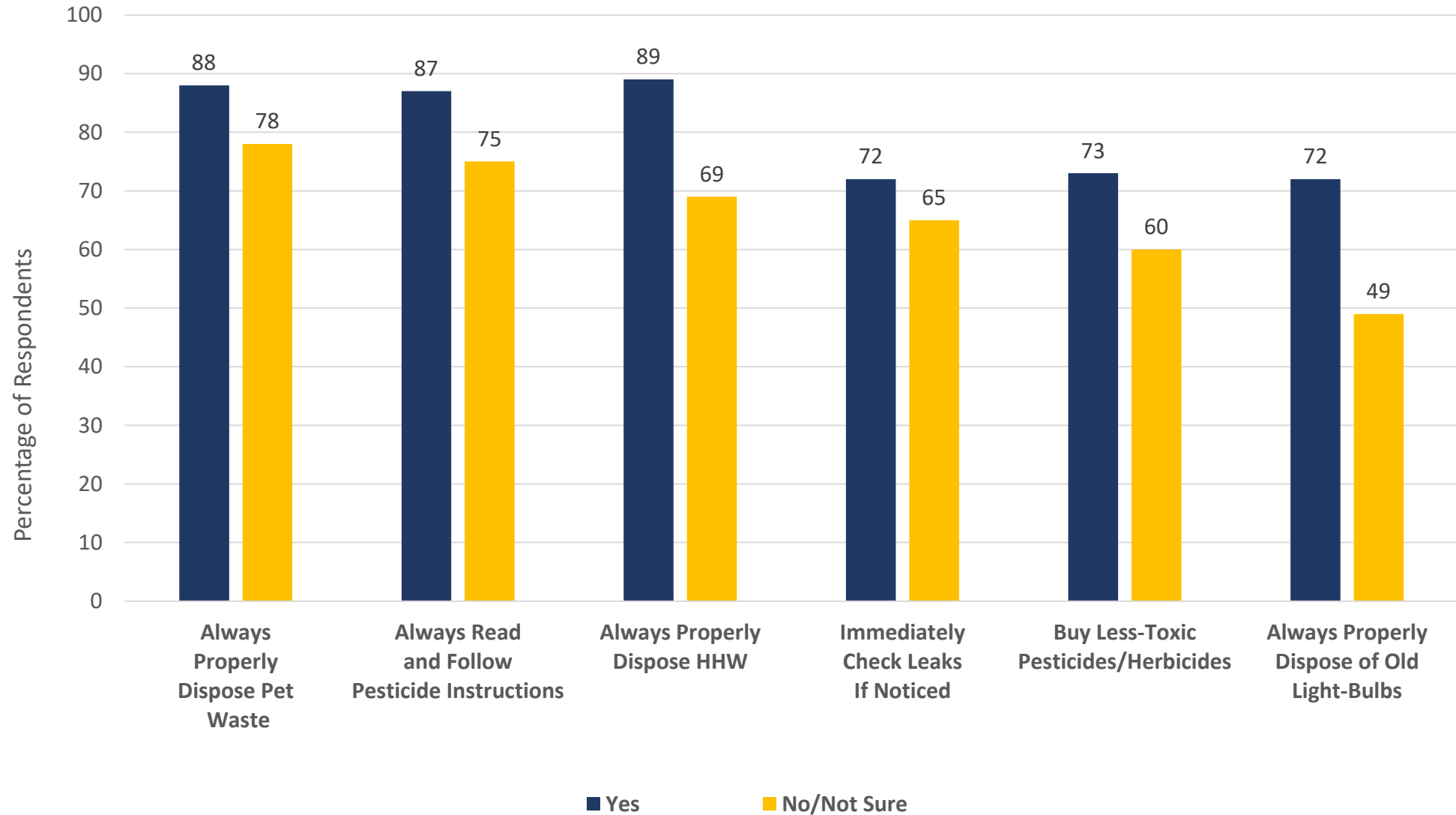
Interest in using organic pesticides has significantly increased (64% vs. 54% in 2016), while interest in following instructions to pesticides/fertilizers remained very high at 79%.

- Out of all positive changes in behaviors, scooping up pet waste keeps receiving the greatest interest.

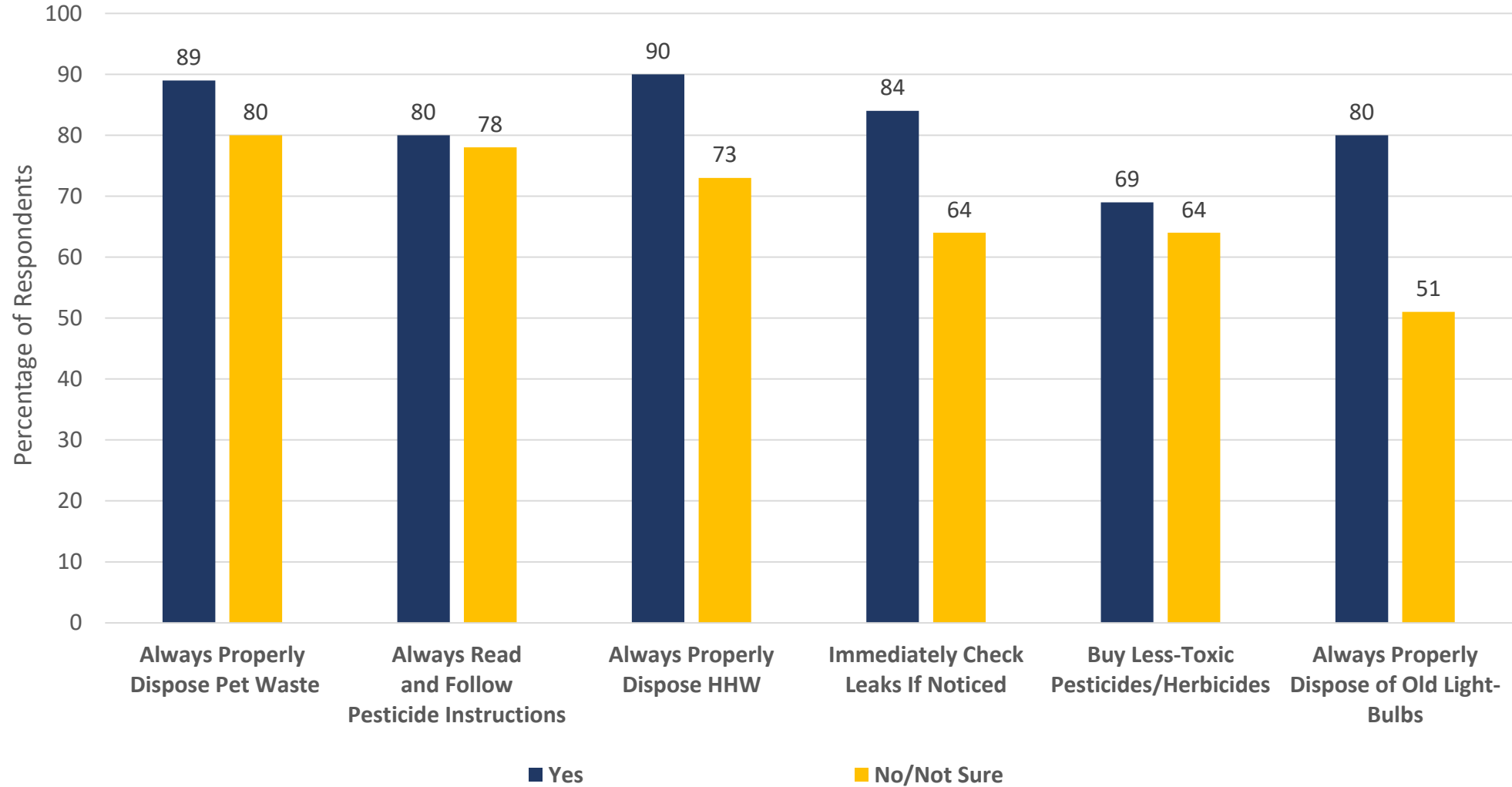
LIKELIHOOD OF TAKING THIS ACTION IF SAW MESSAGES THAT IT HELPS KEEP LOCAL WATERWAYS CLEAN – PRE/POST

	2018	Recall Storm Drains Campaign		Recall Good Bugs Campaign	
		Yes	No/Not Sure	Yes	No/Not Sure
Absolutely / Almost Always Would Take This Action:	%	%	%	%	%
Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash	82	88	78	89	80
Instead of guessing how to apply pesticides or fertilizers, you would need to always read the instructions before using them and then follow those instructions exactly	79	87	75	80	78
Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.	76	89	69	90	73
If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks	67	72	65	84	64
Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic	64	73	60	69	64
If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster	56	72	49	80	52

Likelihood of Taking This Action if Saw Messages that it Helps Keep Local Water Clean – Storm Drain Campaign



Likelihood of Taking This Action if Saw Messages that it Helps Keep Local Water Clean – Recall Good Bugs Campaign



**LIKELIHOOD OF TAKING THIS ACTION IF SAW MESSAGES THAT
IT HELPS KEEP LOCAL WATERWAYS CLEAN**

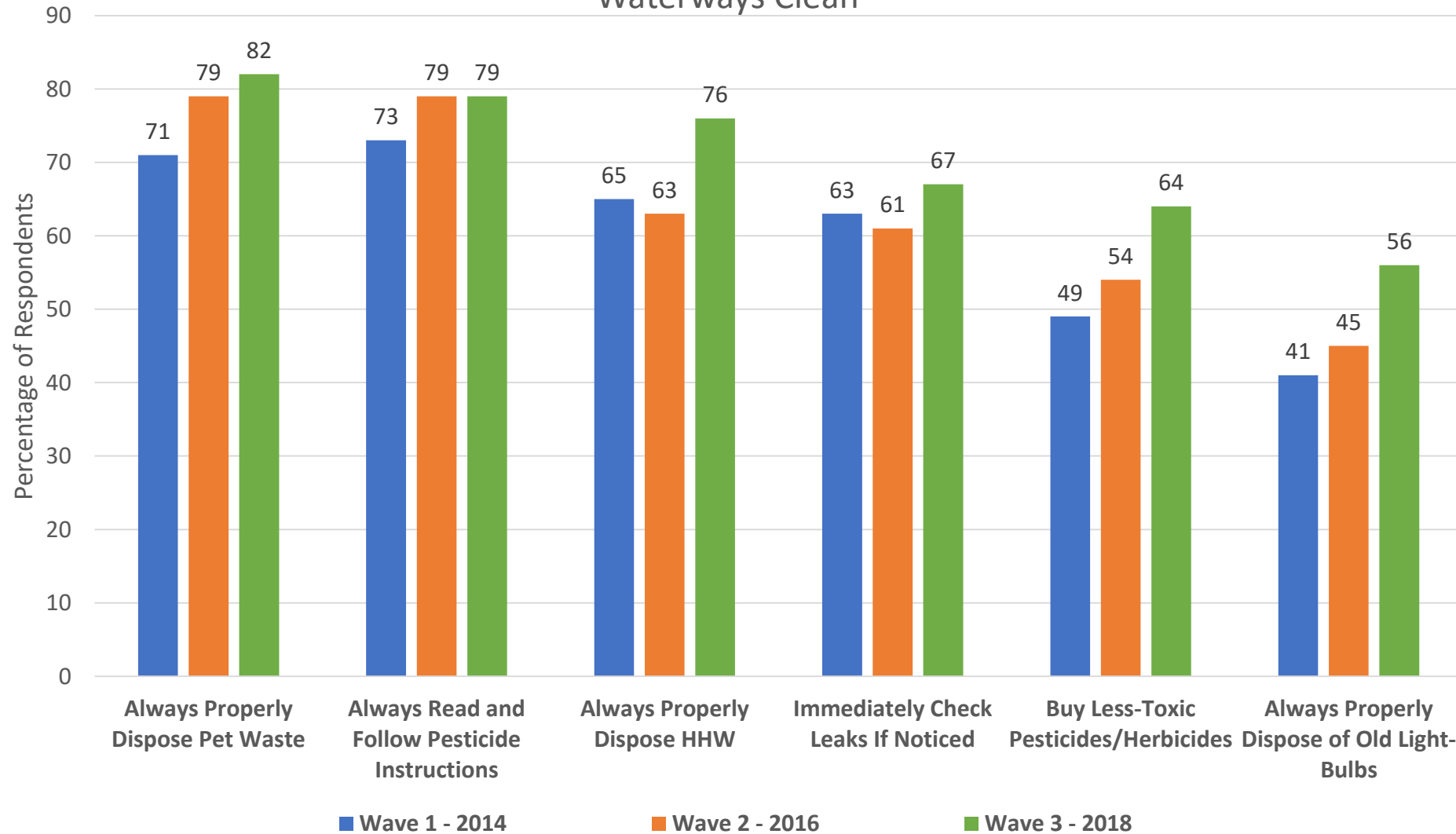
Absolutely / Almost Always Would Take This Action:	2018	2016	2014	N=
	%	%	%	2018
Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash	82	79	71	(195)
Instead of guessing how to apply pesticides or fertilizers, you would need to always read the instructions before using them and then follow those instructions exactly	79	79	73	(323)
Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.	76	63	65	(234)
If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks	67	61	63	(400)
Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic	64	54	49	(323)
If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster	56	45	41	(400)

**LIKELIHOOD OF TAKING THIS ACTION IF
SAW MESSAGES THAT IT HELPS KEEP LOCAL WATERWAYS CLEAN – WAVE 3**

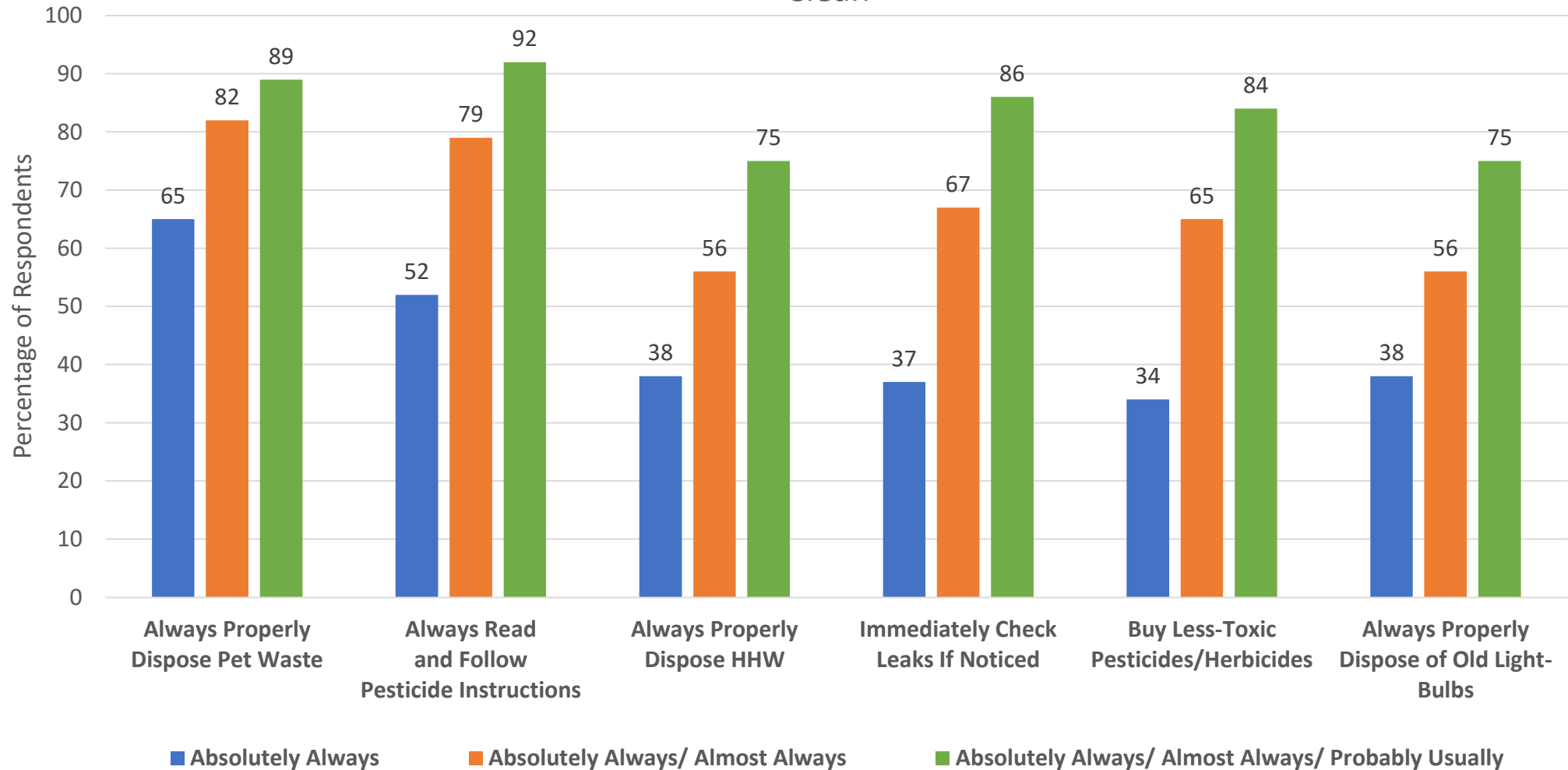
Would Take This Action:	Absolutely Always	Absolutely Always/ Almost Always	Absolutely Always/ Almost Always/ Probably Usually
	%	%	%
Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash	65	82	89
Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.	53	76	86
Instead of guessing how to apply pesticides or fertilizers, you would need to always read the instructions before using them and then follow those instructions exactly	52	79	92
If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster	38	56	75
If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks	37	67	86
Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic	34	64	84

Q If you saw messages that explained how you could help keep local waterways clean simply by adopting that new behavior, how likely would you be to always take that action?

Likelihood of Taking This Action if Saw Messages That it Helps Keep Local Waterways Clean



Likelihood of Taking This Action if Saw Messages That it Helps Keep Local Waterways Clean



13. As part of this survey analysis, each respondent’s level of compliance across two pesticide-related behaviors was calculated. Respondents were then classified into three groups:

- *Fully Complaint* refers to residents who either never use pesticides or always use organic pesticides.
- *Partially Complaint* refers to residents who sometimes stop using pesticides or sometimes use organics.
- *Non-complaint* always use pesticides and never organic pesticides.

Women are somewhat (directionally but not significantly) more compliant than are men. Low-to-moderate income households tend to be more compliant, as are those who live in a townhouse or condominium and rent instead of owning. This may in part be due to their having smaller gardens/yard areas to care for or not having a personal garden area.

INDICATORS OF COMPLIANCE WITH PESTICIDE-RELATED USE – CHARACTERISTICS OF THE MOST & LEAST COMPLIANT RESIDENTS – WAVE 3

	Fully Compliant	Partially Compliant	Non-Compliant
	%	%	%
Male	47	51	49
Female	53	49	51
Mean Income	\$74K	\$87K	\$88K
Live in a Single Family Home	84	86	95
Live in a Townhouse, Condo, Apt.	16	14	5
Own	67	70	82
Rent	33	31	18
N =	(128)	(59)	(136)

“Full Compliant” are people who responded that they always “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilizer”

“Partial Compliant” are people who responded that they usually or sometimes “stop [themselves] from using pesticides/herbicides” and “use an organic or green-friendly pesticide or fertilizer”

“Non-Compliant” are people who responded that they usually do not or never “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilizer”

14. Beliefs about the seriousness of the threat to the area's waterways is instrumental in promoting behaviors that help keep the storm drains clean. Many Sacramentans do not believe that polluted waterways pose a serious to Sacramento. However, the degree that a person believes that polluted lakes, rivers, and streams poses a serious threat to Sacramento, the more likely they are to engage in behaviors to ensure clean stormwater.

Beliefs about the way the storm drainage system functions separate from the sewage system has limited impact on compliance. The public does not seem to think much about the storm drainage infrastructure. Perception that the drains go directly to bodies of water without being treated generally does not lead to greater compliance, although the belief that sewage and storm drains are separate systems generates slightly more compliance.

This reinforces the decision to focus on other messages. The public simply needs to know that bad stuff goes through the storm drainage system and ends up in Sacramento's waterways.

Nevertheless, advertising can and does work. Recall of public service messages or ad campaigns about not killing all the bugs is strongly associated with full or partial compliance.

**INDICATORS OF COMPLIANCE – CHARACTERISTICS & BELIEFS OF
THE MOST COMPLIANT & LEAST RESIDENTS – WAVE 3**

	Fully Compliant	Partially Compliant	Non- Compliant
	%	%	%
Believe Polluted Lakes Rivers & Streams...			
Is "A Very Serious Threat"	50	42	40
Is "A Somewhat Serious Threat"	39	42	46
Is "Not That Much of a Threat"	11	15	14
Think drains almost completely/mainly go directly to bodies of water (without being treated for pollutants, etc.)	46	36	44
Think storm drain & sewer systems are almost completely/mainly separate systems	32	35	33
Recall public service messages or ad campaigns about not killing all the bugs in your yard or garden because some bugs are actually good for it	22	17	12
Recall public service messages or ad campaigns about keeping the water that goes into Sacramento's storm drains clean & unpolluted	30	39	32
Advertising has influenced behavior at home (total sample)	25	27	19
Advertising has influenced behavior at home (among those that recall)	46	46	38
N =	(129)	(59)	(136)

“Fully Compliant” are people who responded that they always “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilize”

“Partially Compliant” are people who responded that they usually or sometimes “stop [themselves] from using pesticides/herbicides” and “use an organic or green-friendly pesticide or fertilizer”

“Non-Compliant” are people who responded that they usually do not or never “stop [themselves] from using pesticides/herbicides” or “use an organic or green-friendly pesticide or fertilizer”

CONCLUSIONS & IMPLICATIONS:

1. This research suggests that if more Sacramentans can be reached by the campaign, it could have even greater impact. Sacramento residents in 2018 are more likely to say such messages would absolutely or almost always make them take the desired actions for all six behaviors tested than they were in 2014-16. Suggesting opportunity for improvement, relatively few Sacramentans recall the main message or tagline from this campaign, yet behavioral change is impressive.
2. The "Some Jeepers Are Keepers" campaign keeps being successful in both reducing Sacramento County residents' use of pesticides and in increasing their use of organic/non-toxic pesticides. This campaign keeps leading to greater compliance among Sacramento residents.
 - These areas were identified as most important back in 2014 and this research confirms the benefit of this strategic focus.
3. The campaign has not impacted other behaviors that contribute to poor stormwater quality. There remains an opportunity for improvement for Sacramento County residents to engage in other behaviors that also help maintain clean stormwater.
4. In addition to reducing pesticide usage, an analogous campaign opportunity exists to focus on reducing fertilizer usage. This behavior lags behind all others.
5. After fertilizer/herbicide usage, getting residents to shop for latex "clean with water" paints and to rinse their paintbrushes indoors is most important.
6. While certainly detrimental and worth addressing, a focus on convincing the public to take their used motor oil to a certified collection center, or to bag their dog's poop, or to never litter is bound to be less impactful because residents are more likely to already engage in these positive behaviors.
7. Continue to focus more on behavior-change messages rather than how the system works.
8. Target younger residence age 18 to 34 with messages that encourage them to look for latex or "clean with water" paints, to bag dog's poop, to properly change their motor oil, and to litter less often.
9. Consider extra emphasis on higher income households who may be more emotionally invested in traditional staunch garden and landscape maintenance or less involved in actual maintenance. Find ways to reach and impact these residents to take initiative.
10. This research confirms the effectiveness of Internet advertising as a media choice for this campaign. Online messages are getting through.
11. Communicate that pollution to Sacramento's lakes, rivers and streams poses a very severe threat to the area. The public still needs to be convinced of the serious consequences of polluted local waterways. Messaging does not need to explain how the water system works.

APPENDIX

QUESTIONNAIRE

SACRAMENTO STORMWATER AWARENESS, BEHAVIORS & ATTITUDES STUDY
CONSUMERQUEST # 1651 – 08/18
3231 Ocean Park Blvd., Ste. 104
Santa Monica, CA 90405
tele (310) 207-6605

QUESTIONNAIRE

SECTIONS IN RED WERE ADDED FOR WAVES 2 & 3.

(DISABLE BACK BROWSER BUTTON. HALF OF INVITATIONS SHOULD BE SENT TO MALE HEAD OF HOUSEHOLD, HALF TO FEMALE HEAD OF HOUSEHOLD. DESCRIBE THE SUBJECT MATTER OF SURVEY AS: "living in Sacramento County.")

A1. Are you....

1. Male
2. Female

A2. Which of these groups includes your age?

1. Under 18
2. 18-24
3. 25-34
4. 35-44
5. 45-54
6. 55-64
7. 65 or over

IF "1", TERMINATE. GET A MIX OF AGES.

A3. Considering the income of all members of your household, which category best describes your total annual household income before taxes?

1. Less than \$20,000
2. \$20,000 to \$29,999
3. \$30,000 to \$39,999
4. \$40,000 to \$49,999
5. \$50,000 to \$59,999
6. \$60,000 to \$74,999
7. \$75,000 to \$99,999
8. \$100,000 to \$149,000
9. \$150,000 or more

GET A MIX OF INCOMES.

B1. Do you live in California?

1. Yes
2. No → TERMINATE.

B2. Which of these metropolitan areas do you live in or near? (READ LIST, BEGINNING WITH DMA BASED ON AREA CODE. RECORD ONE:)

- Los Angeles-Orange County 1
- San Bernardino-Riverside 2
- San Francisco-Oakland-San Jose..... 3
- San Diego..... 4
- Sacramento 5
- Fresno..... 6
- Bakersfield..... 7
- Some other area of California 8

TERMINATE IF ANSWER IS NOT "5".

B3. Our survey today is only for people who live in a certain geographic area. Can you please tell us the ZIP code of where you live so we can determine if you live in the right area.

ENTER 5-DIGIT ZIP CODE: _ _ _ _ _

IF NON-QUALIFYING ZIP CODE, TERMINATE.

C1. Do you live in.... (Click one:)

- 1. A single family home that you own
- 2. A single family home that you rent
- 3. A townhome or condominium that you own
- 4. A townhome or condominium that you rent
- 5. An apartment

1-Intro. Our survey is about issues that involve living in Sacramento County. Before we get to that, we have a few questions about what you normally do. On the pages that follow, you'll see a particular behavior. We want you to think about all times you might want to engage in that behavior, but then stop yourself from doing so. If it is something that you do not want to do at all, then you can indicate that too.

1.1. For example, let's take "Eat at a fast food restaurant". Of all the times you want to eat at fast food restaurant, how often do you stop yourself from eating there?

- 1. I always stop myself from eating at a fast food restaurant
- 2. I usually stop myself from eating at a fast food restaurant, but once in a while I eat there
- 3. I sometimes stop myself from eating at a fast food restaurant, but sometimes I do eat there
- 4. I usually do not stop myself from eating at a fast food restaurant – I usually eat fast food when I want
- 5. I never stop myself from eating at a fast food restaurant – I eat fast food whenever I want

ASK EACH SERIES IN Q.2-6 IN RANDOM ORDER:

2a. Do you have a yard or garden?

1. Yes
2. No → SKIP TO Q.3.

2.1. Of all the times you need to control pests or weeds outdoors, how often do you stop yourself from using pesticides/herbicides?

1. I always stop myself from using pesticides/herbicides
2. I usually stop myself from using pesticides/herbicides, but once in a while I use them to control pests or weeds
3. I sometimes stop myself from using pesticides/herbicides, but sometimes I use them to control pests or weeds
4. I usually do not stop myself from using pesticides/herbicides: I usually use them when needed to control pests or weeds.
5. I never stop myself from using pesticides/herbicides: I use them whenever I need to control pests or weeds.

2.2. Of all the times you need to use fertilizer in your yard or garden, how often do you stop yourself from using fertilizer in your yard or garden?

1. I always stop myself from using fertilizer
2. I usually stop myself from using fertilizer, but once in a while I use fertilizer
3. I sometimes stop myself from using fertilizer, but sometimes I use fertilizer
4. I usually do not stop myself from using fertilizer: I usually use fertilizer as needed
5. I never stop myself from using fertilizer – I use fertilizer whenever I need to

2.3. Of all the times you need to use pesticides or fertilizer in your yard or garden, how often do you use an organic or green-friendly pesticide or fertilizer in your yard or garden instead?

1. I always use an organic or green-friendly pesticide or fertilizer
2. I usually use an organic or green-friendly pesticide or fertilizer, but once in a while I use a regular pesticide or fertilizer
3. I sometimes use an organic or green-friendly pesticide or fertilizer, but sometimes I use a regular pesticide or fertilizer
4. I usually do not use organic or green-friendly pesticide or fertilizer: I usually use regular fertilizer as needed
5. I never use organic or green-friendly pesticide or fertilizer – I use regular pesticide or fertilizer

3a. Do you ever buy household paints?

1. Yes
2. No → SKIP TO Q.4

- 3.1. Of all the times you buy paints, how often do you look for paints labeled "latex" or "cleans with water"?
1. I always look for paints labeled "latex" or "cleans with water"
 2. I usually look for paints labeled "latex" or "cleans with water"
 3. I sometimes look for paints labeled "latex" or "cleans with water"
 4. I usually do not look for paints labeled "latex" or "cleans with water"
 5. I never look for paints labeled "latex" or "cleans with water"
- 3.2. Do you rinse out paint brushes inside the house, or do you freely rinse out paint brushes outside?
1. I absolutely always rinse out paint brushes inside the house
 2. I almost always rinse out paint brushes inside the house, but once in a while do not
 3. I usually rinse out paint brushes inside the house, but sometimes I freely rinse them outside
 4. I usually freely rinse out paint brushes outside
 5. I always freely rinse out paint brushes outside
- 4a. Do you have dog?
1. Yes
 2. No → SKIP TO Q.5.
- 4.1. Regardless of where your dog poops, do you bag your dog's poop and throw it in the trash?
1. I absolutely always bag my dog's poop and throw it in the trash
 2. I almost always bag my dog's poop and throw it in the trash, but once in a while do not
 3. I usually bag my dog's poop and throw it in the trash, but sometimes I do not
 4. I usually do not bag my dog's poop and throw it in the trash
 5. I never bag my dog's poop and throw it in the trash
- 5a. Do you ever change your car or truck's motor oil at your home?
1. Yes
 2. No → SKIP TO Q.6.
 3. No, I take it somewhere to have the oil changed → SKIP TO Q.6.
- 5.1. Do you take your used motor oil to a certified collection center or do you throw it in the trash instead?
1. I always take my used motor oil to a certified collection center
 2. I usually take my used motor oil to a certified collection center, but once in a while I throw it in the trash
 3. I sometimes take my used motor oil to a certified collection center, and I sometimes throw it in the trash
 4. I usually throw it in the trash
 5. I always throw it in the trash

6. Let's face it: Almost everyone litters at least once. For example, some people litter by tossing a plastic wrapper or cigarette butt out the window of a car. About how often do you litter?

1. I never, ever litter
2. I almost never litter. It is really rare that I ever litter.
3. I hardly ever litter
4. I sometimes litter when it's unavoidable
5. I don't care about littering because it gets picked up anyways

7. Here are some different environmental issues that the people of the Sacramento area may face today and in the near future. For each issue, tell us if you think it is a very serious threat to the Sacramento area today, a somewhat serious threat to the Valley today, or not that much of a threat to the Valley today.

RANDOMIZE:

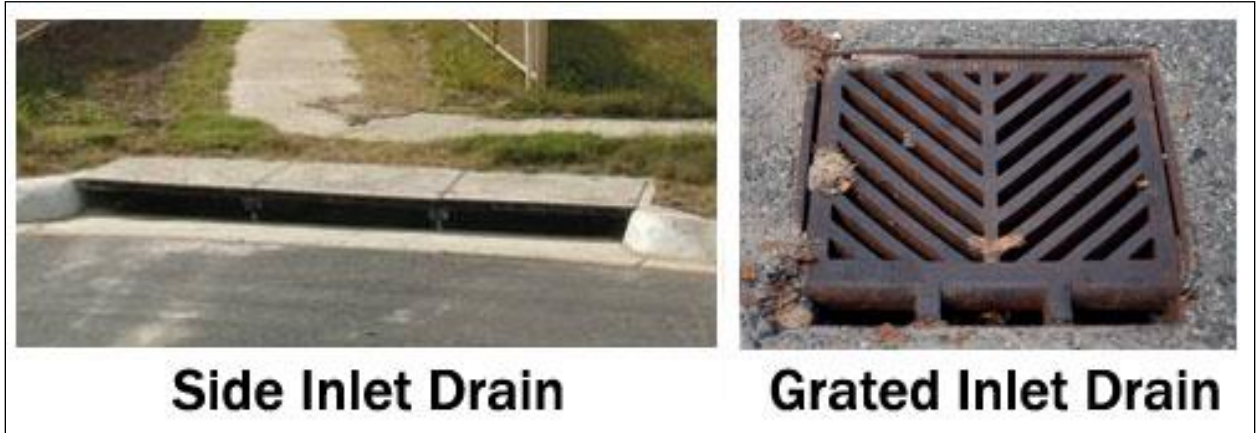
1. Polluted lakes, rivers and streams
2. Inadequate water supply
3. Air pollution
4. Toxic garbage waste disposal
5. Increased traffic congestion
6. Population growth

SCALE IS:

1. A very serious threat to the Sacramento area today
2. A somewhat serious threat to the Sacramento area today
3. Not that much of a threat to the Sacramento area today

7.1. Now, please rank these issues in order of how important they are to the people of the Sacramento area today. Put a 1 next to the most critical or pressing issue, a 2 next to the next most important or pressing issue, and so on, until you've ranked them all.

- 7.2. A storm drain or storm drainage system is designed to drain excess rain and ground water from paved streets, parking lots, sidewalks, and roofs. Storm drains vary in design from small residential dry wells to large municipal systems. They are fed by street gutters on most busy roads. There are two main types of storm drain (storm sewer) inlets: side inlets and grated inlets.



- 7.3. Do you have storm drains in your neighborhood?

1. Yes
2. No
3. Don't know/Not sure

ASK IF Q.7.3 = 1:

- 7.4. Thinking about the storm drains in your neighborhood, where do you think the contents of these storm drains go?

1. To a sewage plant
2. Directly to bodies of water (without being treated)
3. They are treated, then they go to bodies of water

7.5. Two statements are given below, one on the left and one on the right. Please read each statement and then click on the number that best describes what you think.

RANDOMIZE Q.7.3.A-B, AND ROTATE LEFT AND RIGHT WITHIN EACH:

a) *Sacramento's storm drain and Sacramento's sewer system are separate systems. They have different underground pipes.*

Sacramento's sewer system and Sacramento's storm drain system are part of the same system. They use the same underground pipes.

1
Almost Completely
Applies to the
Sacramento area

2
Mainly Applies
to the
Sacramento area

3
Each Describes
The Area Equally

4
Mainly Applies
to the
Sacramento area

5
Almost Completely
Applies to the
Sacramento area

b) *Water and other substances that flow through Sacramento's storm drains go to a treatment plant to be processed and filtered to remove pollutants.*

Water and other substances that flow through Sacramento's storm drains flow directly to bodies of water

1
Almost Completely
Applies to the
Sacramento area

2
Mainly Applies
to the
Sacramento area

3
Each Describes
The Area Equally

4
Mainly Applies
to the
Sacramento area

5
Almost Completely
Applies to the
Sacramento area

- 7.6. How serious a problem do you think pollution is to Sacramento's water bodies?
1. Very serious – Rivers, lakes and streams in the area are polluted and it has serious consequences
 2. Somewhat serious – There's some pollution to rivers, lakes and streams in the area and it has some consequences
 3. Not that serious – There's some pollution to rivers, lakes and streams in the area but it has minor consequences
 4. Not at all serious – There's very little pollution to rivers, lakes and streams in the area and it is of little consequence

IF "4", SKIP TO Q.8.

- 7.7. How much do you think each of the following contributes to water pollution in the Sacramento area? Please answer from 1 to 5 with a "5" being "a lot" and 1 being "not at all".

RANDOMIZE:

1. Industrial and manufacturing plants
 2. Sewer / Waste water treatment plants
 3. Litter in the streets and roadways
 4. Agriculture
 5. Water that runs into storm drains when it rains
 6. People not picking up their dog's poop
 7. Pesticides and fertilizers used in the people's yards
 8. Motor oil and automotive fluids disposed outside
 9. Paints that are not disposed of properly
- 7.8. If you had to guess, what would you say are the three major causes of water pollution in the Sacramento area? Type a "1" next to the primary cause, a "2" next to the second most cause, and a "3" next to the third most cause.

LIST ANY ANSWERED "5" IN Q.7.7.

IF FEWER THAN 3 ARE ANSWERED "5", ADD ITEMS ANSWERS "4".

IF FEWER THAN 3 ARE ANSWERED "4" OR "5", ADD ITEMS ANSWERS "3".

IF FEWER THAN 3 ARE ANSWERED "3", "4" OR "5", ADD ITEMS ANSWERS "2".

OTHERWISE, SHOW ALL STATEMENTS.

8. Here are some different public service messages or advertising campaigns that may or may not have run in your area in the past 12 months. Think about messages and ads you've seen or heard on TV or radio, or read online, in newspapers or magazines, or outdoors (billboards, bus shelters, etc.). For each message listed, please tell us whether or not you read, saw or heard about it.

In the past six months, do you recall reading, seeing or hearing any..... (CLICK ONE ANSWER FOR EACH LISTED:) [RANDOMIZE, BUT ALWAYS ASK F IMMEDIATELY AFTER E:]

<u>SURE</u>	<u>YES</u>	<u>NO</u>	<u>NOT</u>
a) Messages or advertising about the benefits of eating five servings of fruits and vegetables everyday	1	2	3
b) Messages of advertising about the benefits of eating a diet that is high in fiber	1	2	3
c) Messages or advertising about how it is bad to litter or throw trash into the environment	1	2	3
d) Messages or advertising about using less water	1	2	3
e) Messages or advertising about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted	1	2	3
f) Messages or advertising about not killing all the bugs in your yard or garden because some bugs are actually good for it	1	2	3

IF ANSWER TO BOTH Q.8.E AND Q8.F ARE "2", SKIP TO Q.9.

8.1. (IF ANSWER TO Q8.E IS "1" OR "3", ASK:) You said that you may have read, heard or seen messages or advertising about the importance of keeping the water that goes into Sacramento's storm drains clean and unpolluted.

Where did you read, see or hear these messages? Please check the primary place you recall reading, seeing or hearing this message in the last six months in column A and any other places you can recall it from in column B.

	[A] PRIMARY PLACE	[B] ALL OTHER PLACES
Billboard	1	1
Bus Advertising	2	2
Bill insert or flyer from water company	3	3
Internet / online ad	4	4
Magazine	5	5
Newspaper	6	6
Radio commercial	7	7
TV commercial	8	8
News Reports / News Reporters	9	9
Other (SPECIFY: _____) .	10	10
Don't Remember	11	11

Q.8.2A AND Q.8.2B APPEAR ON THE SAME PAGE:

8.2a. What do you remember about the advertising about keeping storm drains clean and unpolluted? Please be specific as possible.

8.2b. What was the one main message that this advertising told you? Please be as specific as possible about what the advertising was trying to tell you.

8.3. (ASK:) What was the specific tag line used in the advertising about keeping storm drains free from pollution? (RANDOMIZE 1-5, FOLLOWED BY 6-7. ALLOW ONE ANSWER).

1. "Slow the Flow"
2. "Be River Friendly"
3. "We All Live Downstream"
4. "Blue Stakes"
5. "Some Jeepers Are Keepers"
6. Other (SPECIFY: _____)
7. Can't remember / Not sure / Don't know

8.4. Having seen or heard this advertising, do you think it has influenced you at home?"

1. Yes
2. Yes, but just a little
3. Maybe a little bit, but not really
4. No

IF ANSWER TO Q8.F IS "2", SKIP TO Q.9. OTHERWISE, ASK:)

8.5. You said that you may have read, heard or seen messages or advertising about *not killing all the bugs in your yard or garden because some bugs are actually good for it.*

Where did you read, see or hear these messages? Please check the primary place you recall reading, seeing or hearing this message in the last six months in column A and any other places you can recall it from in column B.

	[A] PRIMARY <u>PLACE</u>	[B] ALL OTHER <u>PLACES</u>
Billboard	1	1
Bus Advertising	2	2
Bill insert or flyer from water company	3	3
Internet / online ad	4	4
Magazine	5	5
Newspaper	6	6
Radio commercial	7	7
TV commercial	8	8
News Reports / News Reporters	9	9
Other (SPECIFY: _____) .	10	10
Don't Remember	11	11

8.6. (ASK:) What was the specific tag line used in the advertising about not killing all the bugs in your yard or garden because some bugs are actually good? (RANDOMIZE 1-5, FOLLOWED BY 6-7. ALLOW ONE ANSWER).

1. "Slow the Flow"
2. "Be River Friendly"
3. "We All Live Downstream"
4. "Blue Stakes"
5. "Some Jeepers Are Keepers"
6. Other (SPECIFY: _____)
7. Can't remember / Not sure / Don't know

8.7. Having seen or heard this advertising, do you think it has influenced you at home?"

1. Yes
2. Yes, but just a little
3. Maybe a little bit, but not really
4. No

9. Finally, before you go, one more question...

Listed below are different actions people can take to keep local waterways clean and free of harmful materials. If you saw messages that explained how you could help keep local waterways clean simply by adopting that new behavior, how likely would you be to always take that action?

ASK EVERYONE 5, 6. ASK 1-4 UNLESS:

IF Q2A=2, DO NOT ASK 1, 2.

IF Q3A=2, DO NOT ASK 3.

IF Q4A=2, DO NOT ASK 4.

RANDOMIZE ORDER:

1. Instead of guessing how to apply pesticides or fertilizers, you would need to *always* read the instructions before using them and then follow those instructions exactly.
2. Instead of buying your ordinary pesticide or herbicide, you would need to only buy certain ones that are identified as less toxic.
3. Instead of throwing empty paint cans in the regular trash, you would need to always take them to a hazardous waste facility.
4. Instead of occasionally not scooping up your dog's poop, you would always bag it and throw it in the trash.
5. If you ever noticed spots under where you park your vehicle indicating a slow leak, you would immediately have your vehicle checked and repaired instead of waiting a few days or weeks
6. If you had a fluorescent light-bulb and it burned out, you would need to always take the burned out bulb to a hazardous waste facility rather than throw it in the trash or dumpster.

SCALE IS:

1. Absolutely, I would always do this, no exceptions
2. Definitely, I would almost always do this
3. Probably, I would usually do this
4. I might or might not do this
5. Realistically, I probably would not do this all the time

END. That's all the questions I have today! Thank you very much for your help!