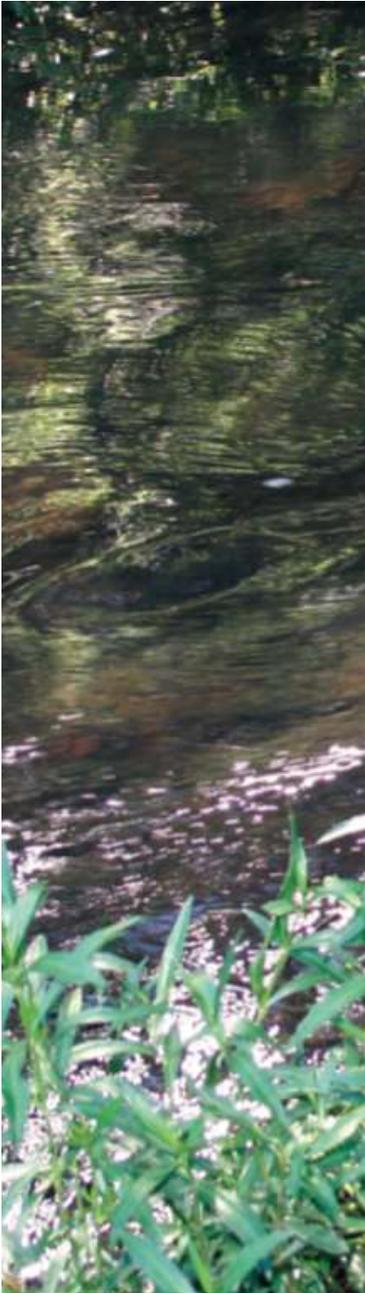




2021 Project WIN / MS4 Public Behavior Change Assessment Survey Summary

September 27, 2021



REPORT CONTENTS

- Survey Objectives
- Survey Overview
- Key Findings
- Detailed Findings
- Appendix A: Online Survey
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Survey Objectives

- The purpose of the survey was to understand the following prior to developing a Project WIN public outreach communications strategy:
 - Public attitudes toward clean waterways as an environmental issue.
 - Awareness and knowledge of key water pollution issues.
 - Public willingness to change behaviors to improve and protect the community's waterways.
 - Updated elements of an effective strategic public outreach communications plan.



SURVEY OVERVIEW



OVERVIEW – Online Survey

- The survey used was the same version as in 2013, 2015, 2017, and 2019. Due to survey length, respondents were given a \$5 e-gift card after the survey was completed.
- The survey invitations were sent out over 31 days from June 7 to July 7. The survey was kept open through August 13. An email ‘cleaning’ service was used to remove invalid/expired addresses.

| | 2021 (#) | 2021 (%) | 2019 | 2017 | 2015 | 2013 |
|-------------------------------------|----------|----------|---------|--------|--------|--------|
| Invitations sent (#) | 49,990 | NA | 110,000 | 50,800 | 25,000 | 20,000 |
| Emails bounced back | 366 | 0.7% | 4.2% | 13.7% | 3.2% | 6.5% |
| Respondents opted out | 216 | 0.4% | 0.6% | 0.8% | 0.8% | 0.4% |
| Respondents failed screener | 123 | 0.3% | 0.2% | 0.3% | 0.9% | 1.0% |
| Partially completed survey | 774 | 1.6% | 0.6% | 0.8% | 1.3% | 3.1% |
| Completed the survey | 1026* | 2.1% | 0.9% | 1.4% | 4.2% | 5.4% |
| Entered the prize drawing | NA | N/A | 81.9% | 87.8% | 94.5% | 94.5% |
| Survey margin of error (+/-) | | 3.2% | 3.1% | 3.7% | 3.1% | 3.1% |

*Includes 77 responses from the open link survey (not email-solicited).

Survey Methodology

- Respondents were required to be Jefferson County residents and not employed in any of the following industries: Advertising or Marketing, Market Research, TV or Radio Station, Public Utility.
- No quotas were placed on age, gender or zip code. However, the collected sample was an excellent demographic and geographic cross-section of Jefferson County residents.
- The e-mail list used for survey solicitations was provided by Louisville Water in 2021.
- The survey was 10-15 minutes in length.
- The data was weighted using age, gender, rent/own residence and ZIP code area to match the current demographics of the MSD customer base. This is the same procedure used for the 2013, 2015, 2017, and 2019 surveys.





ZIP Code Segmentation

- ZIP codes were mapped as close as possible to the sewer and watersheds (see Appendix B).
- The segmentation resulted in 6 areas:
 - Downtown & West City [40202, 40203, 40208, 40210, 40211, 40212, 40215]
 - East City [40204, 40205, 40206, 40207, 40217, 40218, 40220]
 - Southwest [40216, 40258]
 - South County [40209, 40213, 40214, 40219, 40225, 40228, 40229, 40272, 40047, 40109, 40118, 40177]
 - East County [40018, 40023, 40243, 40245, 40291, 40299]
 - Northeast County [40025, 40059, 40222, 40223, 40241, 40242]



Demographics by ZIP Code

| | Total | Downtown / West City | Southwest | East City | South Co. | North East Co. | East Co. |
|----------------------|----------|----------------------|-----------|-----------|-----------|----------------|----------|
| Age (Mean) | 46.5 | 43.2 | 54.2 | 45.0 | 44.4 | 51.9 | 48.6 |
| % Male/Female | 47/53 | 33/67 | 39/61 | 49/51 | 49/51 | 56/44 | 50/50 |
| % HH with Kids <18 | 42.4 | 47.3 | 51.8 | 37.0 | 38.4 | 40.1 | 50.7 |
| % College graduate + | 68.1 | 39.1 | 65.6 | 78.0 | 58.0 | 85.8 | 73.5 |
| Income (Mean) | \$74,426 | \$45,110 | \$59,989 | \$77,371 | \$66,573 | \$100,001 | \$89,869 |
| % Own Residence | 63.3 | 30.3 | 62.1 | 58.3 | 64.3 | 80.1 | 84.8 |
| % Dog Ownership | 48.1 | 35.9 | 48.3 | 52.1 | 50.7 | 46.3 | 48.2 |
| % Use Fertilizer | 26.0 | 10.2 | 29.6 | 22.1 | 12.7 | 48.9 | 44.6 |



KEY FINDINGS

KEY FINDINGS

Notable significant shifts since 2019

Favorable shifts in awareness or attitude

- Since 2015, residents who rate the overall water quality or health of the waterways in Jefferson County as Good or better has steadily increased:
 - 2021 – 60%
 - 2019 – 56%
 - 2017 – 54%
 - 2015 – 46%
- Among respondents who rated the overall water quality as Excellent or Very good, 44% (+12%) say the water is 'clean' and 22% (+10%) say the 'drinking water is good'.
- More residents think runoff and flooding cause the river to become polluted after a rain (32% vs 21% in 2019). Further, more residents agree that rainwater runoff is a leading cause of pollution (41% vs 36% in 2019, Top 2).
- The number of residents who currently take action to reduce water pollution has trended upward over the last nine years, 51% vs 46% in 2013.



KEY FINDINGS

Notable significant shifts since 2019

Favorable shifts in awareness or attitude

- Since 2017, residents feel more personally responsible for reducing rainwater runoff pollution and sewer system overflow (66% vs 62% in 2017).
- Respondents disagree more that human activities have no significant impact on the water quality in our waterways (88% vs 83% in 2019).
- Messages relating to cause and effect, consequences and environmental impact are most likely to motivate residents to action (24% vs 16% in 2019).
- Social media is becoming a more preferred way for residents to receive emergency information (36% vs 30% in 2019).
- There is an increase in knowledge of the positive things MSD does in the community:

| | 2021 | 2019 | Change |
|--------------------------------|------|------|--------|
| Installs / maintain sewers | 30.0 | 24.6 | +5.4 |
| Cleans the water | 12.5 | 5.7 | +6.8 |
| Cleans sewers and ditches | 9.2 | 4.8 | +4.4 |
| Repairs pipes / infrastructure | 10.8 | 6.5 | +4.3 |



KEY FINDINGS

Notable significant shifts since 2019

Favorable shifts in awareness or attitude

- There is a decrease in negative perceptions of MSD's role in the community:

| | 2021 | 2019 | Change |
|---------------------------|------|------|--------|
| Corrupt / inadequate | 4.1 | 13.1 | -9.0 |
| Continues to raise prices | 5.3 | 5.5 | -0.2 |





KEY FINDINGS

Notable significant shifts since 2019 (continued)

Unfavorable shifts in awareness or attitude

- Residents consider environmental issues less important than in 2019.

| | 2021 | 2019 | Variance |
|-------------------------------------|------|------|----------|
| Protecting waterways from pollution | 65 | 67 | -2 |
| Conserving energy resources | 45 | 52 | -7 |
| Reducing climate change | 53 | 56 | -3 |
| Preserving open spaces | 39 | 40 | -1 |
| Increasing tree canopy | 33 | 42 | -9 |

- More residents are unsure how rain affects the water quality or health of our waterways (35% vs 27% in 2019). They are also unsure if waterways become unsafe after it rains (43% vs 39% in 2019).
- Fewer residents know that rain adds pollutants to our waterways (29% vs 31% in 2019) or that they should not use local waterways after it rains because they have become unsafe (36% vs 38% in 2019).



KEY FINDINGS

Notable significant shifts since 2019 (continued)

Unfavorable shifts in awareness or attitude

- Residents feel less informed about the causes of rainwater runoff pollution (12% vs 13% in 2019). They are also less informed about the causes of sewer system overflow (11% vs 14% in 2019).
- More residents strongly agree that MSD should incent customers to reduce water pollution (31% vs 27% in 2019).
- Fewer residents recall hearing about the impact of rainwater runoff pollution and sewer system overflow and ways they can prevent it (14% vs 17% in 2019).
- There is an increase in the number of residents who don't know what MSD does in the community (19% vs 9% in 2019).
- A positive opinion of MSD has slipped in recent years (36% vs 40% in 2019 and 2017).



KEY FINDINGS

Public attitudes toward clean waterways

- Louisville residents continue to consider protecting our waterways from pollution one of the community's most important environmental issues, though this opinion is steadily declining. Reducing climate change is the second most important issue.
 - Southwest residents (80%) and older adults over 60 (71%) consider protecting our waterways the most important environmental issue.
- It remains important to residents that they have clean waterways, and 60% rate the overall quality of Louisville's waterways as Good or better, an increase from 55% in 2019. Like previous studies, many residents (47%) perceive the waterways are polluted.
 - Women (43%), residents 40-49 (44%) and Northeast County residents (44%) more strongly perceive the waterways are polluted.



KEY FINDINGS

Public attitudes toward clean waterways *(continued)*

- Residents (64%) remain frightened by the pollution of the river, creeks and ponds (63% in 2019).
- Most residents (88%) believe human activities have a significant impact on the quality of Louisville's waterways (83% in 2019).
 - East City residents (93%) and residents <30 (94%) agree the most that humans have an impact on the quality of waterways.



KEY FINDINGS

Knowledge of the issues

- As was found in the 2015, 2017 and 2019 surveys, residents generally are not very informed about the causes or impact of rainwater runoff pollution and sewer system overflow.
 - 35% don't know how rain affects water quality (+8% vs 2019)
 - 43% aren't sure if it is safe to use area waterways after it rains (+4% vs 2019)
 - 21% think it is safe to use waterways after it rains (-3% vs 2019)
 - 55% don't feel informed about the causes of rainwater runoff pollution (+3% vs 2019)
 - 61% don't feel informed about the causes of sewer system overflow (+3% vs 2019)
 - Men are more informed than women on both issues
 - Rainwater runoff pollution (informed/very informed): Men 14%, Women 10%
 - Sewer system overflow (informed/very informed): Men 12%, Women 11%
 - Seniors 60+ are more informed about both rainwater runoff pollution (16%) and sewer system overflow (19%).



KEY FINDINGS

Knowledge of the issues (continued)

- As in 2015 and 2017, residents still do not fully understand the role of the sewer system in the rain management process.
 - 70% aren't sure or agree that storm water is treated before being released back to our waterways (67% in 2019 and 58% in 2017).
 - 59% aren't sure or disagree that rainwater runoff is a leading cause of water pollution (65% in 2019).
 - 74% aren't sure or disagree that sewer system overflow occurs frequently (72% in 2019).
 - 62% say the evidence they have seen about water pollution is reliable (60% in 2019). About one-third is not sure if the information is reliable.



KEY FINDINGS

Knowledge of the issues (continued)

- Agreement that rainwater runoff is a leading cause of pollution has increased since 2019 (+4.6%) while agreement around other key issues has declined.
 - Younger adults are most likely to understand and agree with key issues.

Agreement with Key Issues

| Issue | Top 2 vs 2019 | Gender Top 2 | Age Top 2 | Geography Top 2 |
|--|---------------|------------------|---|---|
| Storm water is treated before returning to waterways | -0.8% | M: 40% F: 41% | Highest: 30-39, 45% Lowest: 60+, 36% | Highest: Southwest, 51% Lowest: NE County, 39% |
| Rainwater runoff is a leading cause of pollution | +4.6% | M: 41% F: 39% | Highest: <30, 53% Lowest: 30-39, 35% | Highest: East City 45% Lowest: NE County, 36% |
| Sewer system overflow occurs frequently | -2.2% | M: 27% F: 26% | Highest: 40-49, 37% Lowest: 50-59, 21% | Highest: Downtown, 37% Lowest: Southwest, 17% |



KEY FINDINGS

Knowledge of the issues (continued)

Key insights:

- *Louisville residents consider it very important to protect the city's waterways from pollution, especially young adults.*
- *Most residents, however, remain under-informed about how rainwater runoff pollution and sewer system overflow can impact waterways. They are also under-informed or mis-informed about the role the sewer system plays in rain management.*
- *Residents are very receptive to being educated about the causes of water pollution. Messages should be factual and rational and show the environmental impact of protecting and not protecting Louisville's waterways.*
- *A large majority of residents knows there are actions they can take to reduce water pollution, but only one-half act. Educational programs and prescriptive messaging may help residents improve their knowledge of the issues and understand how they can modify behaviors to protect the waterways they value.*



KEY FINDINGS

Willingness to take action

- More than half of residents (51%) say they **currently take actions** to reduce water pollution, a 2% increase over 2019.
- A large majority (81%) believe there are things they **could be doing** to reduce water pollution, unchanged since 2019.
- Among those who currently take action to reduce water pollution:
 - More residents pick up trash (+4%)
 - More residents clean up sewers and street drains (+4%)
 - Fewer residents don't litter (27% vs 41% in 2019)
 - Since 2013, there is a steady decline in the number of residents who are careful about what they pour down the drain (5% in 2021 vs 28% in 2013).



KEY FINDINGS

Willingness to take action (continued)

- The top 5 actions residents **would be willing to take** to reduce pollution in our waterways include:
 - Putting FOGs in the trash rather than the drain (89%, -0.5% since 2019)
 - Putting wipes in the trash rather than the toilet (87%, -0.4% since 2019)
 - Picking up trash in the gutter where they live (85%, -1.6% since 2019)
 - Taking hazardous wastes to a collection center (84%, -3.8% since 2019)
 - Using environmentally friendly lawn products (80%, -2.0% since 2019)
- The 3 actions residents **are least willing to take** to reduce pollution in our waterways include:
 - Creating a rain garden (36%)
 - Installing a rain barrel to catch rainwater (44%)
 - Picking up pet waste in public areas (45%)



KEY FINDINGS

Willingness to take action (continued)

- Residents think the following actions increase rainwater runoff pollution the most:
 - Improperly disposing of hazardous waste (97%, -0.3% vs 2019)
 - Putting trash in the gutter (91%, -0.7% vs 2019)
 - Leaking fluids from vehicles (90%, -3.7% vs 2019)
 - Using non-environmentally friendly chemicals (89%, -0.1% vs 2019)
- Since 2019, fewer residents consider washing their car in the driveway, a contributing factor to rainwater runoff pollution (53% vs 56% in 2019).



KEY FINDINGS

Willingness to take action (continued)

- Similar to 2017 and 2019, 93% of residents think flushing wipes is a primary cause of sewer system overflow. Other actions they think contribute to system overflow include:
 - Putting lawn clippings and leaves in the gutter (81%)
 - Pouring FOGs down the drain (81%)
 - Flushing hair down the toilet (68%)
- Several segments associate flushing wipes with sewer system overflow:
 - Gender: Women (94%)
 - Age: 50-59 (96%)
 - Area: Downtown (94%) and East City (94%)
- Renters (90%) and Southwest residents (88%) are less likely to make the association.



KEY FINDINGS

Willingness to take action (continued)

- Most residents (92%) agree that “everyone can do their part” to reduce the effects of water pollution.
 - Women (61%) more than men (48%) strongly agreed we can all do our part
 - Downtown (69%) and East City residents (58%) more than other geographies also strongly agree everyone can do their part
- Since 2019, there has been a 3% increase in those who feel personally accountable for reducing waterway pollution (66% vs 63% in 2019). Those who would do their part regardless of the actions of others remained unchanged (71%).
 - Women (72%) and East City (82%) are most likely to do their part independent of others
 - A large majority (83%) continue to hold government, business and industry responsible for reducing rainwater runoff and sewer system overflow
 - Two-thirds (67% vs 63% in 2019) agree the utility company should provide incentives for people to reduce water pollution.



KEY FINDINGS

Key insights:

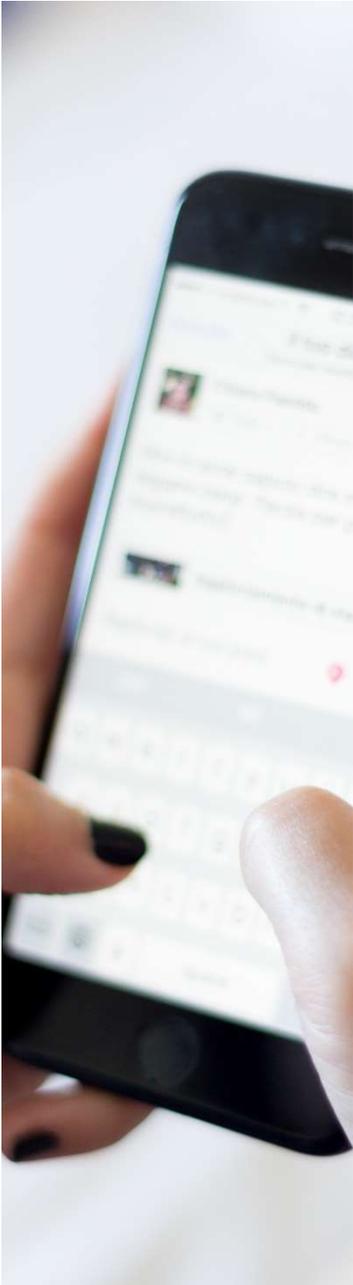
- *A large majority of Louisville residents know there are actions they can take to reduce water pollution. However, there are gaps between what actions residents are currently taking and what actions they are willing to take.*
- *A gap analysis would help MSD identify areas of opportunity and prioritize educational programs and outreach campaigns. For example:*
 - *Almost all adults are willing to not put fats, oils and grease down the drain, but only a small percentage currently do this.*
 - *Almost all adults also say they are willing to not flush wipes down the toilet, however wipes were not mentioned as an action residents currently take.*
 - *A large majority of residents are willing to take hazardous waste to a collection site, but this was not offered as something residents do.*

KEY FINDINGS

Communications/How to Engage

- Fewer residents have heard something in the last year about the impact of rainwater runoff pollution or sewer system overflow and ways they can prevent it (14% vs 17% in 2019). More residents have no awareness or are unsure (86% vs 83% in 2019).
 - Those who have heard something recall information about avoiding creeks, ponds and rivers right after rainfall, general tips to prevent water pollution, and not washing clothes while it's raining. They heard these messages through TV, signs posted near waterways, newspaper and email.
 - In 2021, residents recalled different information than they did in 2019: being careful about what to put in the drain, not littering, and not washing clothes while it's raining.

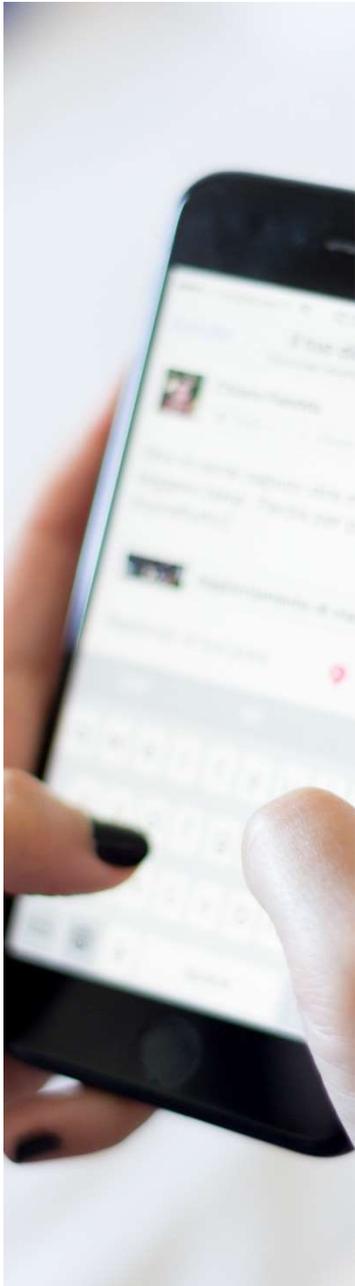




KEY FINDINGS

Communications/How to Engage (continued)

- Residents continue to want to be educated with facts about water pollution issues.
- Specifically, they would like to receive general education, statistical data and an environmental report.
 - Residents preferring general education include:
 - Under 30 (82%)
 - Southwest (83%)
 - Statistical information appealed to those 40-49 (55%).
 - East City residents (65%) prefer an environmental report.



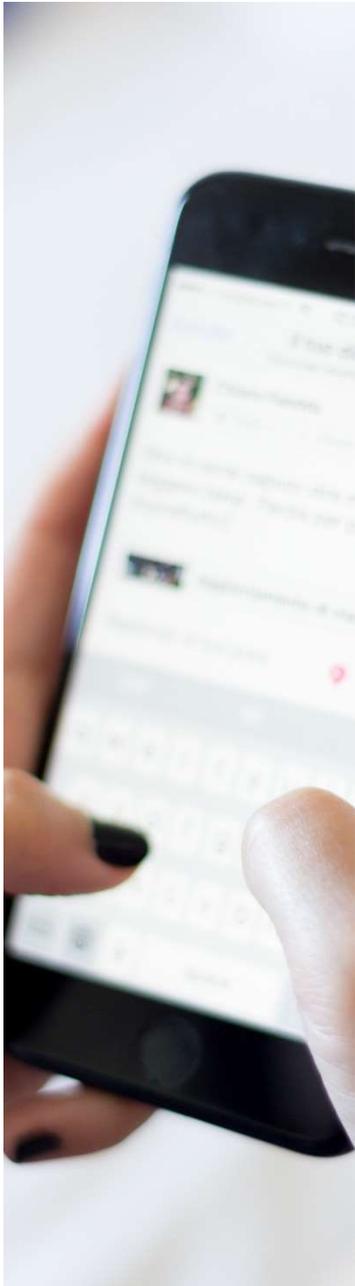
KEY FINDINGS

Communications/How to Engage (continued)

- Residents are varied in their media channel preferences, depending on age and type of communication. The top channel for each information type by age group appear in the chart below.
- Consistent since 2013, almost two-thirds of residents (62%) read the newsletters included with their monthly bill.

Communications Preferences by Age and Type, % Ranked 1st

| Age | Emergency | % | Community News | % | How-to Info | % | General Notices | % |
|-------|-----------|----|----------------|----|-------------|----|-----------------|----|
| <30 | Email | 30 | Email | 35 | Email | 32 | Email | 39 |
| 30-39 | Email | 20 | Social Media | 28 | Email | 26 | Email | 27 |
| 40-49 | TV | 26 | TV | 23 | Direct Mail | 21 | Email | 26 |
| 50-59 | TV | 29 | TV | 29 | Internet | 21 | Email | 23 |
| 60+ | TV | 45 | TV | 36 | Email | 26 | Email | 28 |



KEY FINDINGS

Communications/How to Engage (continued)

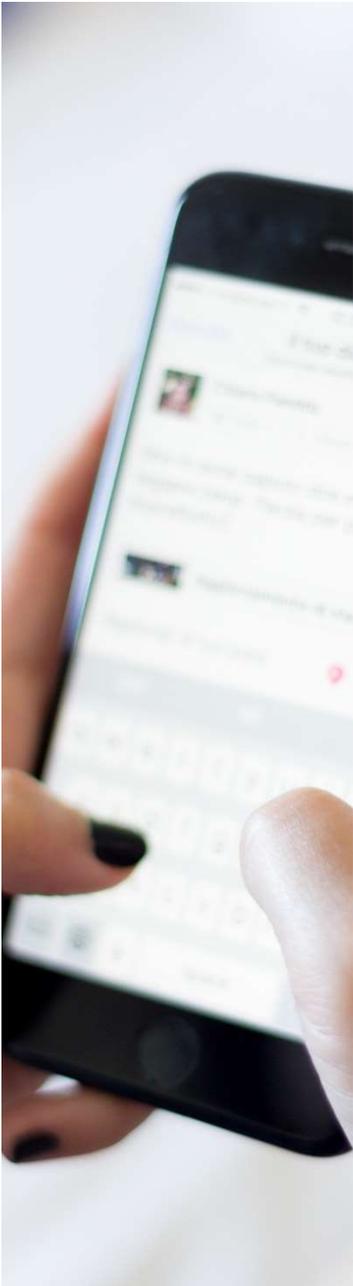
- Social media, the internet and email continue to gain as preferred channels for how-to information and general notices. (Ranked Top 4)

| | Social Media | | | Internet | | | Email | | |
|------------------------------|--------------|------|--------|----------|------|--------|-------|------|--------|
| | 2021 | 2019 | Change | 2021 | 2019 | Change | 2021 | 2019 | Change |
| Emergency information | 58% | 58% | 0% | 53% | 54% | -1% | 51% | 59% | -8% |
| Community News | 59% | 61% | -2% | 42% | 39% | +3% | 57% | 59% | -2% |
| How-to information | 59% | 49% | +10% | 66% | 56% | +10% | 62% | 56% | +6% |
| General notices | 54% | 47% | +7% | 48% | 39% | +9% | 66% | 65% | +1% |

KEY FINDINGS

Key insights:

- *Awareness of rainwater runoff pollution and sewer system overflow as causes of water pollution remains low among Louisville residents. Further, recall of key messages varied from 2019 to 2021.*
- *MSD has an opportunity to focus outreach efforts on key topics that will build awareness, modify behaviors and have the most impact on protecting waterways. To be effective, the team should consider a cost/impact analysis to identify topical priorities and optimize the budget.*
- *Media preferences are more splintered than previous years. These preferences indicate the need for outreach campaigns that are highly integrated across a variety of channels and touchpoints. The newsletters included in the bill continue to be an effective touchpoint for most residents in every age group and should be considered as part of any campaign.*





KEY FINDINGS

Perceptions about MSD

- The positive opinion of MSD decreased slightly since 2019 (36% vs 40% in 2019).
- The knowledge of what MSD does has decreased since 2019. When asked what MSD does in an open-ended question, residents said:

| | 2021 | 2019 | Change |
|--|------|------|--------|
| Install and maintain sewers | 30% | 25% | +5% |
| Cleans the water | 13% | 6% | +7% |
| Repair pipes & infrastructure | 11% | 7% | +4% |
| Cleans sewers & ditches | 9% | 5% | +4% |
| Provide drainage control | 8% | 9% | -1% |
| Prevent flooding | 5% | 4% | +1% |
| Treat wastewater | 5% | 9% | -4% |

- 19% of residents don't know what MSD does vs 9% in 2019.



KEY FINDINGS

Perceptions about MSD (continued)

- Residents want MSD to continue to educate and provide more information and awareness to protect the health of the community’s waterways. In open-ended responses about MSD’s role:

| | 2021 | 2019 | Change |
|--------------------------------------|------|------|--------|
| Education | 30% | 21% | +9% |
| Provide more information | 26% | 15% | +11% |
| Inform public of ways to help | 12% | 7% | +5% |
| Provide incentives | 10% | 8% | +2% |

- Key insight: Residents continue to want MSD to educate them about protecting the community’s waterways.*

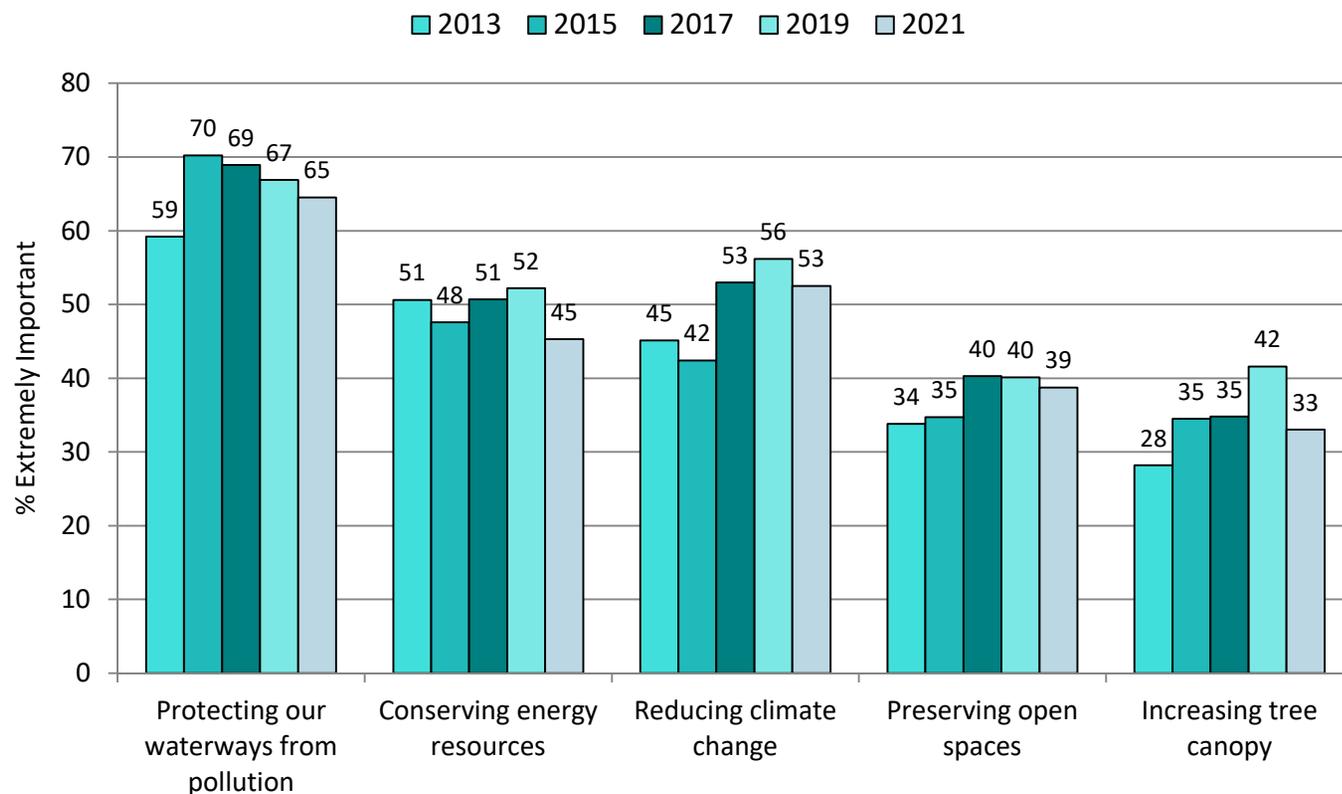


DETAILED FINDINGS



Q3 RESULTS – Importance of Environmental Issues

For each of the following environmental issues, indicate how important you feel the issue is to you.

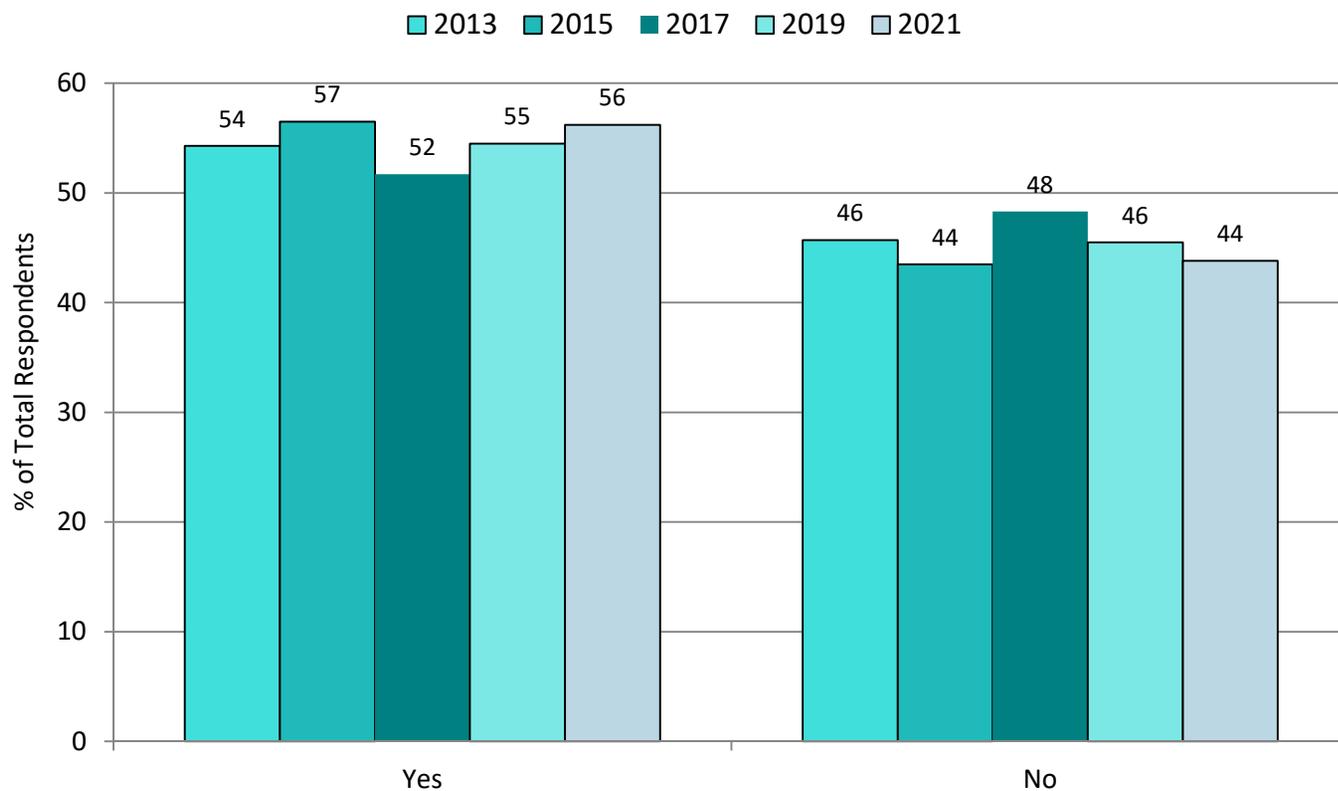


- Protecting Waterways continues to be the most important issue, although it continues to decline over time. The decrease is driven by East County (67.6% to 50.0%) and Males (70.5% to 63.7%). Climate Change importance maintained the increase in 2017. This comes from Downtown (67.3%) and East City (62.4%).

Q4 RESULTS – Waterway Use



Do you use the river, creeks and ponds for recreational purposes in Jefferson County, Kentucky?



- Waterway usage remains at a constant level. Residents under 30 (73.7%) continue to be the biggest recreational users, while those who are age 60+ (55.3%) use waterways the least. Also, usage is spread evenly across the county.

Q5 RESULTS – Waterway Use



PUBLIC ATTITUDES
ABOUT CLEAN
WATERWAYS

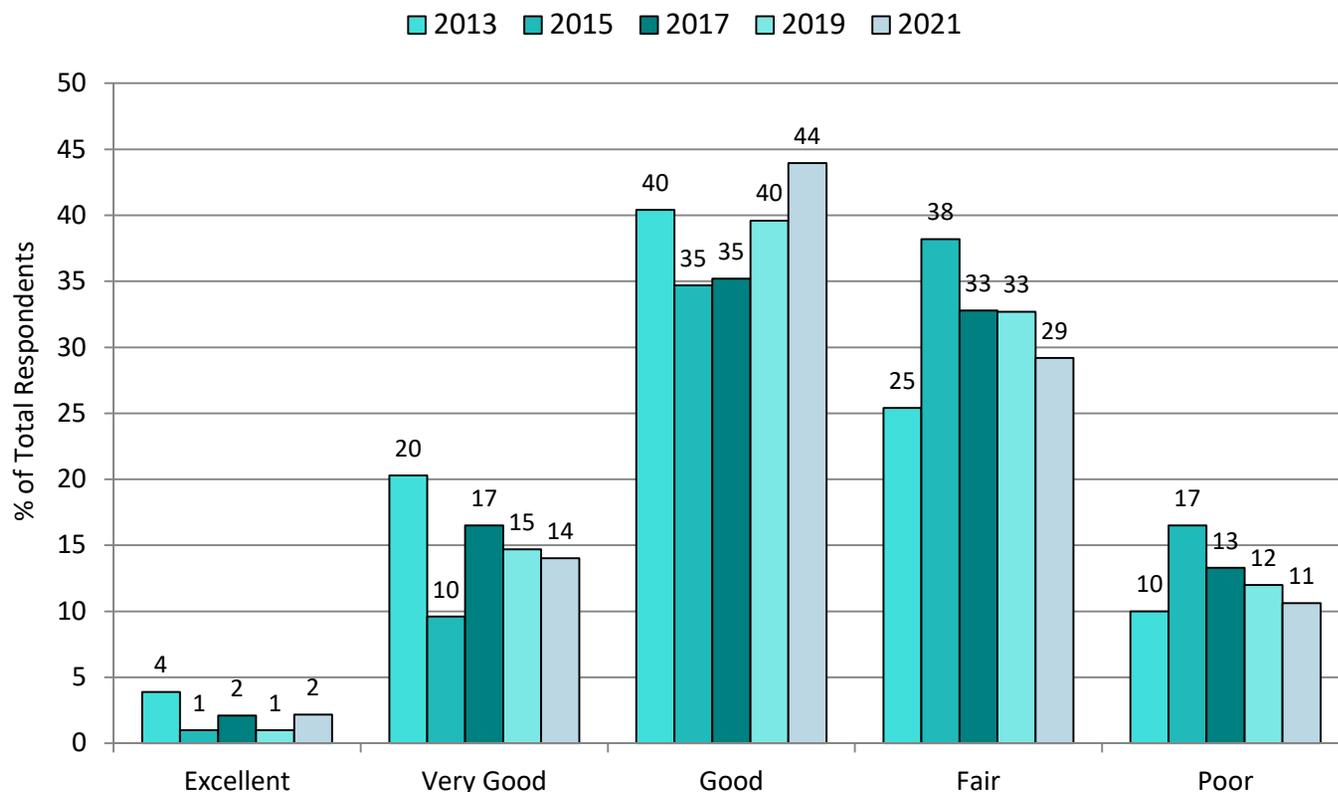
| Why don't you use the river, creeks and ponds for recreational purposes? (Total Respondents, open-end) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Don't want to / no interest | 21.6 | 8.2 | 10.3 | 14.4 | 15.1 |
| Don't own a boat | 15.0 | 12.4 | 22.3 | 10.5 | 13.9 |
| Not an outdoor / water person | 14.8 | 14.9 | 16.4 | 13.3 | 15.7 |
| Pollution / contamination / unclean water | 12.9 | 19.9 | 32.2 | 25.2 | 23.6 |
| Don't fish | 10.5 | 10.2 | 13.7 | 7.1 | 8.5 |
| Go outside of Louisville / Jefferson County for this | 8.1 | 6.1 | 2.7 | 5.8 | 4.9 |
| Age / too old | 6.8 | 8.9 | 6.6 | 4.6 | 8.0 |
| Busy lifestyle / work too much | 6.2 | 9.8 | 9.0 | 11.9 | 16.6 |
| Not sure what's available | 5.3 | 1.5 | 0.4 | 1.8 | 1.8 |
| Don't swim | 4.1 | 5.1 | 6.4 | 3.4 | 3.6 |
| Disabled | 3.6 | 8.1 | 6.0 | 8.2 | 3.4 |
| Do not live by any | 3.5 | 5.4 | 4.5 | 4.8 | 2.4 |

- Use of waterways for recreational purposes due to pollution/contamination remains the prohibiting factor. This continues to be driven by those age 25-34 (45.5%).



Q6 RESULTS – Overall Quality/Health of River, Creeks and Ponds

How would you rate the overall water quality or health of the river, creeks, and ponds in Jefferson County, Kentucky?



- There is a slight downward trend of the Fair/Poor overall water quality/health ratings over the past 6 years. These declines are driven by South County, Northeast County and East County. Those under 30 have the lowest Fair/Poor ratings (34.9%) and Downtown residents have the highest Fair/Poor ratings (56.4%).

Q7 RESULTS – Overall Quality/Health of River, Creeks and Ponds



| Why do you give that rating? (Total Respondents, open-end) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Lots of pollution / trash / debris / dirty | 29.4 | 44.2 | 45.8 | 44.3 | 46.5 |
| Visual observation / look of it | 17.9 | 5.0 | 8.1 | 14.5 | 9.3 |
| Lakes are ok – river is bad | 7.8 | 0.7 | 2.7 | 3.9 | 4.7 |
| Sewage / storm runoff | 7.6 | 9.9 | 11.0 | 7.7 | 6.8 |
| From what I read / hear | 5.5 | 6.0 | 8.8 | 5.2 | 5.8 |
| Clean | 4.2 | 4.8 | 11.9 | 7.9 | 10.5 |
| Well maintained | 4.0 | 1.2 | 4.0 | 1.7 | 5.1 |
| Always room for improvement | 3.9 | 10.9 | 6.0 | 5.4 | 6.5 |
| Haven't had any issues / problems | 2.9 | 2.1 | 3.0 | 2.4 | 2.3 |
| Conditions are improving | 2.2 | 2.6 | 3.7 | 2.9 | 2.5 |
| My perception / impression | 2.0 | 2.4 | 2.8 | 2.9 | 1.8 |
| All others | 4.7 | 1.7 | 1.5 | 5.9 | 0.5 |
| Don't know | 13.7 | 0.8 | 2.2 | 4.4 | 4.2 |

- Those under 30 (58.9%) and South County (54.2%) were most likely to mention pollution as a reason for their rating.
- Those age 60+ (33.1%) and Northeast County residents (34.0%) mentioned pollution/trash the least

Q7 RESULTS – Overall Quality/Health of River, Creeks and Ponds



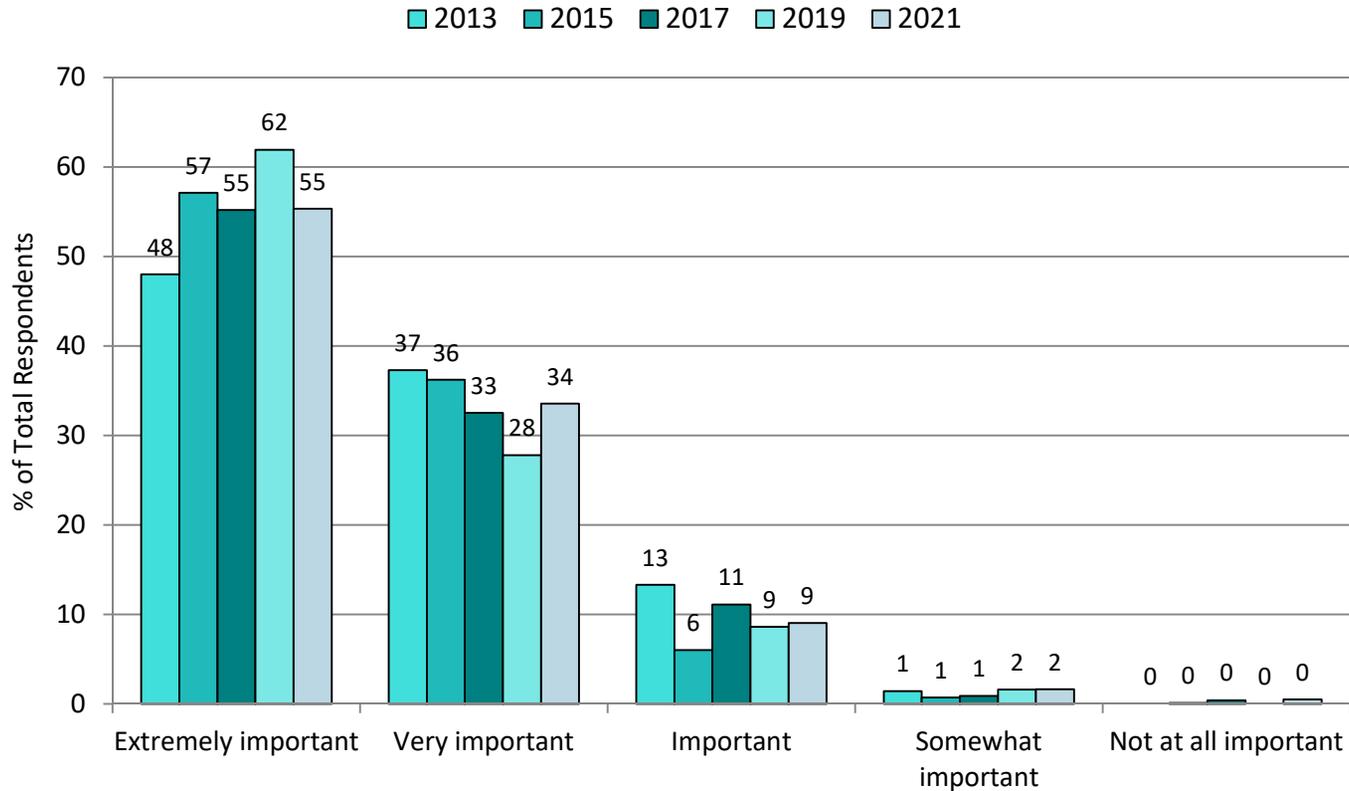
| Why do you give that rating? [Those who rated Excellent or Very Good] | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Clean | 11.7 | 26.3 | 47.6 | 32.1 | 44.1 |
| Always room for improvement | 4.0 | 15.7 | 3.1 | 1.2 | 6.9 |
| Conditions are improving | 3.6 | 14.9 | 8.5 | 4.0 | 5.3 |
| Our drinking water is good | 4.0 | 7.0 | 18.1 | 11.8 | 21.6 |
| Good quality | 3.3 | 9.3 | 10.5 | 11.4 | 5.3 |

| Why do you give that rating? [Those who rated Fair or Poor] | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Lots of pollution / trash / debris / dirty | 54.6 | 58.4 | 51.3 | 62.5 | 72.6 |
| Sewer system overflow / rainwater runoff | 13.5 | 15.1 | 17.8 | 10.1 | 13.4 |
| Odors / smelly | 3.4 | 11.6 | 13.6 | 1.7 | 3.4 |
| Visual observation/look of it | 19.0 | 6.6 | 11.3 | 13.3 | 12.6 |
| Lack of upkeep | 1.9 | 8.9 | 7.9 | 4.0 | 0.0 |



Q8 RESULTS – Importance of Clean River, Creeks and Ponds

How important is it to you that your community has clean rivers, creeks and ponds?

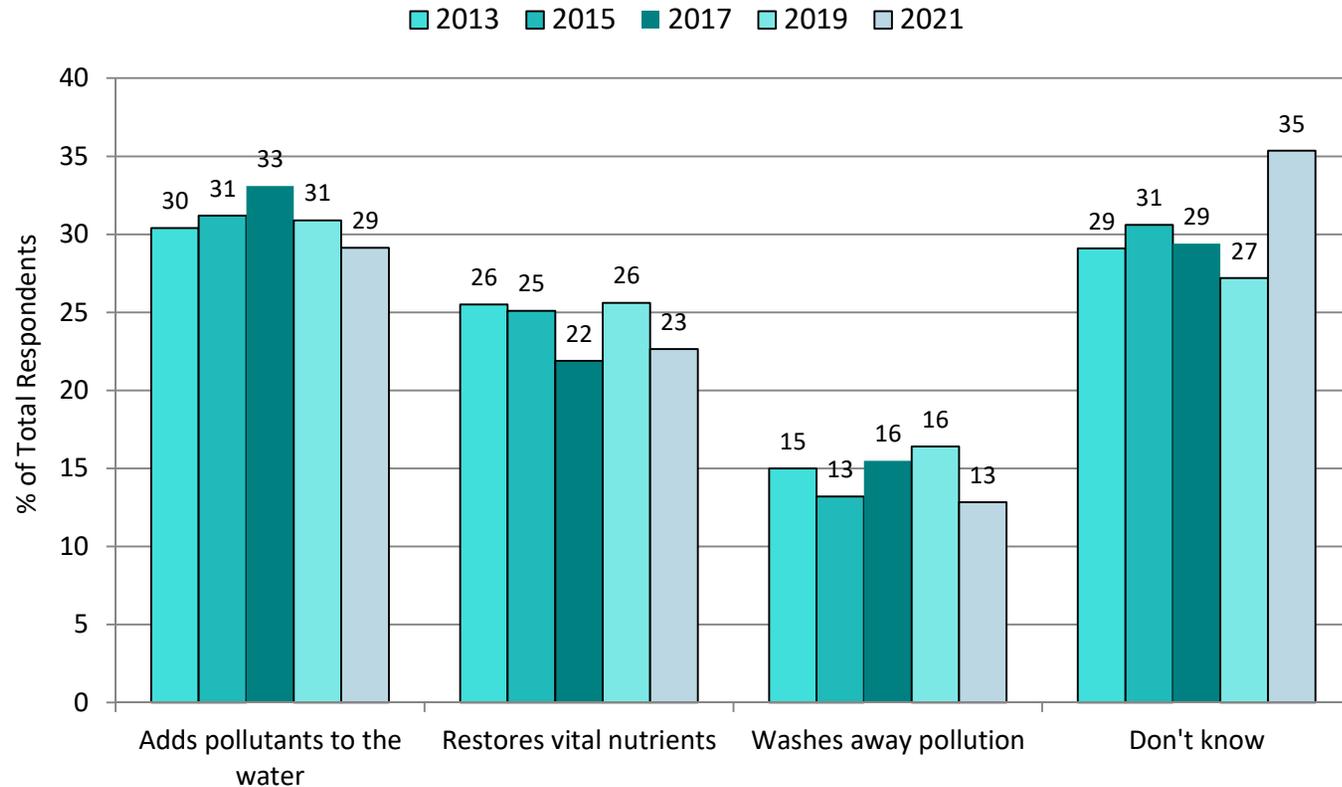


- Residents saying that it is extremely important that the community having clean rivers, creeks and ponds is generally increasing over time.
- It is extremely important to Southwest (66.6%) and Downtown/West City residents (64.1%) to have clean rivers, creeks and ponds.



Q9 RESULTS – Effect of Rain on Quality of River, Creeks and Ponds

How does rain affect the water quality or health of our river, creeks and ponds? Please select one.

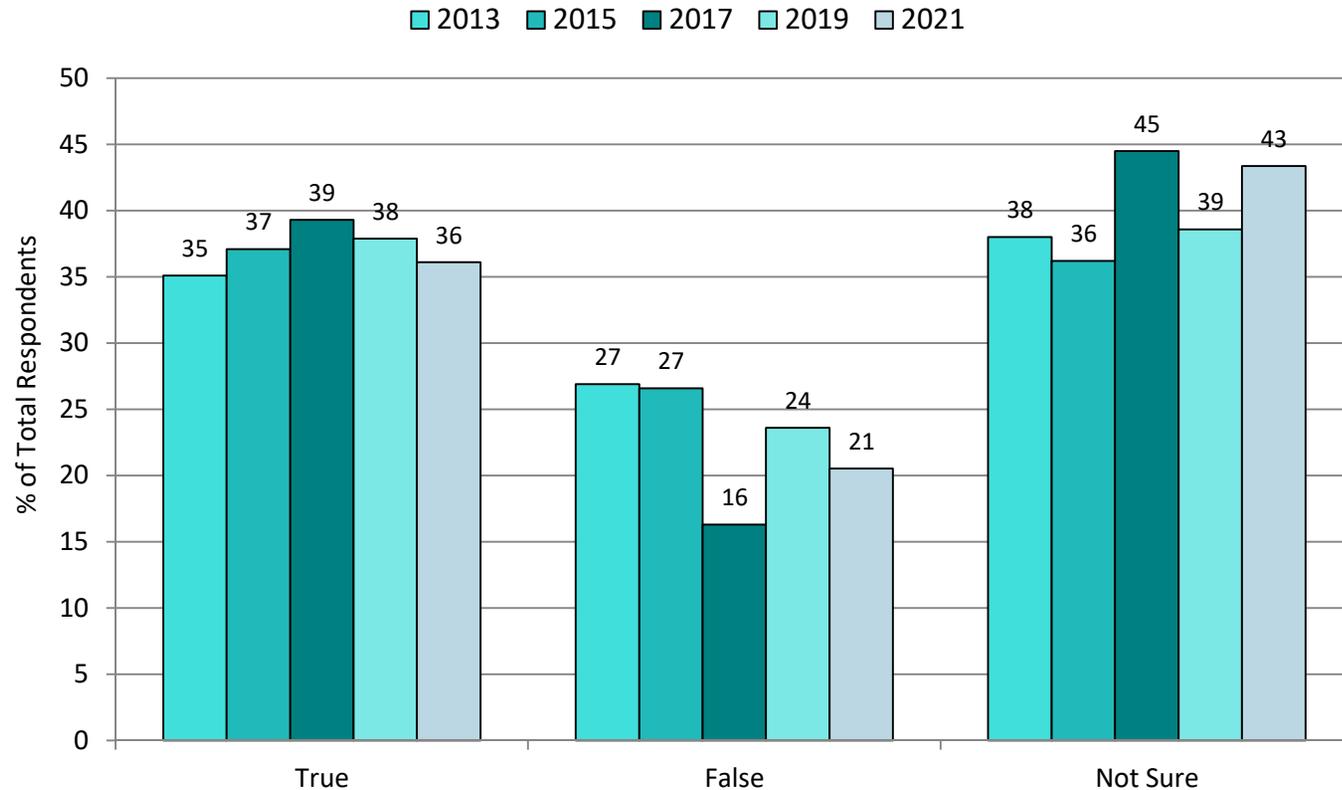


- Perceptions on how the rain impacts water quality show some variation, but remain within fairly narrow ranges.
- The increase in the proportion that don't know how rain affects water quality is driven by those under 30 (45.7%).



Q10 RESULTS – Post-Rain Pollution

After it rains, you should not use the local area river, creeks and ponds because they have become unsafe with increased levels of pollution and bacteria.



- Those in the East City (44.8%) and Males (42.7%) continue to exhibit the strongest agreement.
- Those in the East County showed the strongest disagreement (31.2%).

Q11 RESULTS – Post-Rain Pollution



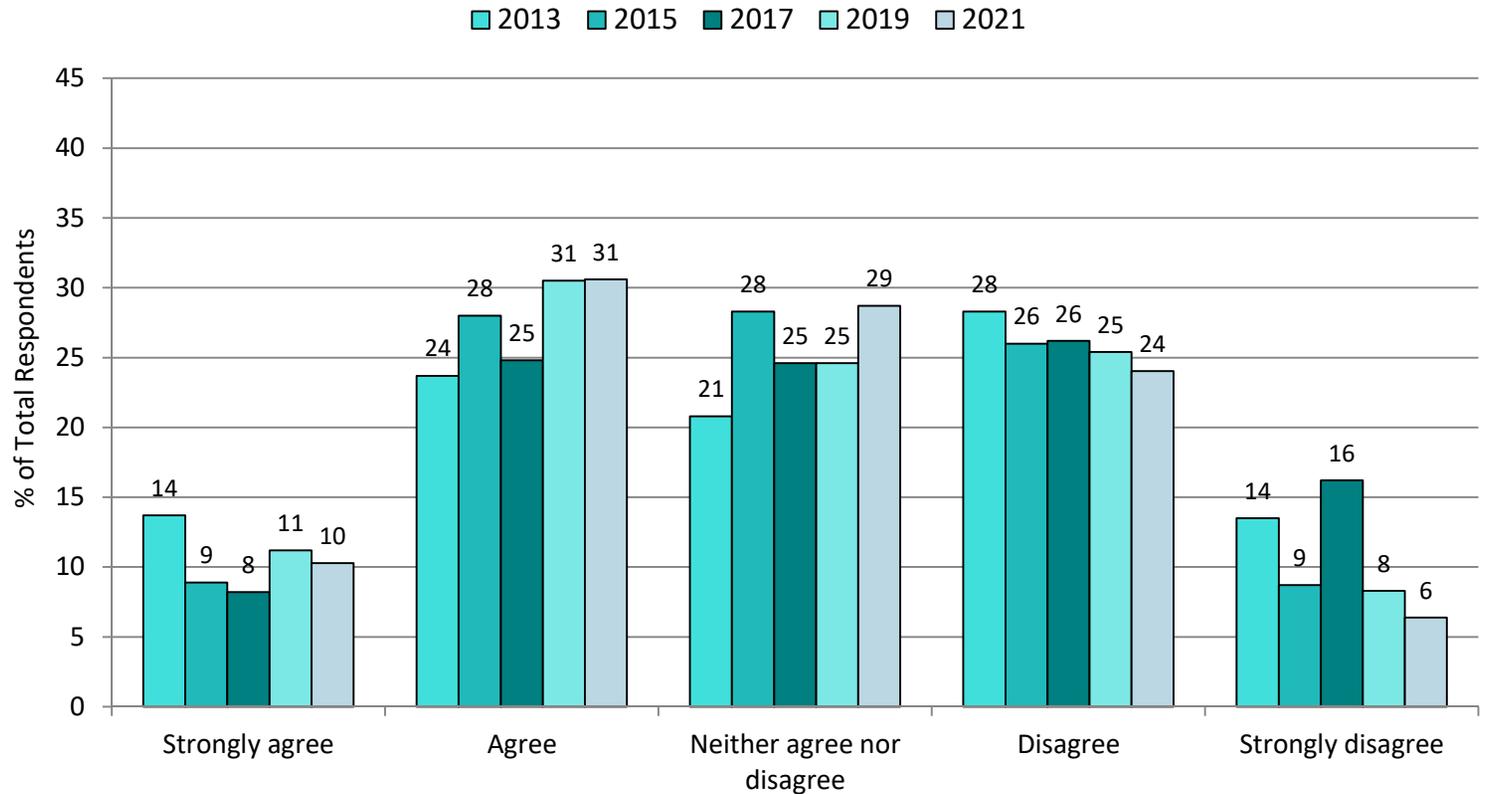
| What do you think would cause the river, creeks and ponds to become polluted after a rain? (open-end) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|---|----------|----------|----------|----------|----------|
| Runoff / flooding | 10.8 | 36.6 | 27.8 | 21.1 | 32.1 |
| Trash / litter / debris getting washed into it | 17.1 | 20.6 | 11.6 | 13.3 | 21.7 |
| Fertilizers / pesticides / lawn sprays/chemical runoff | 14.0 | 20.6 | 16.6 | 14.8 | 20.1 |
| Ground pollution | 12.5 | 17.2 | 2.7 | 8.7 | 4.9 |
| Sewage overflow | 10.5 | 12.6 | 14.6 | 10.6 | 10.5 |
| Run-off from streets / roads / parking lots / cars | 11.4 | 11.3 | 12.3 | 11.1 | 13.8 |
| Air pollution | 7.6 | 7.4 | 11.9 | 13.5 | 14.6 |
| Don't know | 12.0 | 4.6 | 5.5 | 7.2 | 7.3 |
| Industrial waste | 3.0 | 2.9 | 6.6 | 4.0 | 4.3 |
| Acid rain / rain carries pollutants | 10.9 | 1.6 | 9.0 | 5.8 | 7.1 |
| Run-off from farms / fields / agriculture | 4.2 | 0.7 | 8.7 | 5.2 | 3.8 |
| All others | 7.8 | 0.2 | 1.0 | 3.3 | 0.9 |

Runoff/flooding continues to be the most likely to cause of waterway pollution.



Q12a RESULTS – Pollution, Runoff, & Sewer Overflow

Water that flows through the street gutters/storm drains goes through a treatment facility before being released into our waterways.

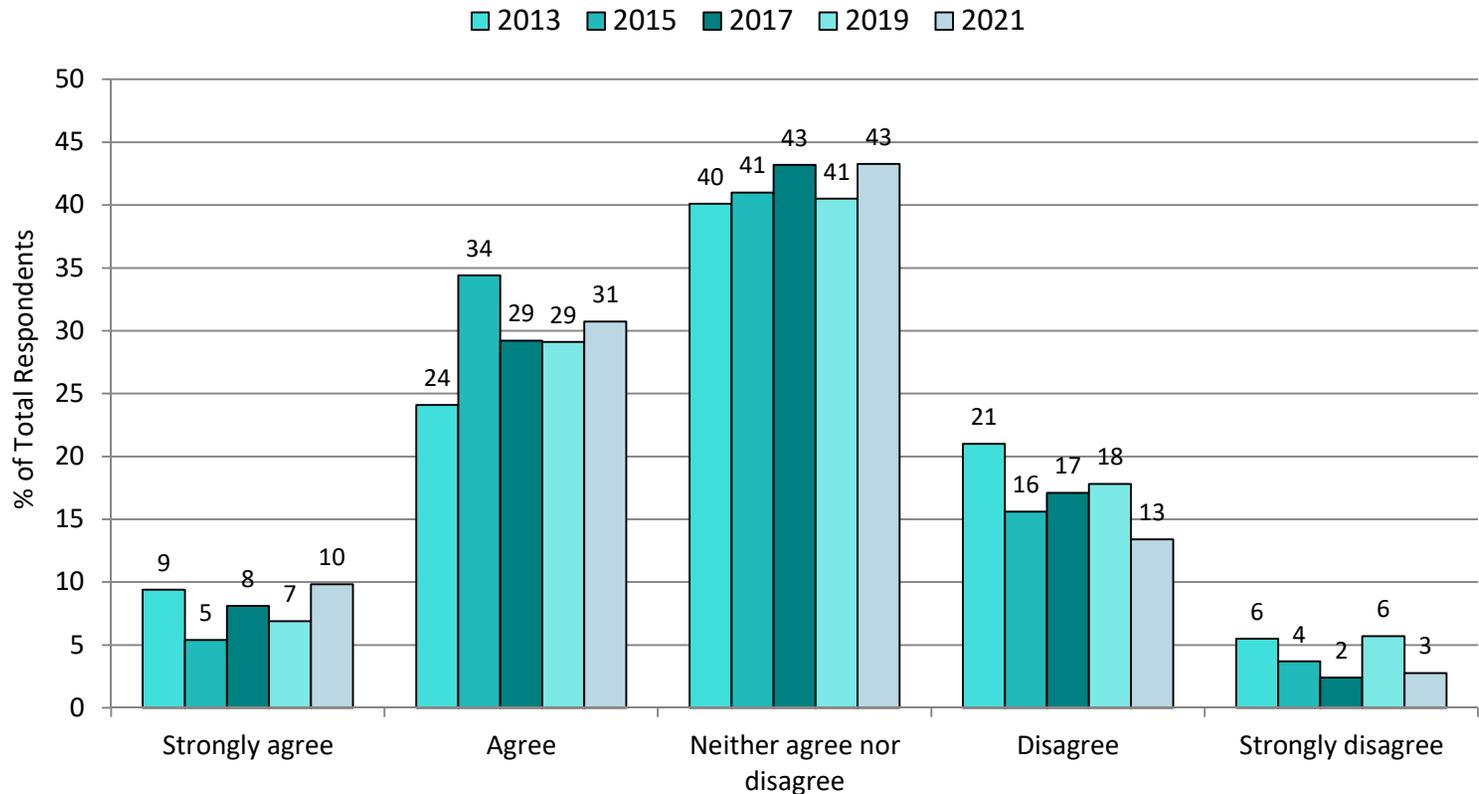


- Those who Agree/Strongly Agree that storm water is treated maintained the increase from 2017 and were essentially unchanged from 2019.



Q12b RESULTS – Pollution, Runoff, & Sewer Overflow

Rainwater runoff is a leading cause of water pollution in my area.

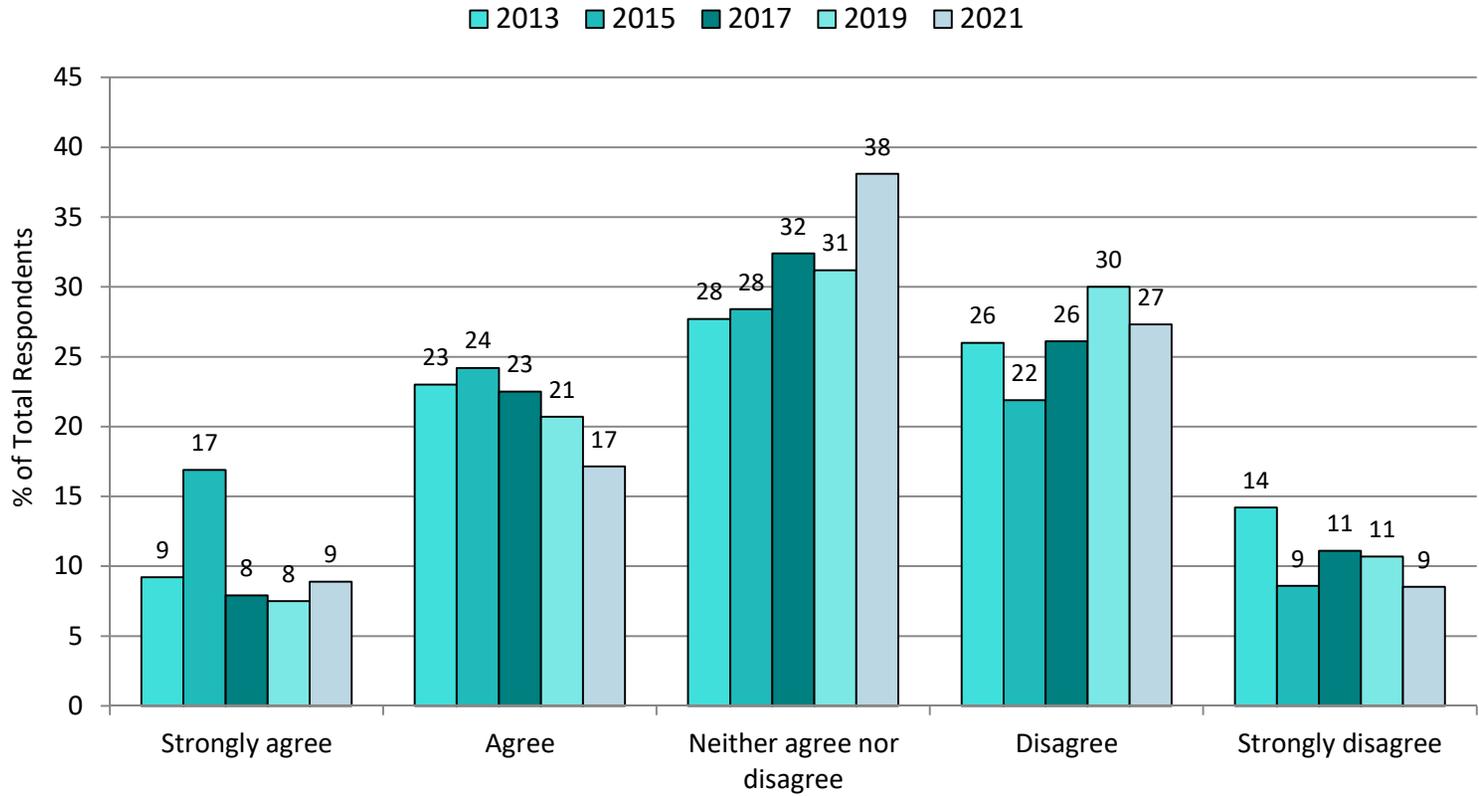


- Those under 30 remain strongest in overall agreement (53.0% Agree/Strongly Agree) that rainwater runoff causes pollution, followed by Downtown/West City (43.8%).
- Residents in the Southwest (24.9%) and those over 60 (21.8%) are highest in overall disagreement (Disagree/Strongly Disagree) with this statement.



Q12c RESULTS – Pollution, Runoff, & Sewer Overflow

Sewer system overflow occurs frequently in my community.

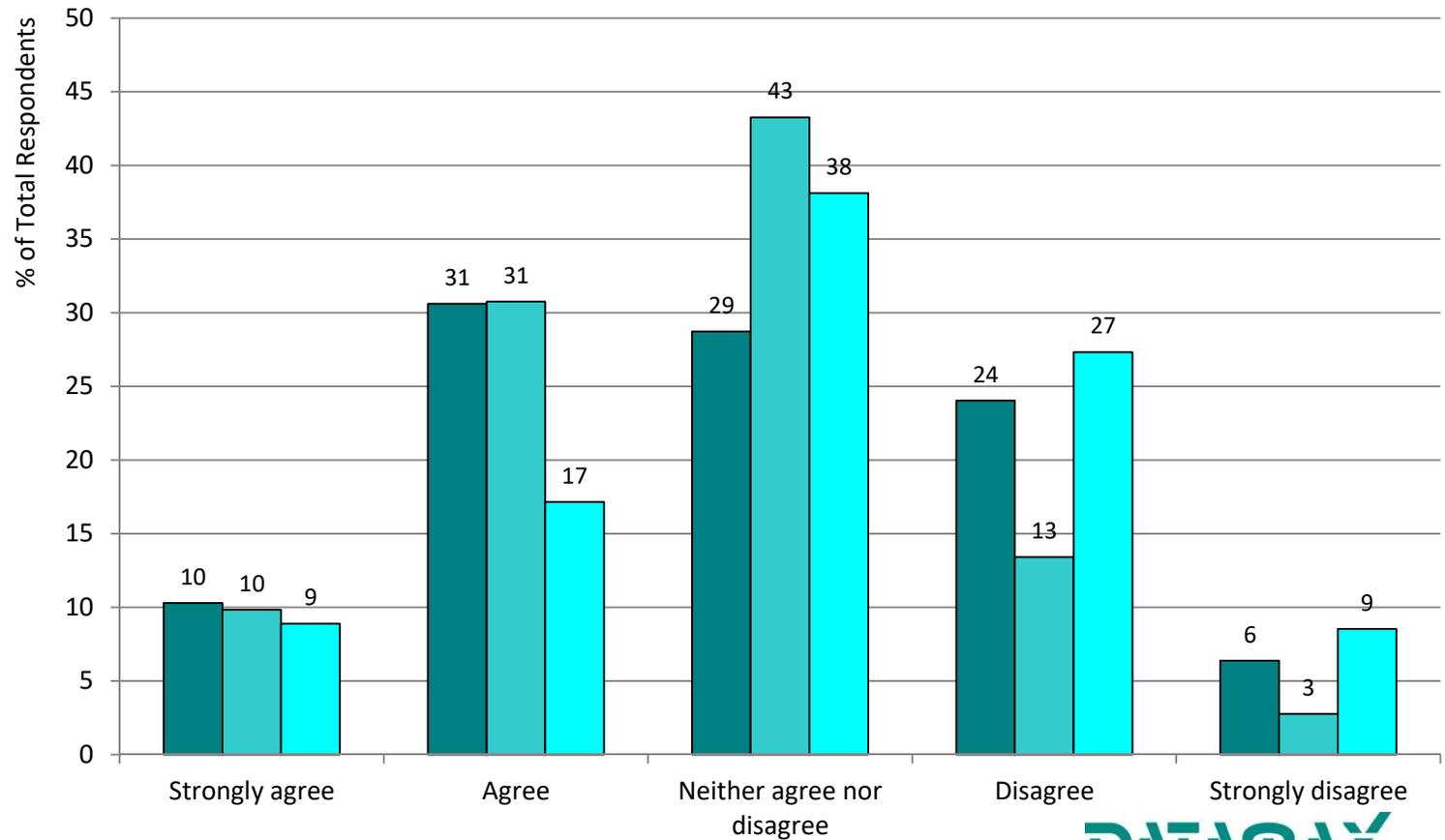


- Those who Strongly Agree that sewer system overflow occurs frequently continues to remain low in 2021. However, those who Agree/Strongly Agree about frequent overflows are located in Downtown/West City (37.1%) and age 40-49 (36.5%).
- East County residents (50.3%) Disagree/Strongly Disagree the most.



Q12 TOTAL RESULTS BY ISSUE – Pollution, Runoff, & Sewer Overflow

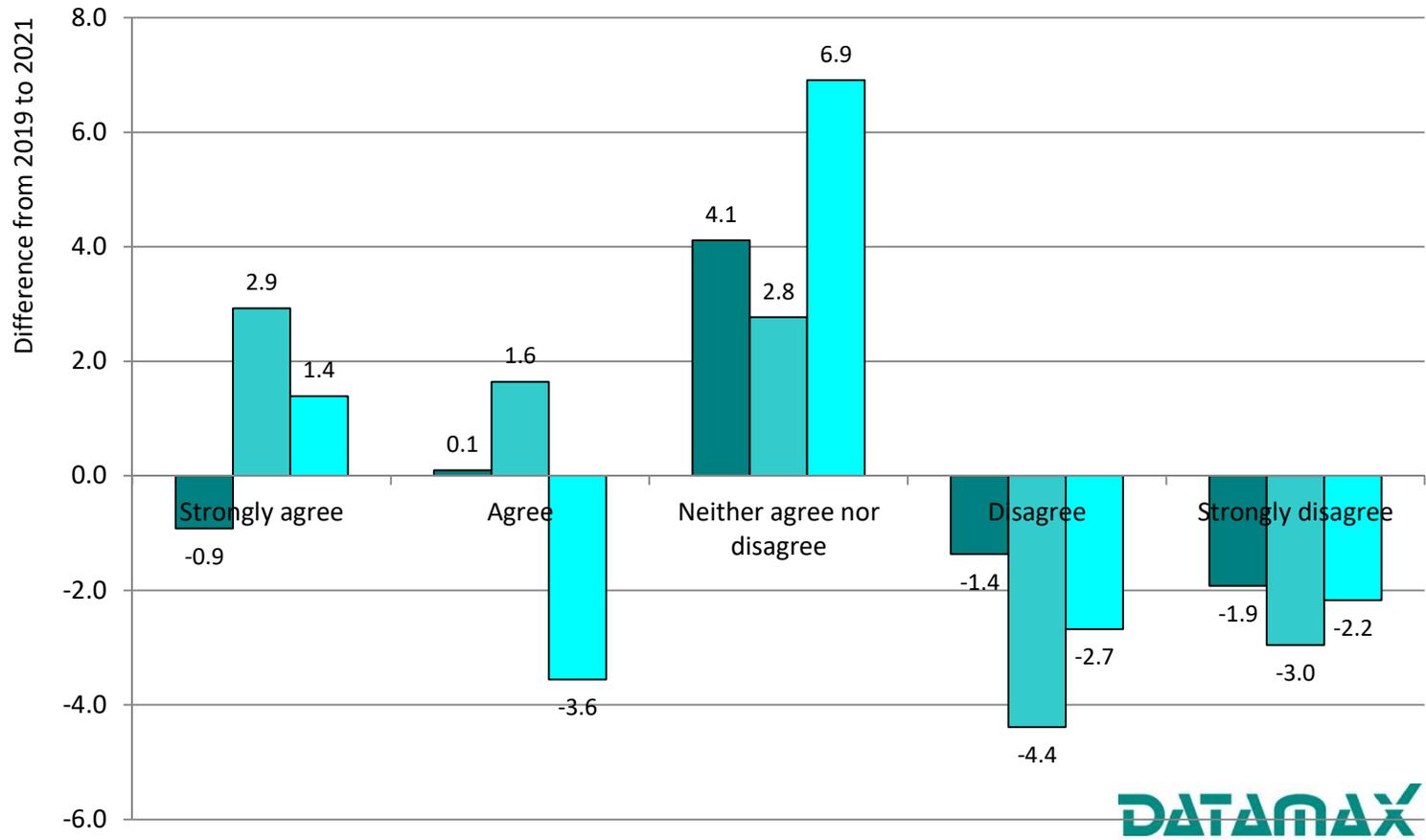
- Water that flows through street gutters and storm drains goes through a treatment facility before being released in our waterways.
- Rainwater runoff is a leading cause of water pollution in my area.
- Sewer system overflow occurs frequently in my community.





Q12 TOTAL RESULTS BY ISSUE – Pollution, Runoff, & Sewer Overflow

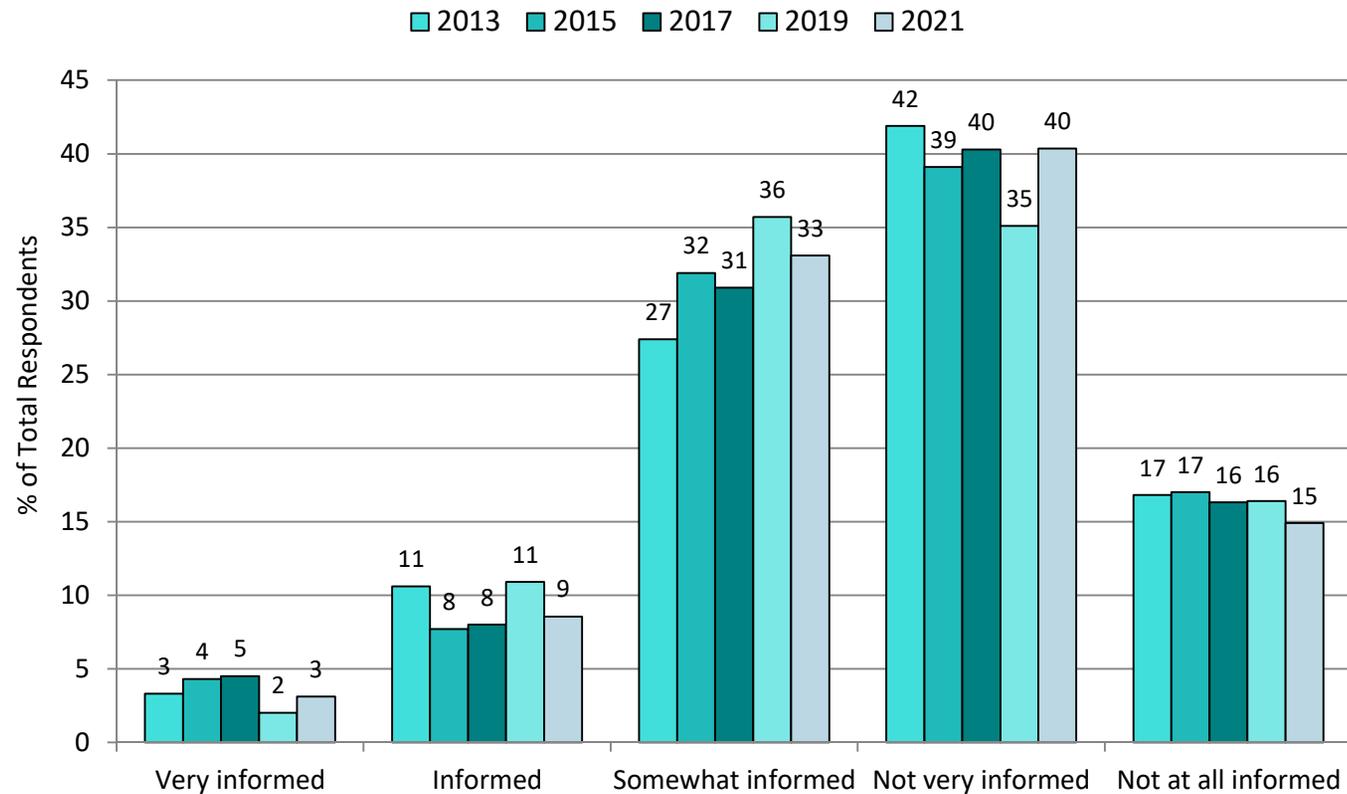
- Water that flows through street gutters and storm drains goes through a treatment facility before being released in our waterways.
- Rainwater runoff is a leading cause of water pollution in my area.
- Sewer system overflow occurs frequently in my community.





Q13 RESULTS – Causes of Rainwater Runoff Pollution

How informed do you feel about the causes of rainwater runoff pollution in your area?

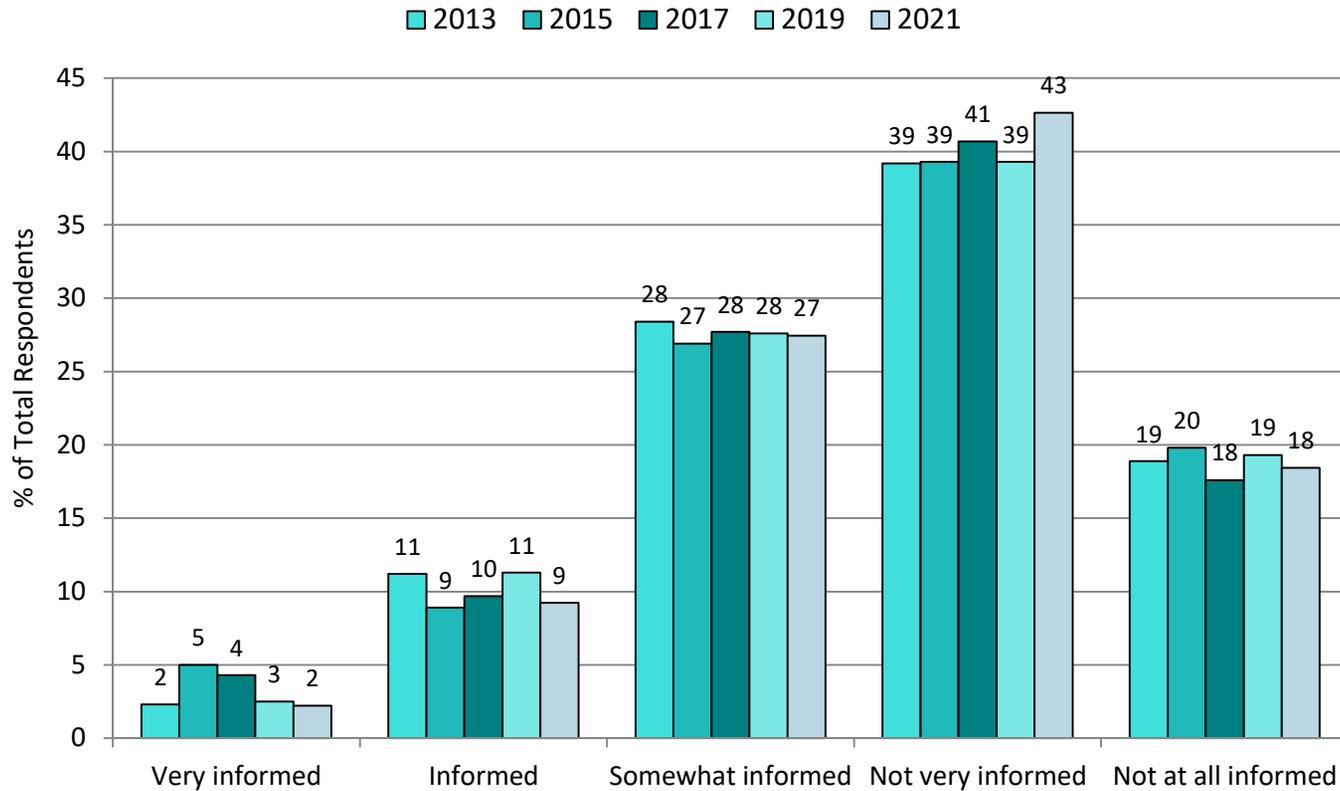


- Those over 60 continue to feel most informed (16.4% very informed/informed).
- Conversely, Downtown residents feel least informed (67.7% not very informed/not at all informed).



Q14 RESULTS – Causes of Sewer System Overflow

How informed do you feel about the causes of sewer system overflow in your area?

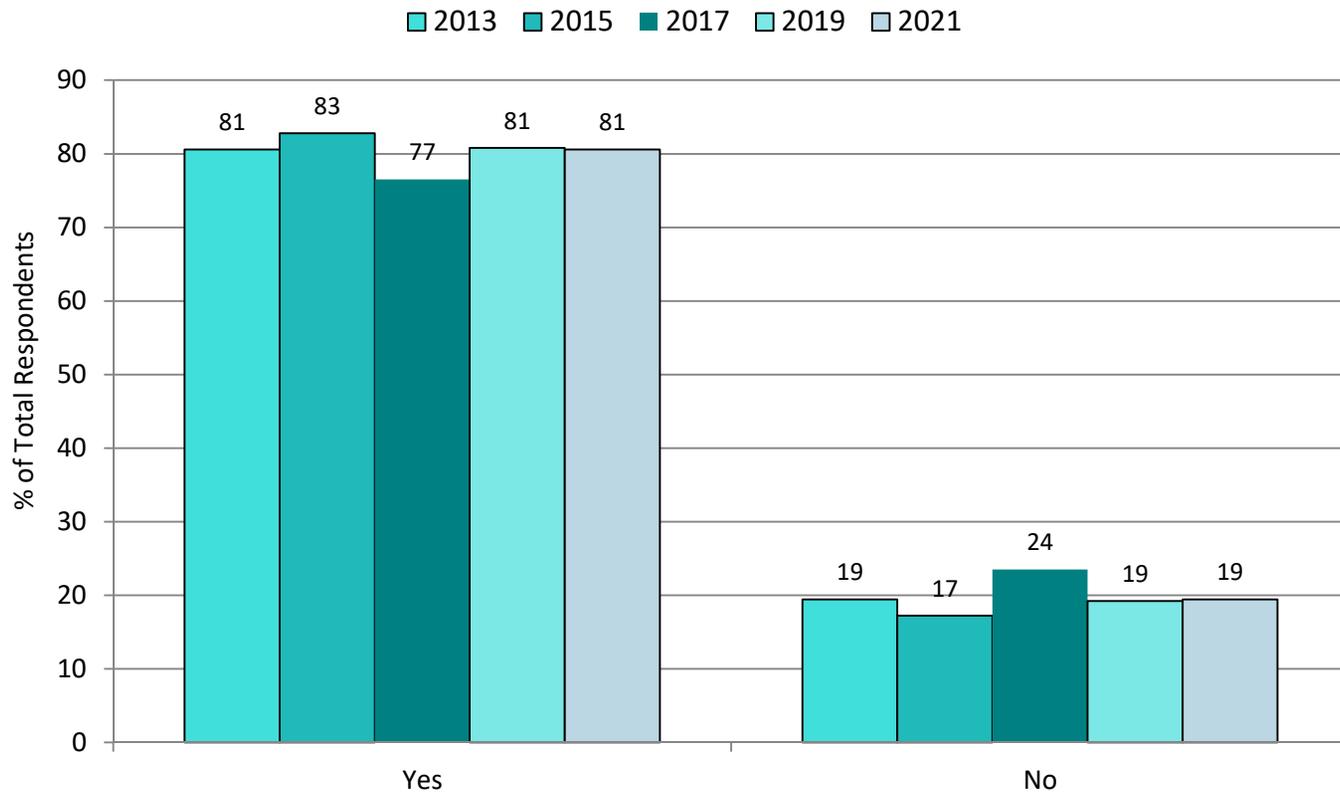


- As with rainwater runoff pollution, Downtown/West City residents feel not very informed/not at all informed (68.3%).
- Age 60+ feel informed/very informed (18.9%).



Q15 RESULTS – Actions for Pollution Reduction

Do you think there are actions you can take to reduce water pollution in the river, creeks and ponds?

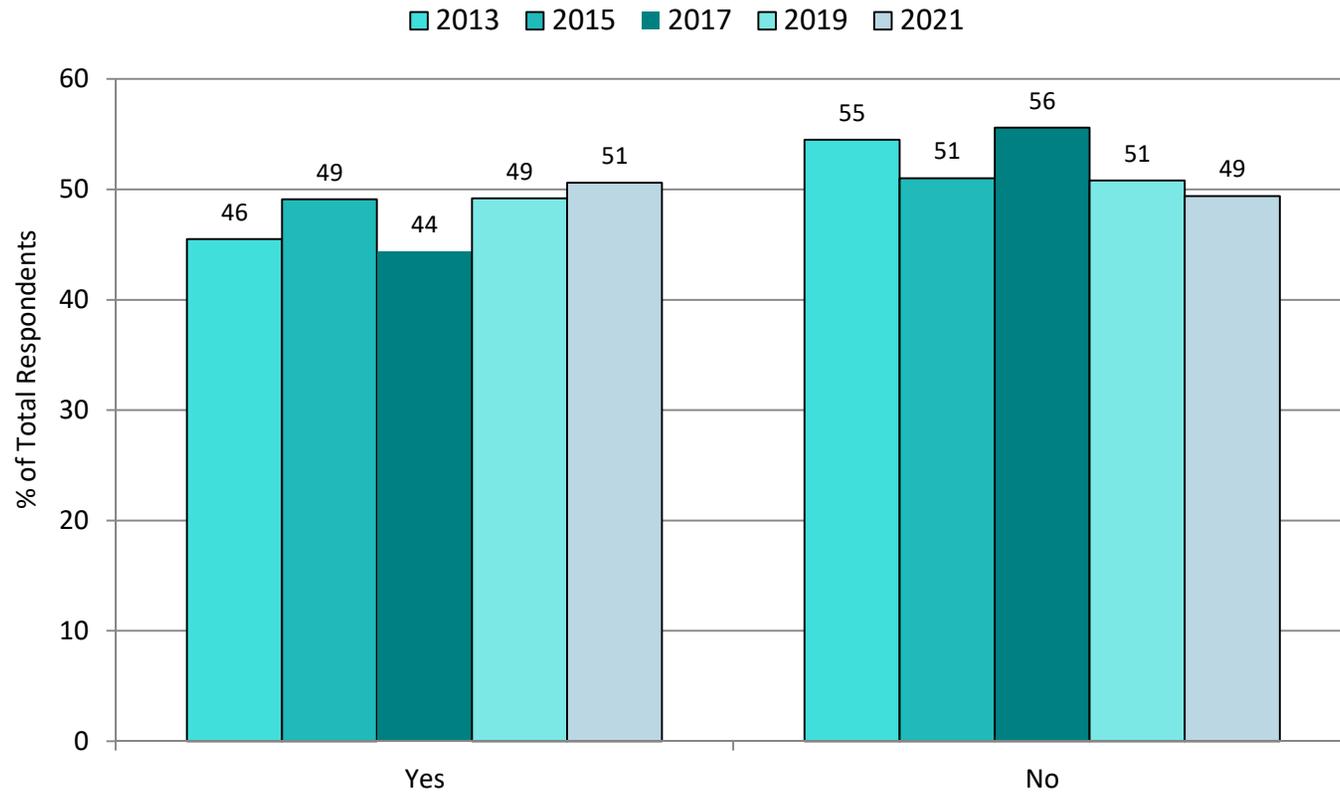


- Most favorable stance on taking action: Females (84.4%) and those under 30 (86.8%).
- Seniors 60+ (25.6%) believe strongest that no actions can be taken.



Q16 RESULTS – Actions for Pollution Reduction

Rainwater runoff and sewer system overflow contribute to water pollution. Do you currently take actions to reduce water pollution?



- Those not currently taking action are Downtown/West City residents (64.3%) and those under 30 (59.9%).



Q17 RESULTS – Actions for Pollution Reduction (Total)

| What actions do you currently take to reduce water pollution? (open-end, asked if “yes” to #16) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|---|----------|----------|----------|----------|----------|
| Pickup trash / litter | 2.9 | 24.1 | 4.9 | 7.4 | 11.8 |
| Careful about what I pour into ground/down drain/dispose | 28.0 | 17.9 | 10.6 | 10.9 | 5.2 |
| Don't use chemicals on lawn | 16.4 | 16.9 | 29.7 | 20.8 | 22.2 |
| By not littering/polluting/using trash cans | 27.2 | 13.5 | 26.2 | 40.6 | 26.5 |
| Clean up sewer/street drains | 7.4 | 12.5 | 10.0 | 5.0 | 8.5 |
| Recycling | 8.6 | 10.2 | 4.7 | 5.7 | 4.8 |
| Don't wash clothes/use dishwasher during rain | 6.4 | 9.9 | 3.0 | 2.7 | 4.5 |
| Conserve water | 5.2 | 5.8 | 6.5 | 4.6 | 5.9 |
| Not flushing medicines | 3.2 | 4.7 | 4.9 | 6.6 | 2.6 |
| Redirecting rain water/gutters to yard | 4.3 | 3.3 | 4.0 | 2.6 | 4.1 |
| Rain barrels | 4.7 | 2.9 | 5.4 | 1.5 | 4.0 |
| Use green products | 3.7 | 2.4 | 2.2 | 8.9 | 5.2 |
| Maintain car/vehicle | 3.3 | 2.1 | 3.2 | 3.6 | 1.3 |
| Disconnected downspouts | 3.2 | 2.1 | 4.1 | 4.2 | 0.7 |



Q17 RESULTS – Actions for Pollution Reduction by Age

| What actions do you currently take to reduce water pollution? (open-end, asked if “yes” to #16) | < 30 | 30-39 | 40-49 | 50-59 | 60+ |
|---|------|-------|-------|-------|------|
| Pick up trash/litter | - | 22.6 | 18.9 | 11.0 | 9.0 |
| Careful about what I pour into ground/down drain/dispose | 7.5 | 3.3 | 3.1 | 2.8 | 7.3 |
| Don't use chemicals on lawn | 7.5 | 24.4 | 26.4 | 24.0 | 24.1 |
| By not littering/polluting/using trash cans | 47.9 | 24.3 | 33.6 | 21.5 | 17.2 |
| Clean up sewer/street drains | - | 14.2 | 5.2 | 12.6 | 10.1 |
| Recycling | - | 6.3 | 4.7 | 10.1 | 2.4 |
| Don't wash clothes/use dishwasher during rain | 7.2 | 2.5 | 1.1 | 3.4 | 5.6 |
| Clean up pet waste | 7.5 | 3.8 | 1.7 | 5.4 | 4.3 |
| Conserve water | 14.8 | 3.8 | 2.8 | 5.3 | 4.5 |
| Not flushing medicines | - | 2.2 | 4.3 | 1.7 | 2.1 |
| Don't put grease down drain | - | 1.1 | 1.1 | - | 0.9 |
| Don't dump anything into sewers | 15.1 | 10.9 | 6.1 | 12.5 | 19.6 |



Q17 RESULTS – Actions for Pollution Reduction by ZIP Area

| What actions do you currently take to reduce water pollution? (open-end, asked if “yes” to #16) | Downtown / West City | South West | East City | South Co. | North-east Co. | East Co. |
|---|----------------------|------------|-----------|-----------|----------------|----------|
| Pick up trash/litter | 24.6 | 21.8 | 10.2 | 11.1 | 4.1 | 11.9 |
| Careful about what I pour into ground/down drain/dispose | 7.0 | 2.1 | 4.7 | 9.4 | 5.4 | 0.8 |
| Don’t use chemicals on lawn | 14.3 | 39.6 | 20.4 | 17.8 | 25.6 | 26.7 |
| By not littering/polluting/using trash cans | 27.2 | 19.8 | 26.8 | 41.1 | 25.4 | 13.8 |
| Clean up sewer/street drains | 16.3 | 7.2 | 7.1 | 15.1 | 3.3 | 5.9 |
| Recycling | 11.2 | 4.3 | 3.7 | 1.4 | 9.0 | 3.9 |
| Don’t wash clothes/use dishwasher during rain | 3.2 | 2.1 | 9.6 | - | 2.6 | 0.4 |
| Clean up pet waste | - | 4.4 | 5.0 | 2.5 | 3.0 | 8.5 |
| Conserve water | 6.2 | 4.6 | 5.7 | 8.2 | 5.5 | 3.7 |
| Not flushing medicines | 8.5 | 7.0 | 1.1 | 0.6 | 0.7 | 1.7 |
| Don’t put grease down drain | - | 1.3 | 0.3 | 1.0 | 1.9 | 0.4 |
| Don’t dump anything into sewers | 18.1 | 18.5 | 12.0 | 8.2 | 18.0 | 16.4 |



Q18 RESULTS – Actions for Pollution Reduction

| Do you think any of these actions would increase the amount of pollution from rainwater runoff? (Select all that apply) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|---|----------|----------|----------|----------|----------|
| Improperly disposing hazardous waste, such as paint and motor oil | 94.3 | 97.7 | 99.3 | 97.1 | 96.8 |
| Putting trash in the street gutter | 93.1 | 87.0 | 93.0 | 92.1 | 91.4 |
| Allowing fluids to leak from cars and trucks | 91.3 | 63.3 | 69.0 | 93.8 | 90.1 |
| Using non environmentally friendly lawn chemicals | 87.3 | 92.3 | 93.2 | 89.3 | 89.4 |
| Leaving pet waste on the ground | 71.1 | 69.3 | 76.9 | 75.4 | 68.3 |
| Washing your car in the driveway or street | 55.4 | 56.2 | 50.2 | 56.3 | 53.2 |

- Respondents’ perception that allowing fluids to leak from cars and trucks would increase rainwater runoff pollution remains significantly higher than 2015-2017.
- The rise in leaking car/truck fluids is driven by all demographic/geographic groups.

Q19 RESULTS – Actions for Pollution Reduction



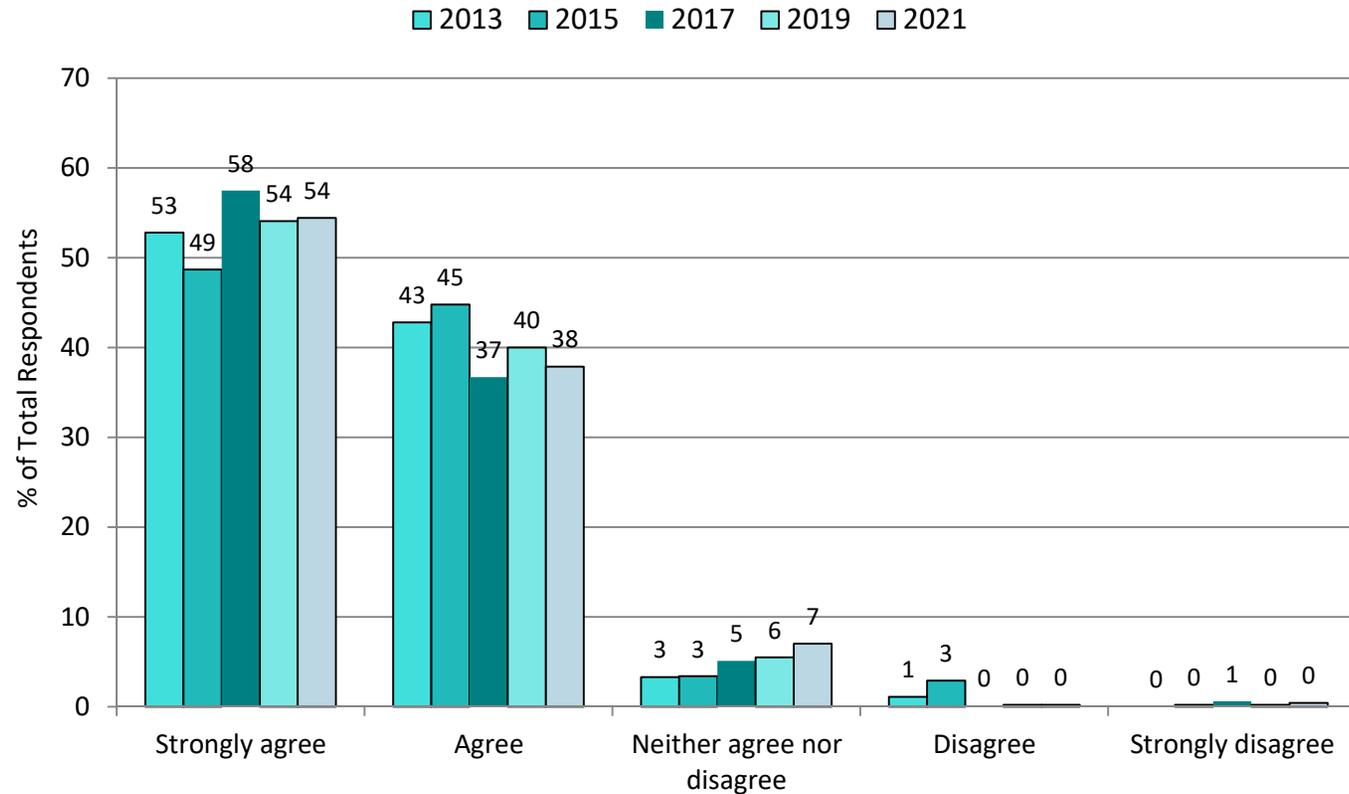
| Do you think any of these actions cause sewer system overflow? (Select all that apply) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Pouring fats, oils, greases and food particles down the sink (FOG) | 84.8 | 78.1 | 83.3 | 85.8 | 81.1 |
| Flushing diaper wipes and other wet wipes down the toilet | 84.6 | 83.4 | 92.9 | 93.0 | 92.8 |
| Putting lawn grass clippings and leaves in the street gutter | 82.2 | 80.1 | 82.5 | 83.3 | 81.2 |
| Flushing hair down the toilet | 64.4 | 61.5 | 69.7 | 67.5 | 68.0 |
| Connecting the groundwater sump pump to the basement sewer connection | 56.1 | 51.6 | 49.9 | 53.5 | 48.4 |
| Flushing dental floss down the toilet | 54.3 | 52.6 | 70.1 | 65.3 | 63.2 |
| Using water-using appliances, such as a dishwasher or clothes washer, when it is raining | 36.4 | 36.4 | 38.4 | 39.8 | 31.9 |

- Increases in flushing wipes, dental floss, and hair down the toilet are maintained in 2021.
- South County (89.9%) residents are most likely to associate pouring FOGs down the drain with sewer system overflow. Those less educated (High School or less) are less likely (53.9%) to make that association.



Q20(a) RESULTS – Water Quality & Health of River, Creeks and Ponds

We can all do our part to reduce the effects of water pollution.

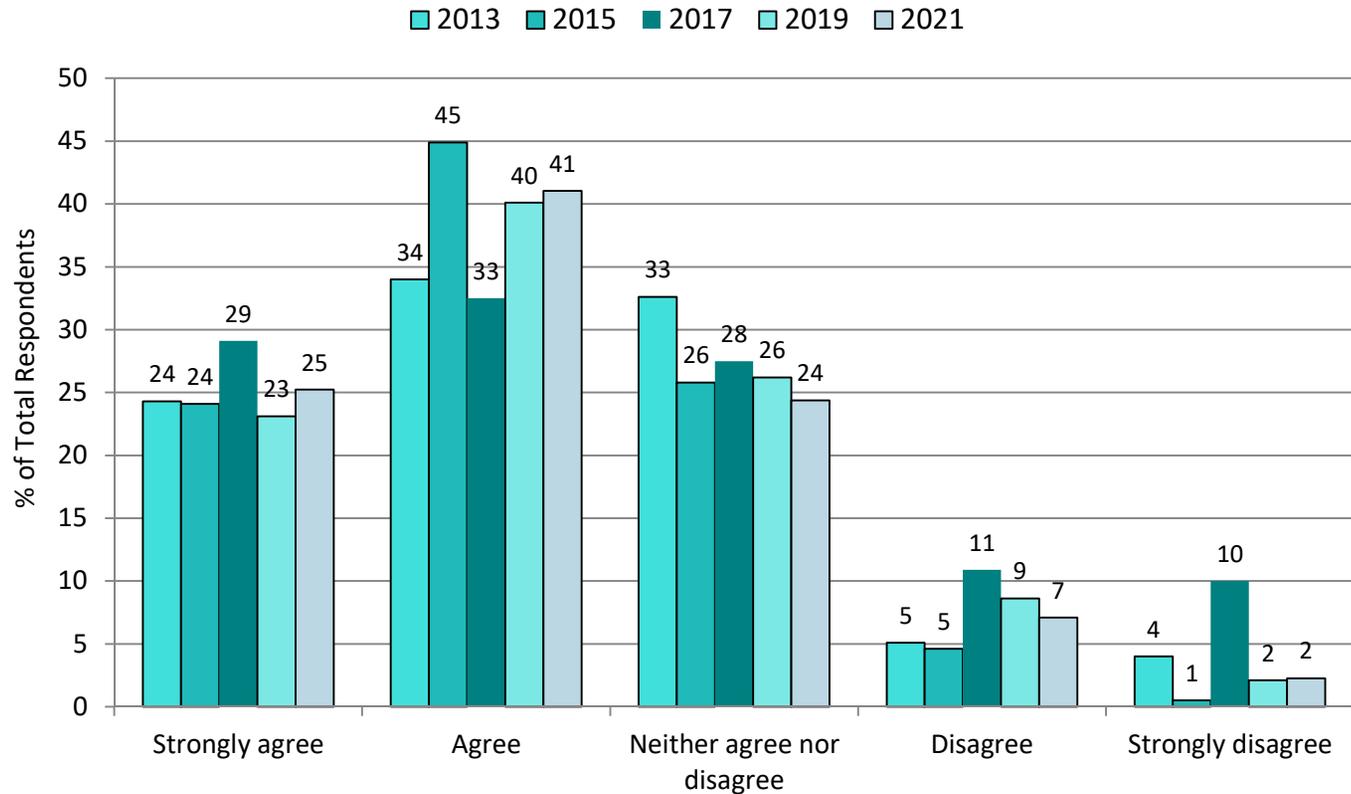


- Females continue to have stronger agreement (60.8%) than males (47.7%) about doing their part to reduce pollution.
- Those under 30 (58.8%) and Downtown/West City residents (69.3%) also account for stronger agreement.



Q20(b) RESULTS – Water Quality & Health of River, Creeks and Ponds

I am personally responsible for reducing rainwater runoff pollution and sewer system overflow.

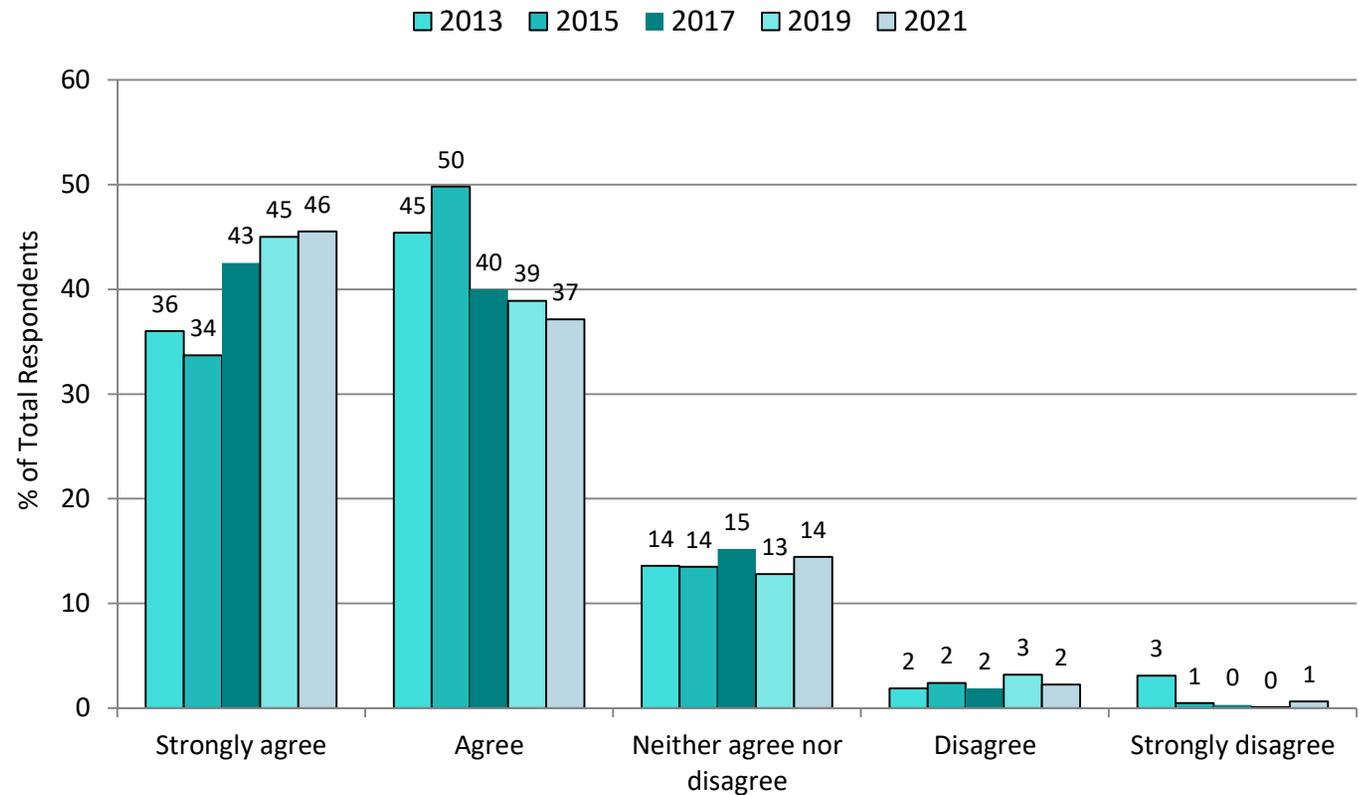


- East City residents have the strongest agreement (76.4% Strongly Agree/Agree).
- Those under 30 (16.8%) and Southwest County residents (19.6%) have the strongest disagreement (% Disagree/Strongly Disagree).



Q20(c) RESULTS – Water Quality & Health of River, Creeks and Ponds

Local governments, businesses and industries are responsible for reducing rainwater runoff and sewer system overflow.



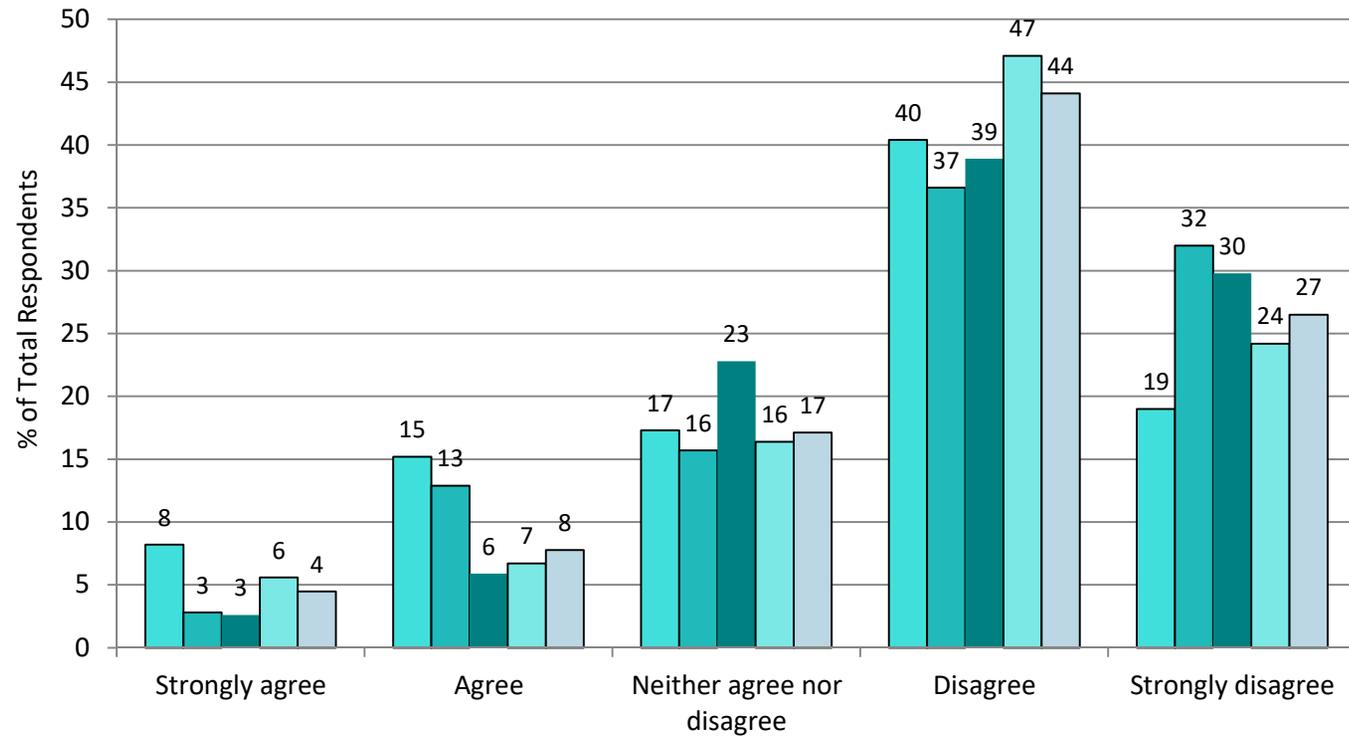
- Strongly agree perception regarding commercial entities being responsible for reducing overflow continues to increase from 2015 to 2021. This increase was maintained within all demographic and geographic groups.



Q20(d) RESULTS – Water Quality & Health of River, Creeks and Ponds

I would only do my part to reduce water pollution if everyone else did as well.

■ 2013 ■ 2015 ■ 2017 ■ 2019 ■ 2021

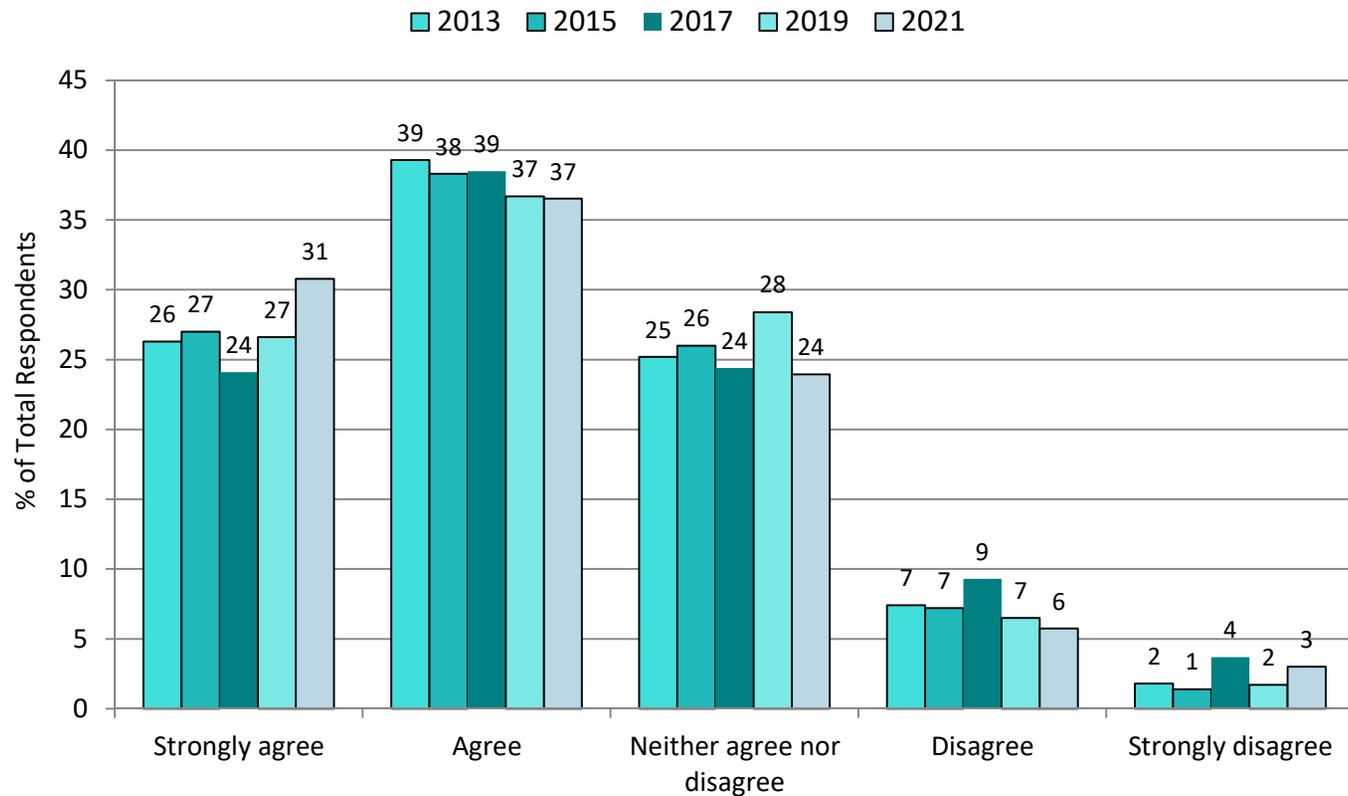


- Sentiment remained constant about respondents doing their part to reduce pollution. Most are willing to make the effort regardless of others.
- Those under 30 (84.3%) and East City residents (81.5%) are most likely to do their part independently of other people (% Disagree/Strongly Disagree).



Q20(e) RESULTS – Water Quality & Health of River, Creeks and Ponds

The utility company should provide incentives for people to reduce water pollution.

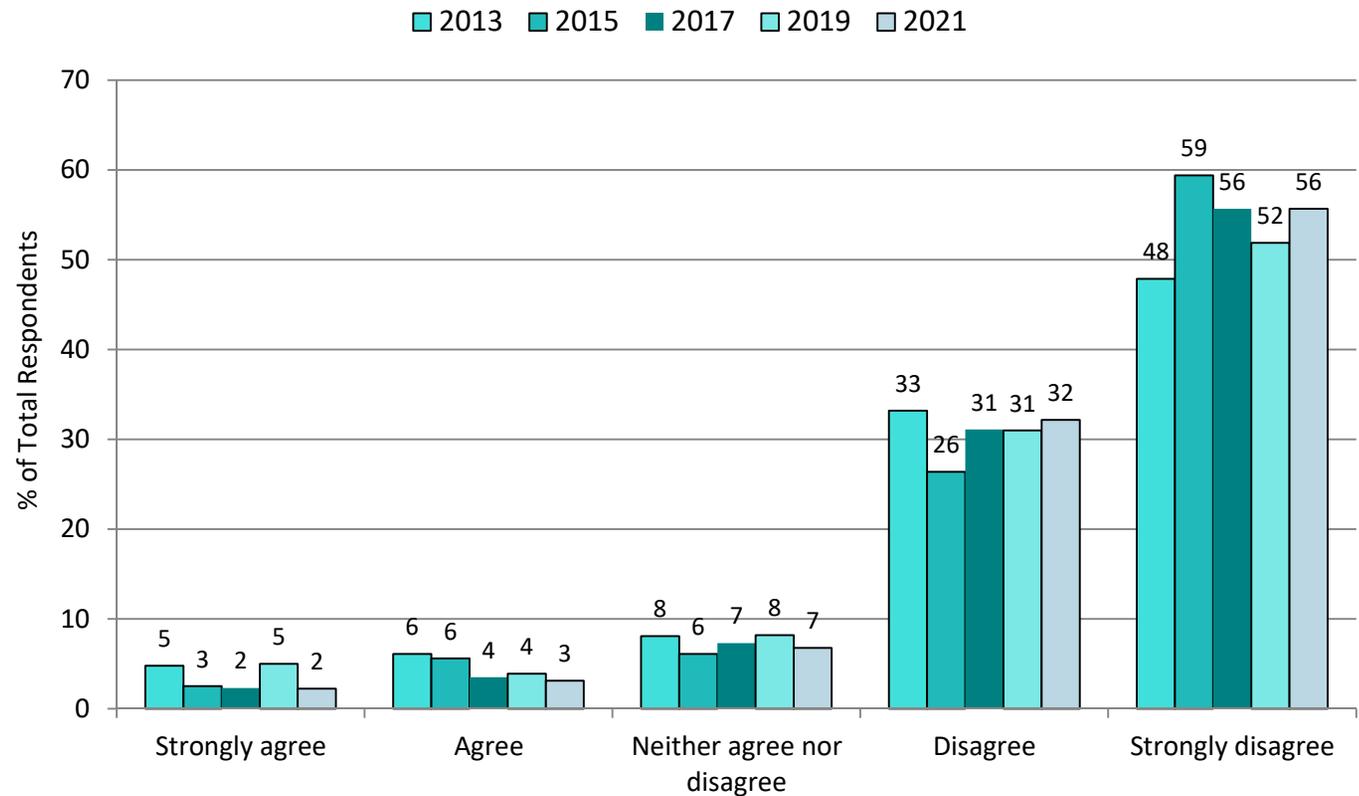


- Incentives appeal most strongly (% Strongly Agree) to Downtown/West City residents (46.9%) and those under 30 (43.3%).
- Seniors over 60 Disagreed/Strongly Disagreed the most (11.4%) of any age group.



Q20(f) RESULTS – Water Quality & Health of River, Creeks and Ponds

Human activities have no significant impact on the water quality of river, creeks and ponds.

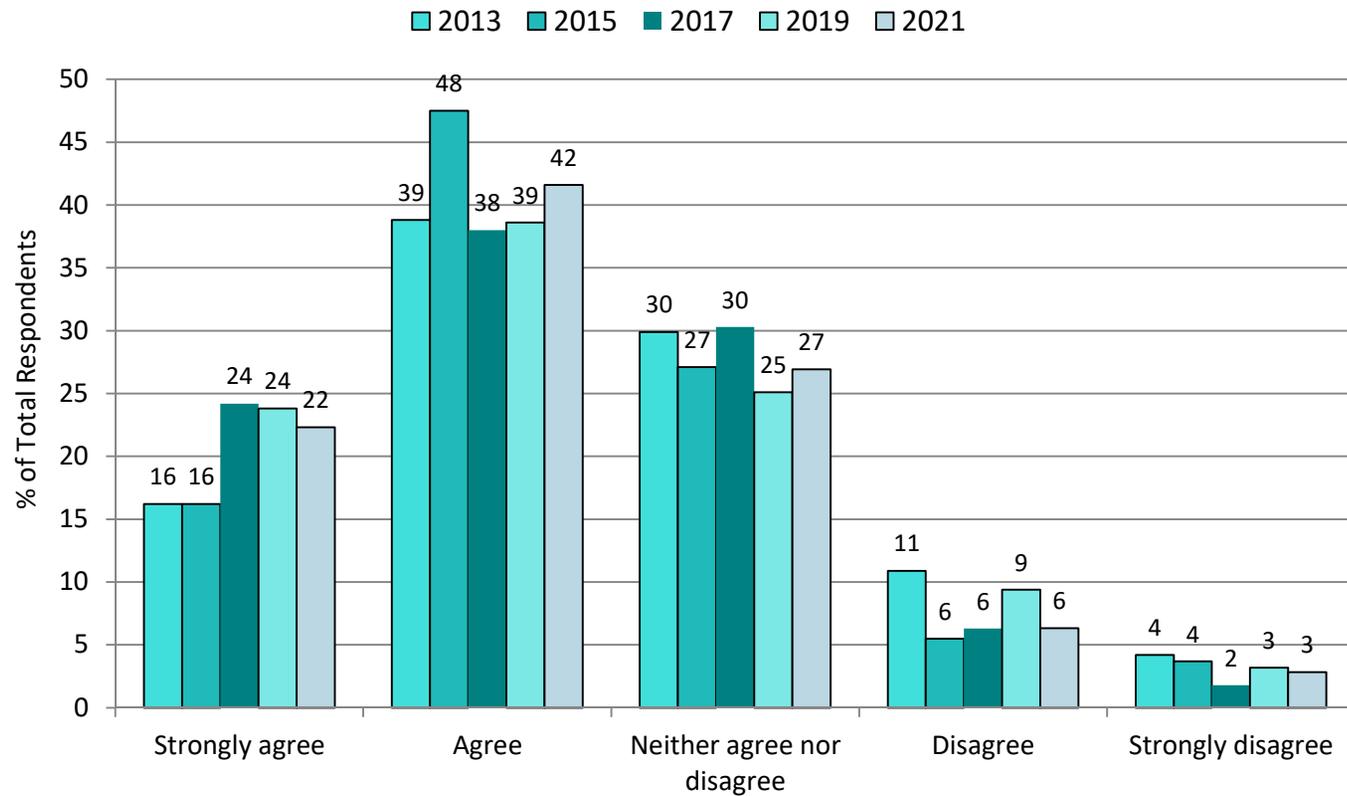


- Those agreeing that human activities impact water quality (% Disagree/Strongly Disagree) are those under 30 (94.0%), residents of the East City (93.3%) and Post Grads (91.8%).



Q20(g) RESULTS – Water Quality & Health of River, Creeks and Ponds

Water pollution of river, creeks and ponds frightens me.

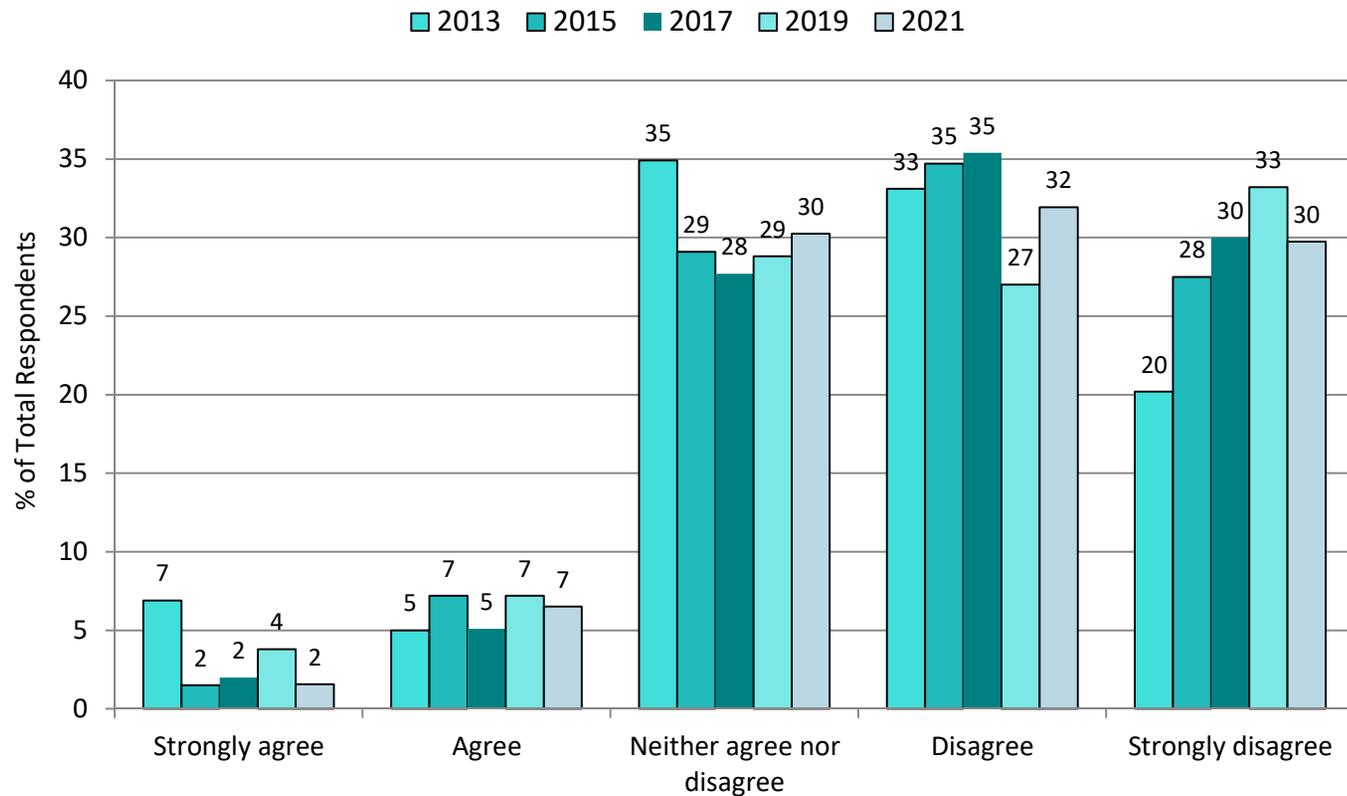


- The percentage of those agreeing/strongly agreeing that water pollution frightens them remains high in 2021.
- Those under 30 (35.1% Strongly Agree) have the most fear of pollution.



Q20(h) RESULTS – Water Quality & Health of River, Creeks and Ponds

The evidence for water pollution of river, creeks and ponds is unreliable or insufficient.



- Respondents believing that reliable evidence exists (% Disagree/Strongly Disagree) remains high.
- Those under 30 (42.3%) disagree strongest that the evidence is unreliable.



Q21 RESULTS – Willingness of Action

| I personally would be willing to take the following actions to reduce the amount of water pollution in river, creeks and streams. (Select all that apply) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|---|----------|----------|----------|----------|----------|
| Putting fats, oils, grease and food particles in the trash can rather than down the sink drain. | 87.0 | 85.6 | 86.8 | 89.4 | 88.9 |
| Putting baby wipes, personal wipes and other wet wipes in the trash can rather than down the toilet. | 82.6 | 85.4 | 86.6 | 87.5 | 87.1 |
| Disposing of household hazardous wastes by taking them to a collection center. | 81.1 | 88.2 | 84.2 | 88.0 | 84.2 |
| Picking up trash that is in the gutter on and/or around where I live. | 80.9 | 84.9 | 83.3 | 86.5 | 84.9 |
| Recycling my used motor oil. | 77.6 | 84.6 | 82.2 | 75.8 | 74.4 |
| Using environmentally friendly lawn products. | 76.3 | 84.5 | 77.8 | 81.8 | 79.8 |
| Washing my car at the carwash or on a lawn. | 72.5 | 74.4 | 70.0 | 76.4 | 69.7 |
| Picking up pet waste in my yard. | 60.2 | 63.7 | 64.0 | 67.9 | 63.6 |
| Waiting to run the dishwasher or washing machine 24-48 hours after the rain subsides and the sewers aren't full. | 60.0 | 52.9 | 59.0 | 60.8 | 55.7 |
| Picking up pet waste in public spaces. | 39.7 | 42.7 | 40.3 | 46.0 | 44.7 |
| Installing a rain barrel to catch rainwater from my downspouts. | 35.9 | 47.8 | 42.3 | 43.7 | 43.7 |
| Creating a rain garden on my property or in my neighborhood | 33.9 | 30.1 | 33.5 | 35.4 | 36.2 |



Q21 RESULTS – Willingness of Action

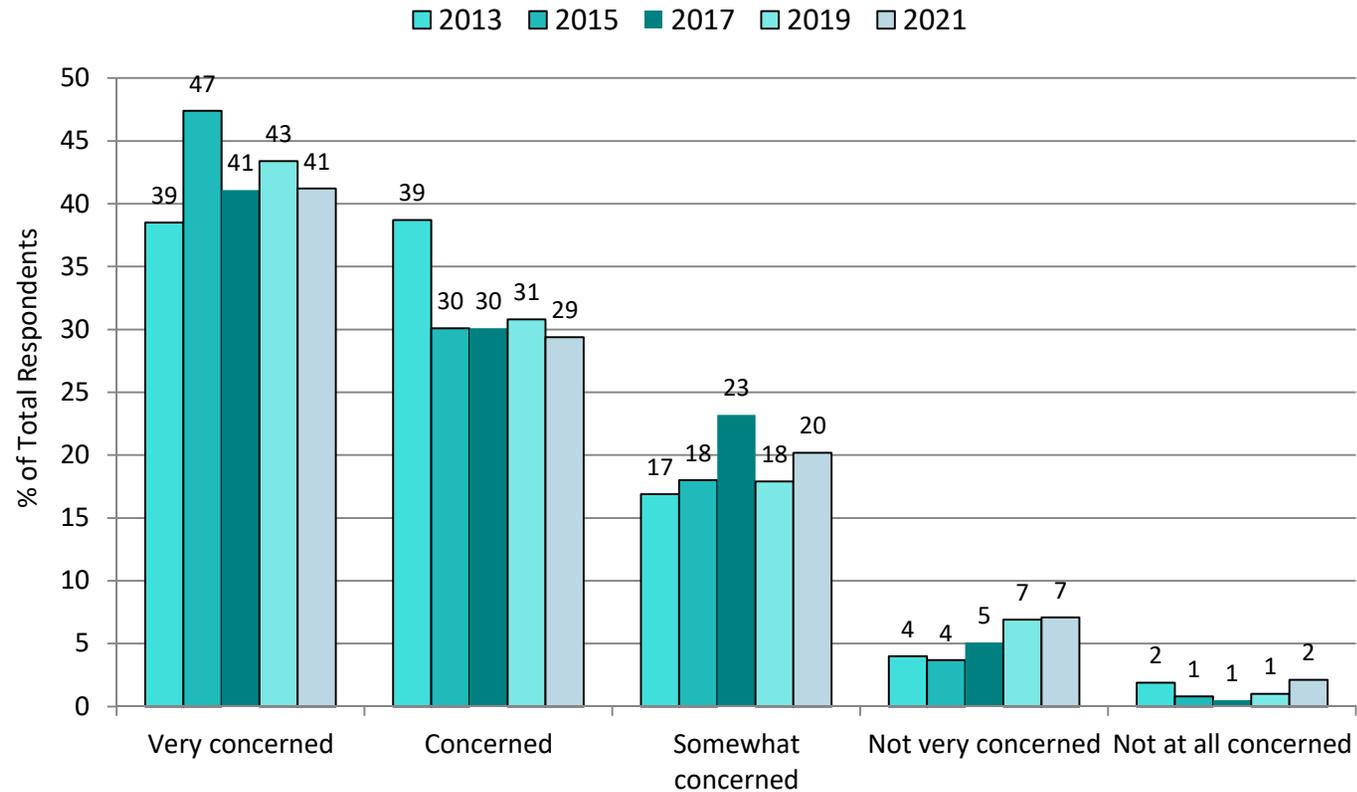
| I personally would be willing to take the following actions to reduce the amount of water pollution in river, creeks and streams. (Select all that apply) | Percent who are age 21-39 | Percent Female | Geographic area(s) |
|---|---------------------------|----------------|--------------------------|
| Install a rain barrel | 43.9 | 57.1 | Downtown / East City |
| Create a rain garden | 50.1 | 54.9 | Downtown / South County |
| Pick up pet waste | 43.6 | 57.1 | South County / East City |
| Wait to run the dishwasher/washing machine after rain subsides | 38.8 | 58.2 | Southwest / Downtown |

- This residential cross-section indicates many demographic segments have a strong willingness to take action.
- More than one-third of young adult residents 21-39 are willing to do more to reduce water pollution. Women and men said they would take all these actions. Downtown/West City weighed in with a strong willingness to take these specific actions.



Q22 RESULTS – Pollution Concern

How concerned are you that water pollution will cause the river, creeks and ponds to become un-fishable and un-swimmable for the next generation if actions are not taken now?

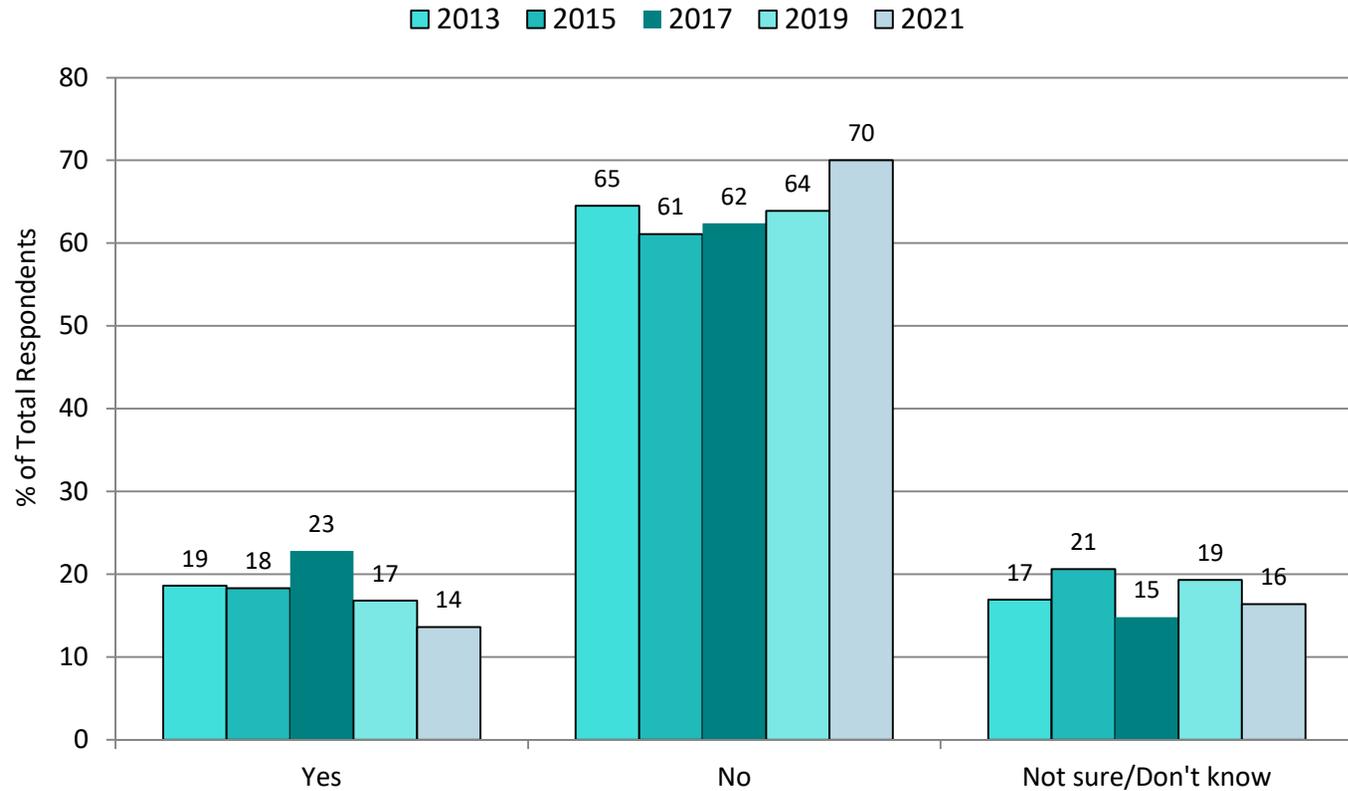


- The proportion of people who are not very concerned continues to increase over time.
- East City residents (51.9%) are very concerned if actions are not taken now.



Q23 RESULTS – Awareness of Pollution Impact & Prevention

In the past 12 months have you heard anything about the impact of rainwater runoff pollution and sewer system overflow and ways that residents can prevent it?



- Those over 60 (18.1%) are more likely to have heard about the impact. Residents in Downtown/West City are unlikely (5.7%) to hear about the impact.

COMMUNICATIONS &
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Q24 RESULTS – Source of Pollution Information

| Where did you see or hear about rainwater runoff pollution and sewer system overflow? (Select all that apply; only asked if “yes” to Q23) | % who heard something in the past 12 months | | | | |
|---|---|------|------|------|------|
| | 2013 | 2015 | 2017 | 2019 | 2021 |
| Television | 52.8 | 58.0 | 52.4 | 47.4 | 51.1 |
| Newspaper | 40.0 | 43.1 | 28.0 | 29.1 | 26.7 |
| Brochure | 26.6 | 15.6 | 12.5 | 16.2 | 8.8 |
| Radio | 20.2 | 22.9 | 34.8 | 24.9 | 16.2 |
| Website | 19.2 | 5.0 | 8.3 | 6.0 | 7.4 |
| Facebook | 18.8 | 10.1 | 10.2 | 14.7 | 8.5 |
| Other source | 15.0 | 14.6 | 20.5 | 20.4 | 16.8 |
| Posting near river, creek or pond | 12.2 | 13.8 | 28.7 | 23.2 | 30.1 |
| Not sure | 6.3 | 17.0 | 3.1 | 4.9 | 1.1 |
| Neighborhood meeting | 5.8 | 4.6 | 15.1 | 13.1 | 6.0 |
| Sign/billboard | 4.6 | 10.6 | 3.7 | 4.4 | 4.7 |
| Email | 4.3 | 4.3 | 2.6 | 14.4 | 20.2 |
| Twitter | 1.7 | 1.3 | 0.4 | 4.5 | 0.8 |
| Poster | 0.7 | 0.1 | 1.6 | 4.3 | 8.4 |

COMMUNICATIONS &
HOW TO ENGAGE



Q25 RESULTS – Source of Pollution Information

| What do you remember about the information that you saw or heard? Be as detailed as possible. (Open-response; only asked if “yes” to Q23) | Percent of those who heard something in the past 12 months | | | | |
|---|--|------|------|------|------|
| | 2013 | 2015 | 2017 | 2019 | 2021 |
| Avoiding creeks, ponds, rivers right after rainfall | 2.9 | 0.0 | 16.6 | 2.5 | 13.3 |
| Redirecting rain water/gutters to yard | 3.3 | 10.3 | 1.7 | 0.3 | 1.9 |
| Don’t add to the problem | 1.3 | 10.2 | 0.7 | 0.3 | 7.1 |
| Sewer overflow issues | 14.5 | 9.9 | 0.8 | 2.1 | 3.7 |
| Tips/info to help water pollution | 9.6 | 9.2 | 8.7 | 3.2 | 9.8 |
| Don’t use chemicals on the lawn | 0.9 | 1.3 | 15.9 | 1.9 | 0.9 |
| Not to flush wipes / diapers | 2.6 | 7.3 | 0.5 | 1.0 | 6.5 |
| Don’t wash clothes/use dishwasher during rain | 4.2 | 6.3 | 3.7 | 4.4 | 9.4 |
| Careful about what I pour into ground/down drain/dispose | 11.4 | 6.0 | 4.8 | 8.9 | 4.9 |
| Rain barrels | 0.2 | 6.0 | 3.2 | 0.8 | 3.5 |
| Rain garden | 0.9 | 5.7 | 0.0 | 1.0 | 3.7 |
| By not littering/polluting/using trash cans | 3.5 | 5.4 | 28.4 | 5.1 | 6.3 |
| Clean up sewer/street drains | 4.5 | 3.5 | 17.2 | 0.3 | 0.8 |

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Q26 RESULTS – Methods of Information

| Which of the following kinds of information would get you personally to pay attention to rainwater runoff pollution and sewer system overflow to help improve the water quality or health of river, creeks, and ponds after a storm? (Select all that apply) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| General Education | 75.5 | 80.3 | 78.2 | 75.6 | 79.6 |
| Financial reward | 50.8 | 63.1 | 58.5 | 53.1 | 54.0 |
| Environmental report | 50.0 | 60.8 | 51.7 | 59.1 | 57.4 |
| Statistical data | 50.6 | 49.5 | 49.4 | 55.2 | 51.3 |
| Campaign with emotional/dramatic impact | 31.4 | 41.6 | 38.2 | 32.3 | 31.2 |
| Financial consequences | 36.6 | 35.5 | 34.0 | 29.6 | 31.1 |

- Attention to information on financial consequences remains low. Respondents would be most likely to pay attention to General Education information.
- Respondents under 50 (65.7%) are more likely to respond to a campaign with a financial reward. Those age 30-39 (41.8%) most frequently indicated that they would prefer a campaign with emotional/dramatic impact.
- Statistical data appealed most to East City residents (58.5%).

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Q27 RESULTS – Methods of Information

| What types of messages would you need to hear that would make you want to take action to reduce rainwater pollution and sewage system overflow? (Open-response) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|---|----------|----------|----------|----------|----------|
| Cause & effect/consequences/impact | 21.1 | 29.3 | 28.1 | 15.5 | 23.9 |
| Prevention methods/ways to help | 22.1 | 16.6 | 17.0 | 16.2 | 17.1 |
| Education in schools | 1.3 | 13.4 | 2.4 | 1.2 | 1.0 |
| I already do this/already take action | 5.2 | 9.8 | 3.9 | 7.8 | 8.5 |
| TV/News coverage | 6.9 | 9.3 | 5.2 | 4.5 | 5.1 |
| Rewards/incentives | 4.6 | 9.0 | 5.9 | 5.8 | 9.5 |
| Fact/truth/what’s really happening | 8.7 | 8.1 | 23.3 | 28.3 | 10.7 |
| How it effects my kids / future generations | 2.7 | 4.8 | 6.0 | 6.8 | 3.5 |
| General information | 17.1 | 4.7 | 26.0 | 5.9 | 16.7 |
| Don’t know | 11.4 | 4.5 | 3.7 | 4.1 | 4.5 |

- Respondents tend to need messages relating to cause and effect, consequences and environmental impact to make them want to take action.

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Q27 RESULTS – Methods of Information

| What types of messages would you need to hear that would make you want to take action to reduce rainwater pollution and sewage system overflow? (Open-response) | Age | Education | Gender | Geography | Income | Rent /Own |
|---|----------------|--------------------|-----------------|-----------------------|------------------|--------------|
| Cause & effect/consequences/impact | 30-39 21.7% | Coll Grad 35.0% | Female 52.3% | East City 36.0% | < \$40K 33.3% | Own 56.8% |
| Prevention methods/ways to help | 60 + 28.7% | Coll Grad 41.2% | Male 51.0% | South County 32.3% | \$90K + 37.0% | Own 53.1% |
| Fact/truth/what's really happening | 60 + 35.0% | Coll Grad 39.3% | Female 59.0% | South County 42.6% | \$90K + 40.4% | Own 68.9% |
| General information | < 30 34.4% | Coll Grad 31.5% | Male 53.81% | South County 34.4% | < \$40K 37.2% | Own 65.6% |

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Q28 RESULTS – Source Rankings: Emergency Situation

| People get their information from many different sources. Rank the sources that you would most prefer to hear from in an <u>emergency situation</u> (such as a weather alert). Please select at most 4 answers. | % ranked 1 st | % ranked 2 nd | % ranked 3 rd | % ranked 4 th | % ranked top 4 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| Television | 26.4 | 21.5 | 12.0 | 10.0 | 64.6 |
| Radio | 15.5 | 16.8 | 17.6 | 13.6 | 56.7 |
| Email | 19.3 | 13.4 | 10.5 | 13.3 | 51.1 |
| Social Media | 15.2 | 20.8 | 17.5 | 10.5 | 57.8 |
| Internet | 10.2 | 15.1 | 20.7 | 13.9 | 52.7 |
| Direct Mail | 5.7 | 3.9 | 5.4 | 11.8 | 23.2 |
| Postings at river, creek, or pond | 3.0 | 2.2 | 3.6 | 11.9 | 17.3 |
| Signs/billboards | 4.2 | 5.0 | 9.8 | 10.6 | 25.4 |
| Neighborhood meeting | 0.5 | 1.3 | 2.9 | 4.4 | 7.6 |

- Residents continue to prefer receiving alerts via traditional broadcast channels, although social media continues to grow steadily.
- Those age 60+ ranked TV first 45.0% of the time.

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Q29 RESULTS – Source Rankings: Community News

| People get their information from many different sources. Rank the sources that you would most prefer to hear from for <u>community news</u> (such as a river walk clean-up). Please select at most 4 answers. | % ranked 1 st | % ranked 2 nd | % ranked 3 rd | % ranked 4 th | % ranked top 4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| Television | 22.0 | 15.8 | 10.6 | 13.3 | 57.3 |
| Email | 23.9 | 15.8 | 12.0 | 9.2 | 56.9 |
| Radio | 17.3 | 13.2 | 12.1 | 12.0 | 50.3 |
| Social Media | 16.8 | 20.0 | 15.1 | 12.6 | 59.4 |
| Internet | 6.2 | 11.5 | 15.8 | 13.4 | 42.0 |
| Direct Mail | 7.2 | 11.0 | 10.5 | 8.6 | 33.9 |
| Signs/billboards | 2.5 | 6.1 | 13.3 | 15.6 | 32.9 |
| Neighborhood meeting | 3.4 | 2.8 | 3.9 | 7.1 | 15.4 |
| Postings at river, creek, or pond | 0.7 | 3.8 | 6.7 | 8.1 | 17.0 |

- Electronic methods (Email, Social Media) are the preferred methods for receiving community news.
- Of respondents age 60+, 35.5% ranked TV first.

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Q30 RESULTS – Source Rankings: “How To” Information

| People get their information from many different sources. Rank the sources that you would most prefer to hear from for “How To” information (such as how to install a rain barrel). Please select at most 4 answers. | % ranked 1 st | % ranked 2 nd | % ranked 3 rd | % ranked 4 th | % ranked top 4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| Television | 12.8 | 12.2 | 12.3 | 14.4 | 47.3 |
| Email | 23.6 | 16.7 | 14.6 | 11.2 | 61.6 |
| Social Media | 17.7 | 16.9 | 15.0 | 13.9 | 58.5 |
| Direct Mail | 15.6 | 15.3 | 14.5 | 13.7 | 54.4 |
| Internet | 18.0 | 21.0 | 18.7 | 13.5 | 65.6 |
| Radio | 6.5 | 6.2 | 4.6 | 12.3 | 26.8 |
| Neighborhood meeting | 2.5 | 3.8 | 5.9 | 6.2 | 16.5 |
| Signs/billboards | 2.0 | 4.2 | 7.9 | 6.5 | 18.4 |
| Postings at river, creek, or pond | 1.3 | 3.7 | 6.5 | 8.3 | 17.5 |

- Email and the Internet remain the top preferences for receiving “How To” information.
- Most under 30 (79.8) rated Internet in the top 4.



Q31 RESULTS – Source Rankings: Notices/Upcoming Dates

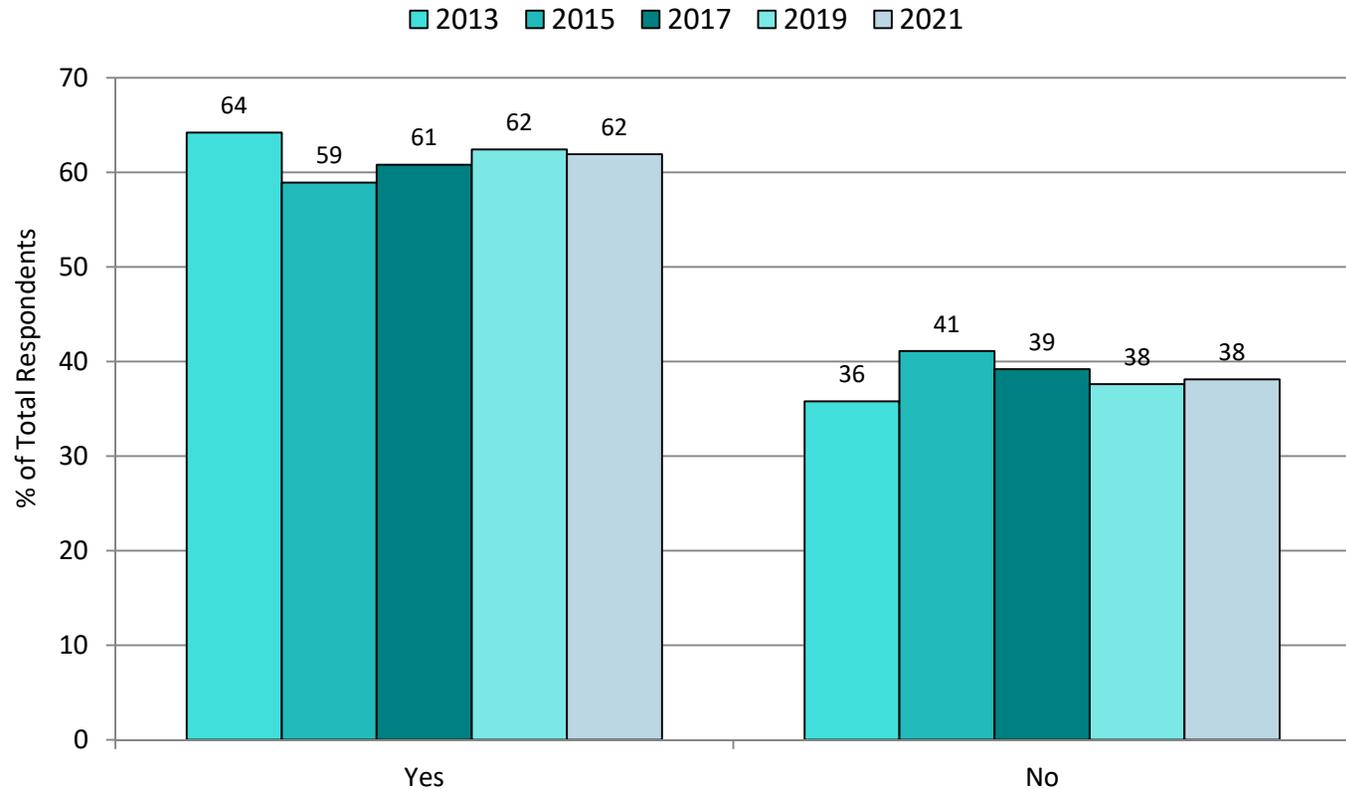
| People get their information from many different sources. Rank the sources that you would most prefer to hear from for <u>notices</u> (such as upcoming dates for recycling hazardous chemicals). Please select at most 4 answers. | % ranked 1 st | % ranked 2 nd | % ranked 3 rd | % ranked 4 th | % ranked top 4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| Television | 15.2 | 11.9 | 11.6 | 14.1 | 48.8 |
| Email | 28.6 | 18.4 | 10.8 | 12.0 | 65.8 |
| Direct mail | 20.4 | 15.3 | 12.5 | 15.4 | 59.0 |
| Radio | 11.8 | 9.2 | 11.9 | 14.9 | 43.7 |
| Social media | 13.6 | 17.4 | 15.4 | 11.9 | 53.9 |
| Signs/billboards | 2.5 | 8.7 | 7.6 | 13.7 | 29.1 |
| Internet | 5.0 | 15.1 | 20.9 | 11.3 | 47.5 |
| Neighborhood meeting | 1.1 | 1.5 | 4.9 | 3.0 | 9.4 |
| Postings at river, creek, or pond | 1.8 | 2.5 | 4.3 | 3.5 | 11.0 |

- Email remains the preferred channel for important but non-urgent information.
- Those under 30 rated Email most often (38.5%) as their first choice.
- Those over 60 rated TV most often (25.6%) as their first choice.



Q32 RESULTS – Newsletter

Do you read newsletters that are included in your monthly bills?



- Residents under 30 (52.8%) are least likely to read the newsletter inserts.
- Residents over 60 (73.5%) are most likely to read the newsletter inserts.

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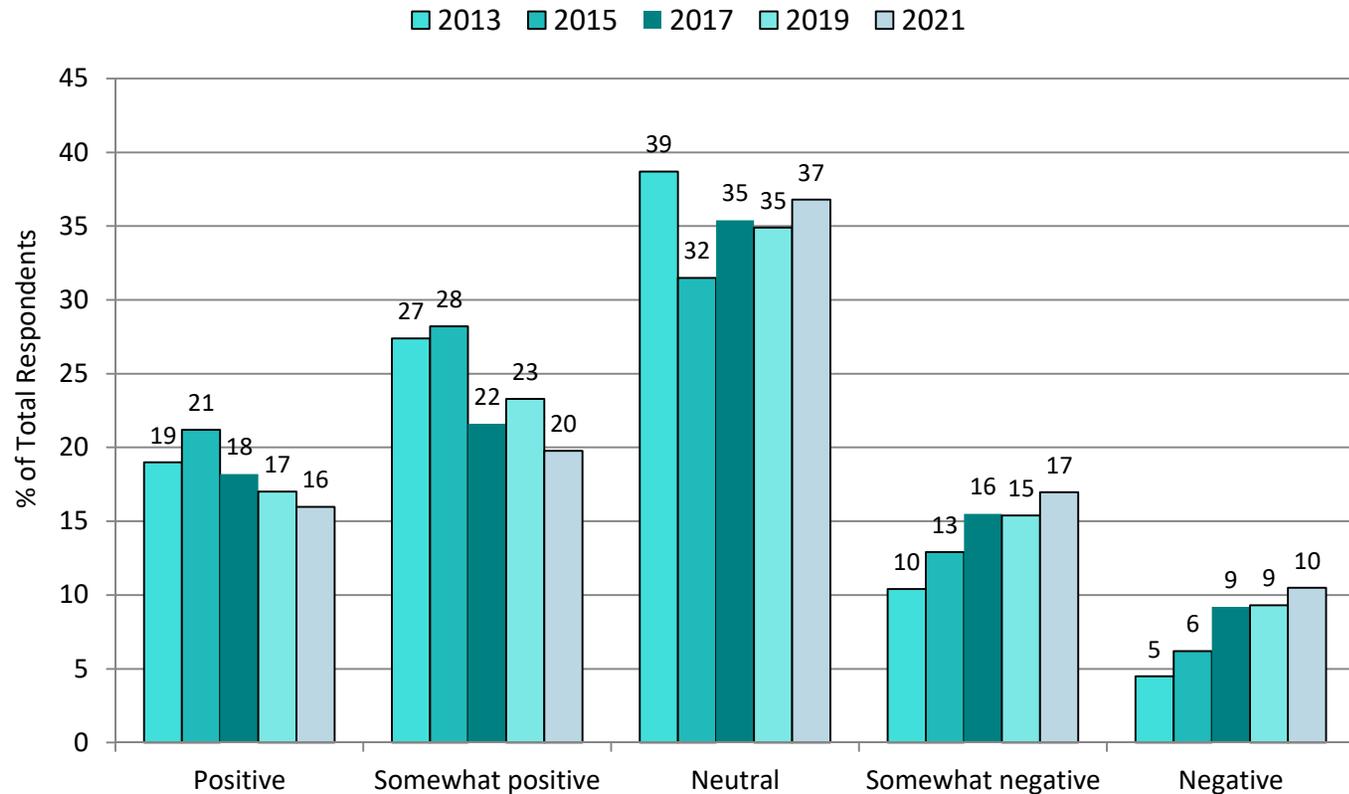
Q33 RESULTS – MSD & Your Community

| What does the Metropolitan Sewer District (MSD) do for your community? (Open-response) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Install/handle/maintain sewers/waste water | 25.7 | 23.5 | 33.6 | 24.6 | 30.0 |
| Cleans the water/purifies/filters | 6.3 | 15.9 | 8.6 | 5.7 | 12.5 |
| Clean sewers/ditches | 6.3 | 15.7 | 6.0 | 4.8 | 9.2 |
| Provide drainage/runoff control | 8.7 | 14.4 | 14.2 | 8.5 | 8.0 |
| Prevent flooding | 5.5 | 11.4 | N/A | 4.2 | 5.1 |
| Treat waste water | 3.9 | 7.1 | 11.8 | 8.8 | 4.7 |
| Corrupt / inadequate | 0.3 | 6.6 | 1.4 | 13.8 | 4.1 |
| Charge too much | 5.3 | 6.4 | 4.0 | 13.1 | 13.1 |
| Repair pipes/infrastructure | 4.0 | 6.0 | 15.4 | 6.5 | 10.8 |
| Continue to raise prices | 2.9 | 4.4 | 8.1 | 5.5 | 5.3 |
| Prevents pollution | 0.5 | 4.3 | 0.2 | 1.6 | 2.1 |
| Nothing | 3.7 | 4.3 | 7.0 | 3.1 | 4.5 |
| Don't know | 16.2 | 12.7 | 12.8 | 9.4 | 18.9 |



Q34 RESULTS – Opinion of MSD

What is your opinion of MSD?



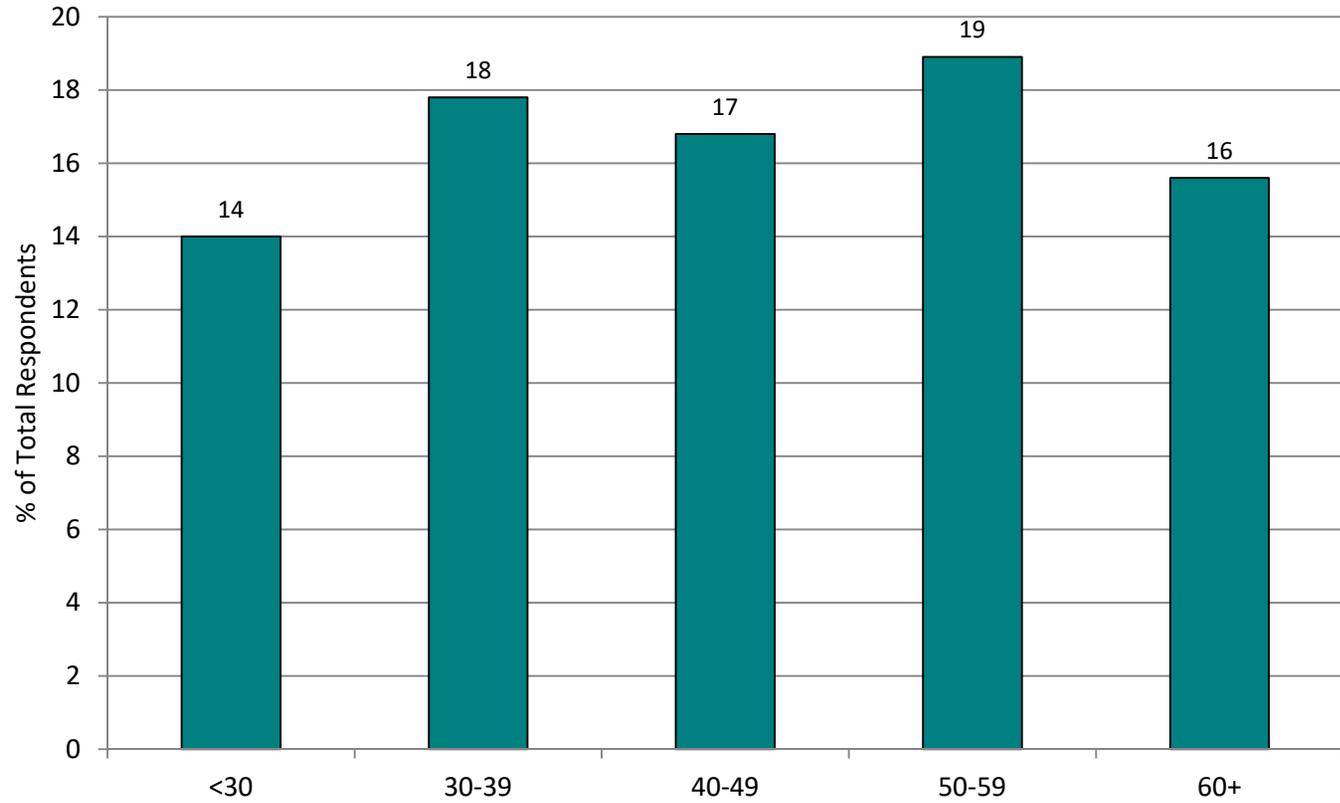
- Respondents over 60 (43.6%), those under 30 (41.0%) and homeowners (41.0%) have the highest Positive/Somewhat Positive perceptions of MSD.
- Downtown residents (16.8%) and age 40-49 (16.6%) have the highest Negative perceptions.

Q35 RESULTS – MSD & Your Community

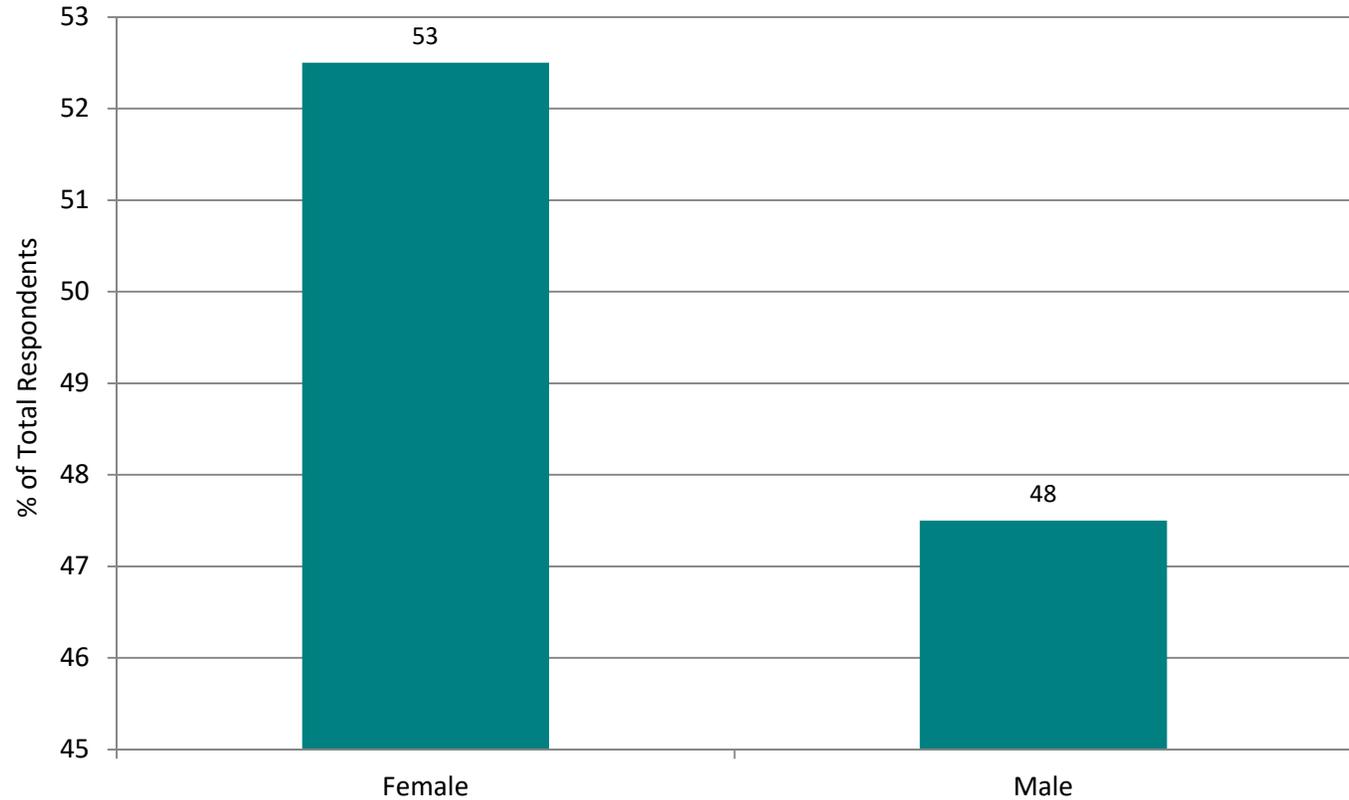


| MSD helps your community manage its sewer system and protect the health of the river, creeks and ponds. What role do you think MSD should take in helping residents reduce the household causes of waterway pollution? (Open response) | 2013 (%) | 2015 (%) | 2017 (%) | 2019 (%) | 2021 (%) |
|--|----------|----------|----------|----------|----------|
| Educate | 28.8 | 30.4 | 42.2 | 21.1 | 29.6 |
| Provide more information / awareness | 24.3 | 25.1 | 19.9 | 14.7 | 25.8 |
| Provide incentives / rewards | 6.3 | 9.5 | 8.4 | 7.9 | 9.9 |
| Inform public of ways to help | 10.0 | 8.5 | 18.5 | 7.0 | 12.1 |
| Manage their resources better | 0.4 | 6.5 | 0.6 | 2.8 | 0.4 |
| Major role / a big role | 3.1 | 5.8 | 7.9 | 8.9 | 6.7 |
| Newsletters / inserts | 3.2 | 3.8 | 1.3 | 1.6 | 2.5 |
| Clean out drains / sewers | 2.2 | 3.7 | 2.0 | 1.1 | 2.2 |
| Financial incentives on water bill | 2.7 | 3.4 | N/A | 2.7 | 0.0 |
| Don't know | 8.3 | 8.8 | 0.9 | 5.0 | 5.3 |

Q36 RESULTS – Age

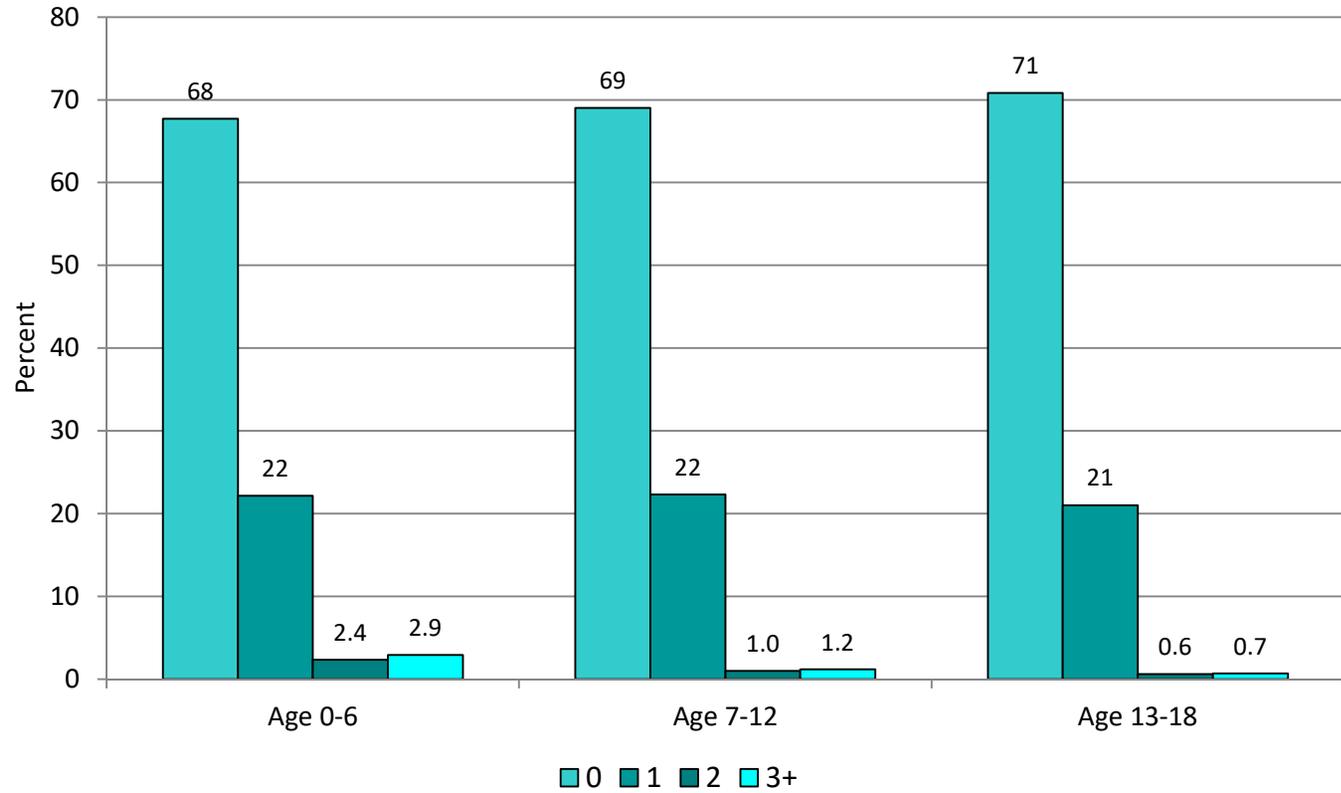


Q37 RESULTS – Gender

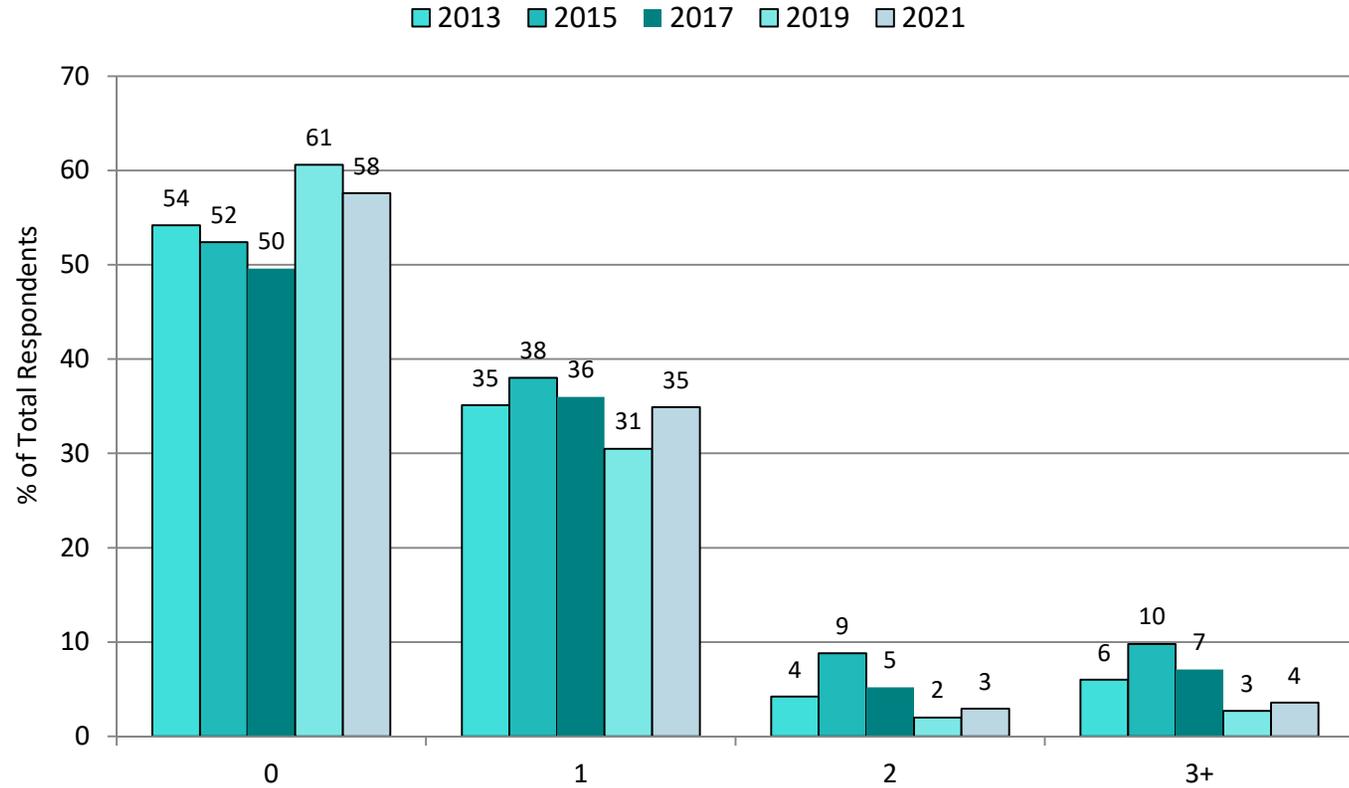


- Females tend to reside in Downtown/West City (66.8%) and Southwest (60.9%), versus males who are more likely to live in the Northeast County (56.5%).

Q38 RESULTS – Presence of Children in Household, by Age

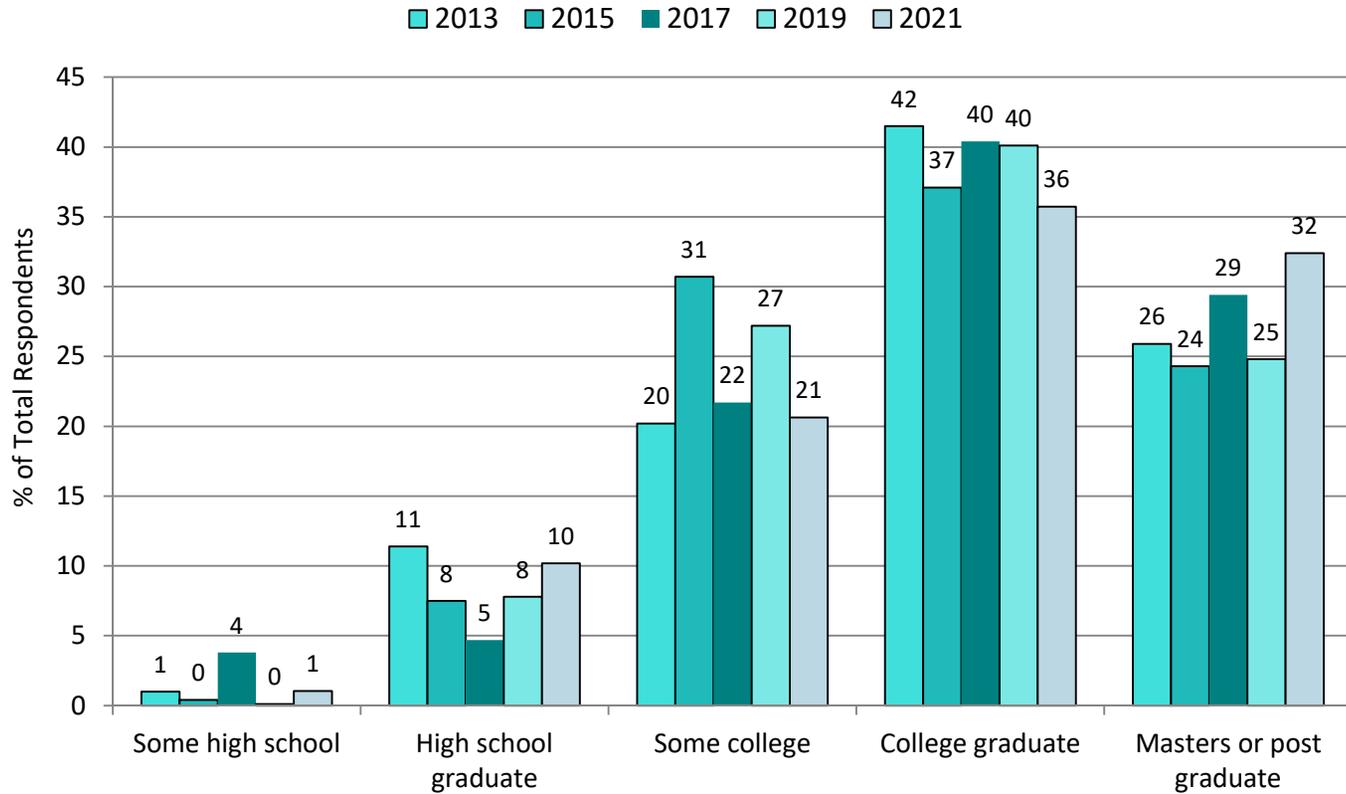


Q38 RESULTS – Total Number of Children in Household



Q39 RESULTS – Education

What is your highest level of education?

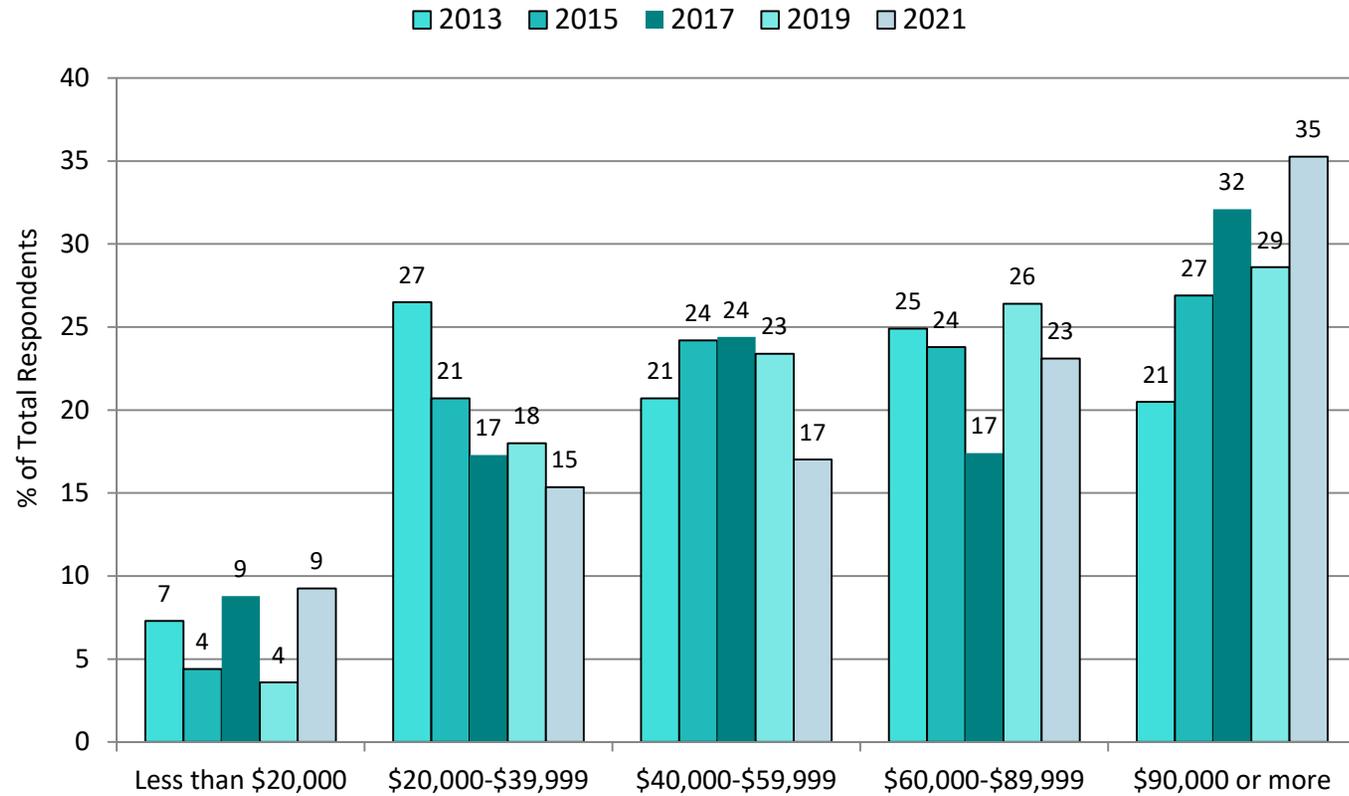


- The Northeast County has the highest proportion of Masters/Post Grads (45.3%).



Q40 RESULTS – Annual Household Income

What is your household income?

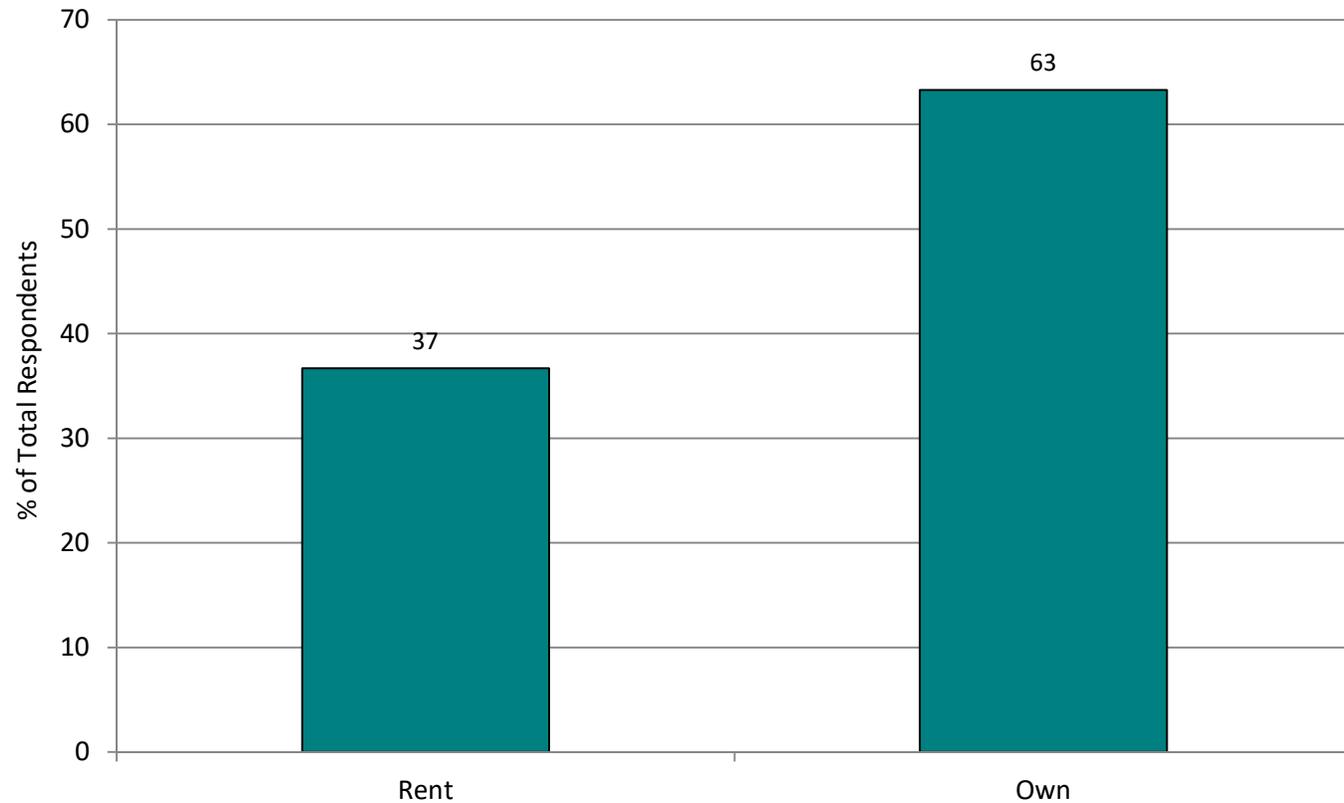


- In general, income levels did vary as expected with ZIP code geography.



Q41 RESULTS – Rent vs. Own

Do you rent or own your residence?

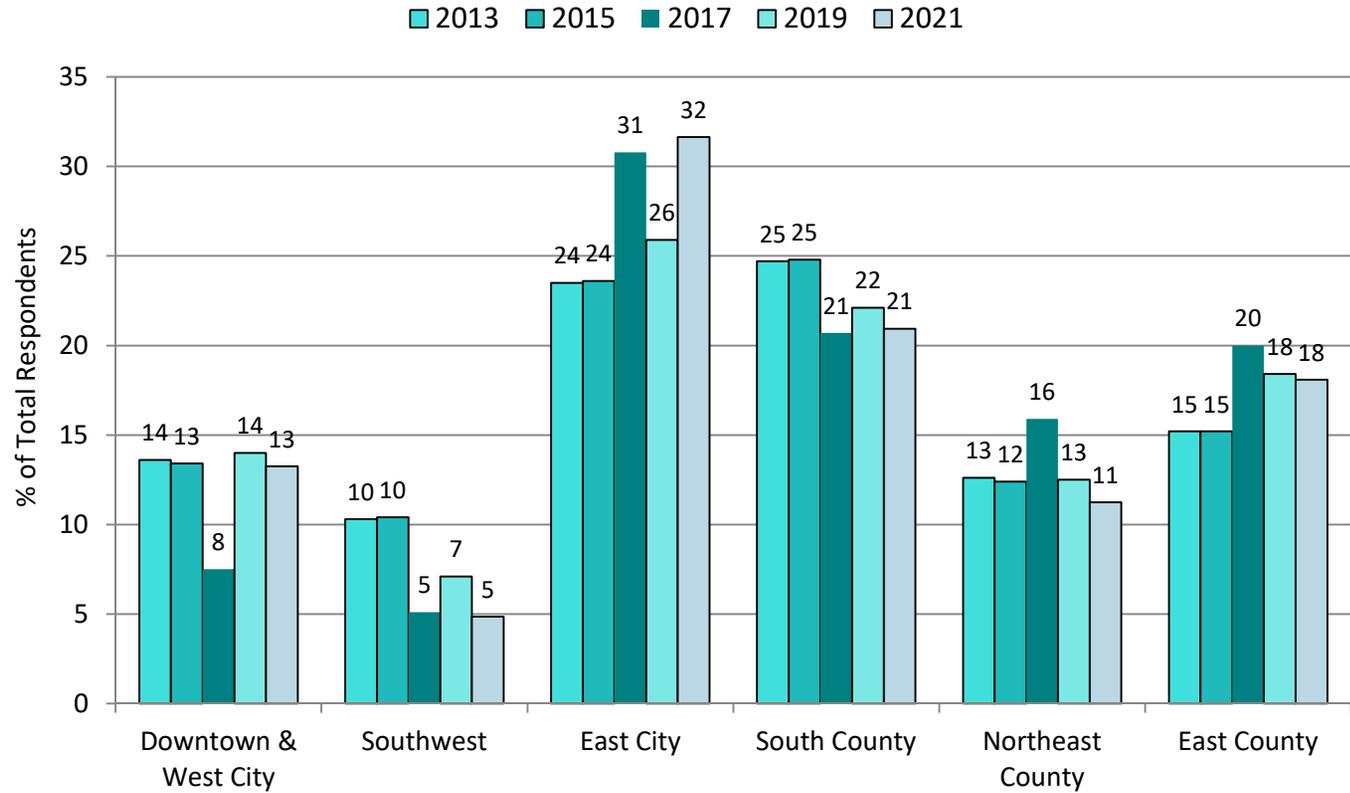


- Renters are most prevalent Downtown/West City (69.7%), as where owners are more likely to reside in East County (84.8%) and Northeast County (80.1%).

Q42 RESULTS – ZIP Code

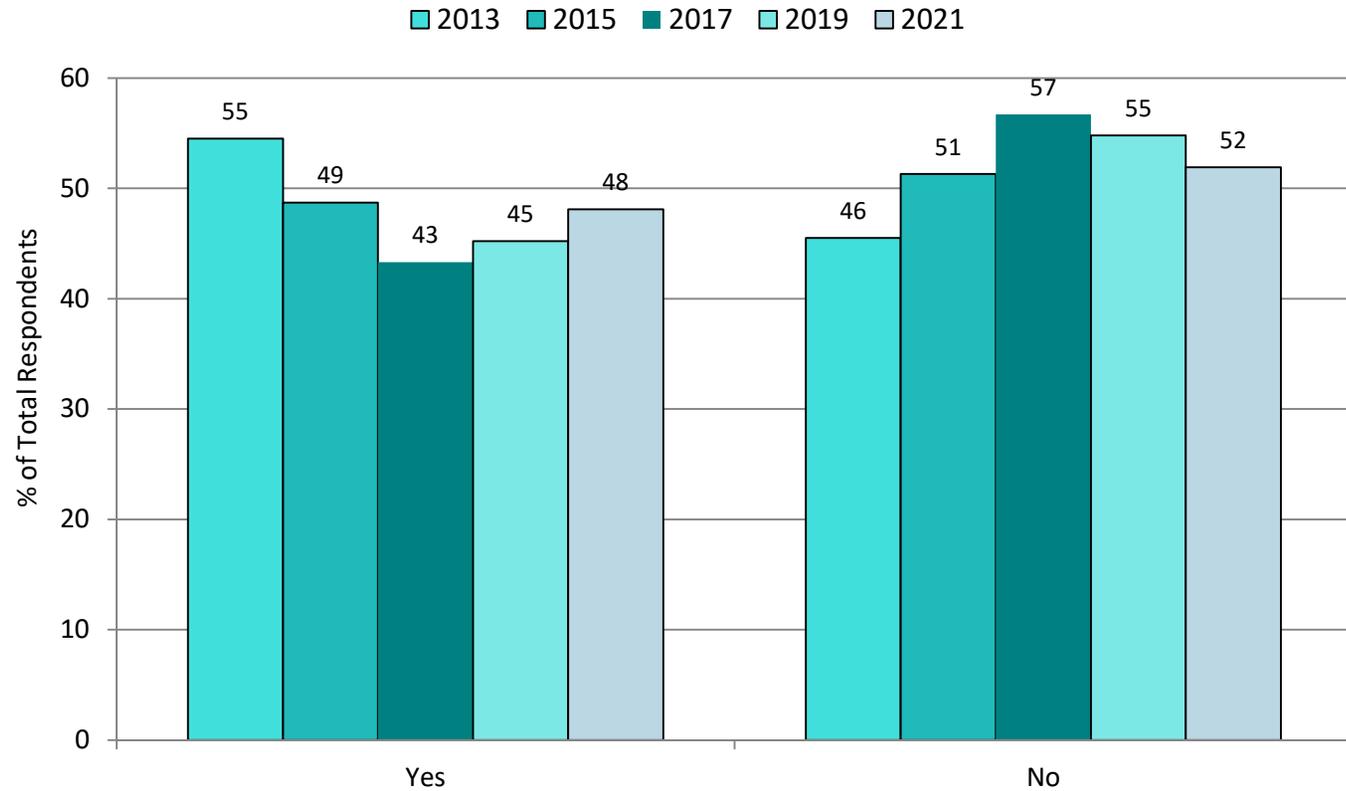


What is your ZIP code?



Q43 RESULTS – Dog Owner

Do you own a dog?

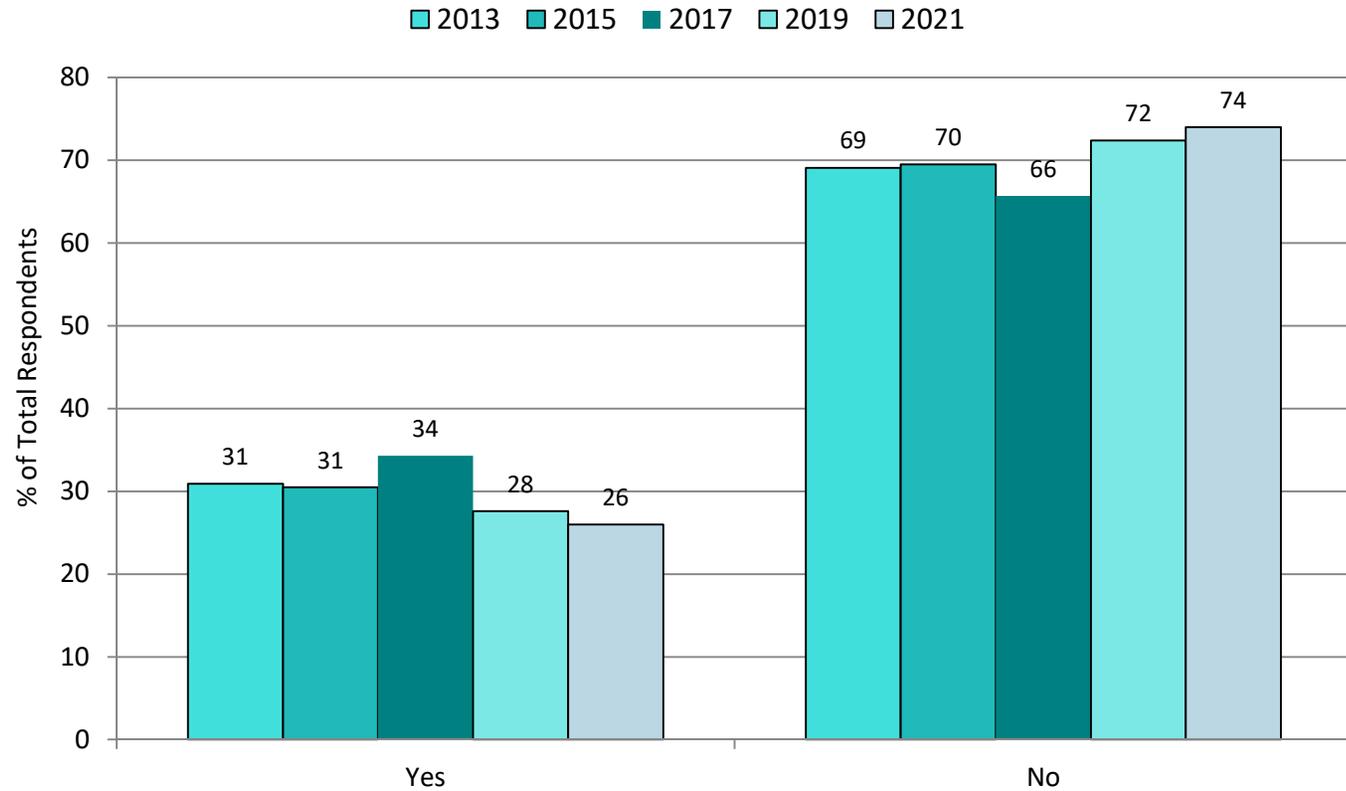


- Owners tend to reside in East City (52.1%), and least likely to live Downtown/West City (35.9%).



Q44 RESULTS – Use of Yard/Landscape Fertilizer

Do you use yard/landscape fertilizer?

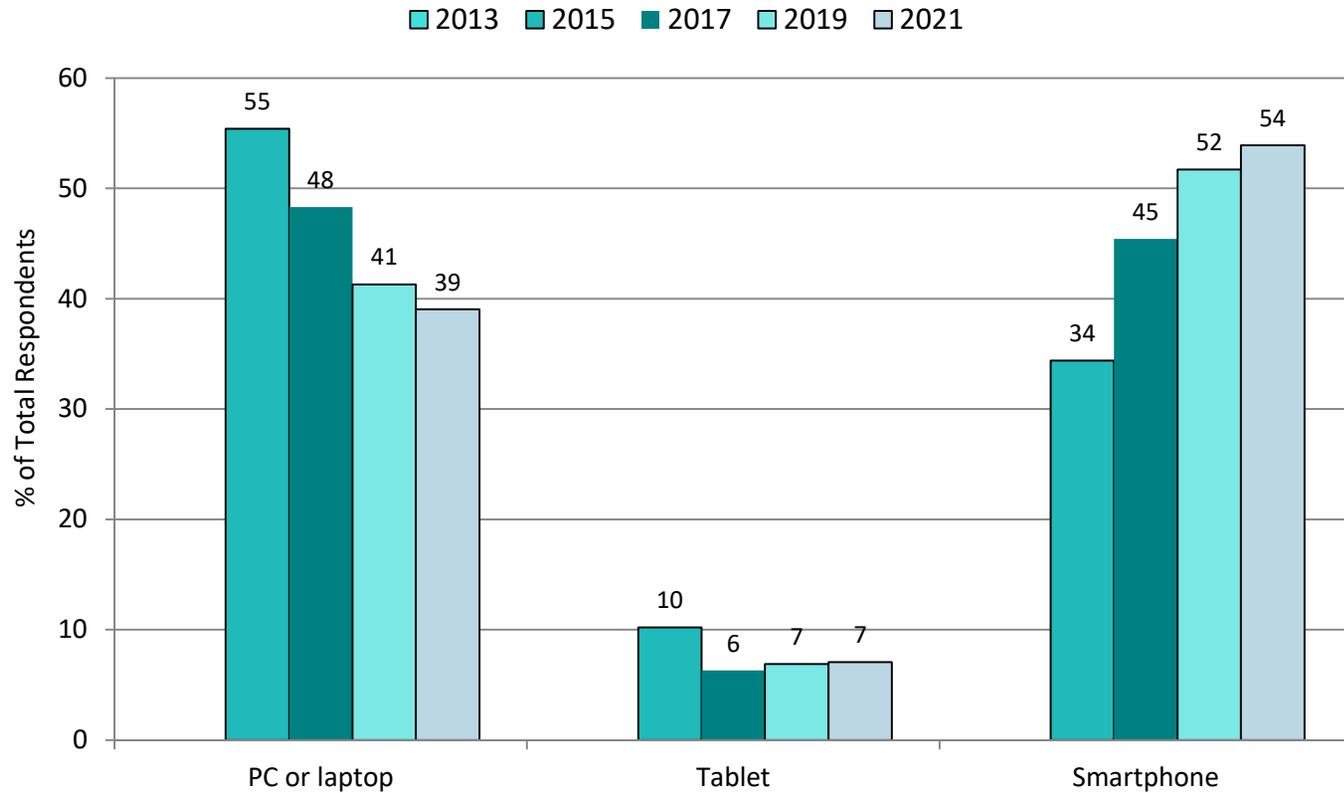


- Northeast County residents (48.9%), East County (44.6%) Homeowners (38.7%) tend to use fertilizer the most.
- Renters (4.2%) and Downtown/West City residents (10.2%) use it the least.



Q45 RESULTS – Survey Usage Device

What device are you using to take this survey?



- Most PC or laptop users are those over 60 (53.7%).
- Families with children under 6 use smartphones most often (75.6%) to complete the survey.



APPENDIX A

Online Survey

2021 Jefferson County Environmental Impact Survey

1. Do you live in Jefferson County, Kentucky?
 - Yes
 - No

If no, the participant is not allowed to proceed.

2. Please indicate if you or anyone in your household work in any of the following industries:
 - Advertising or Marketing
 - Marketing Research
 - TV or Radio Station
 - Public Utility
 - Nobody in my household works in these industries

If any of the first 4 are selected, the participant is not allowed to proceed.

3. For each of the following environmental issues, indicate how important you feel the issue is to you.
 - a) Increasing tree canopy
 - b) Protecting our waterways (river, creeks and ponds) from pollution
 - c) Preserving open spaces
 - d) Reducing climate change
 - e) Conserving energy resources
 - Extremely important
 - Very important
 - Somewhat important
 - Not very important
 - Not at all important

4. Do you use the river, creeks and ponds for recreational purposes in Jefferson County, Kentucky?
 - Yes
 - No

If no, ask #5

5. Why don't you use river, creeks and ponds for recreational purposes? Be as specific as possible.
(Open response)
6. How would you rate the overall water quality or health of the river, creeks, and ponds in Jefferson County, Kentucky?
 - Excellent
 - Very Good
 - Good
 - Fair
 - Poor
7. Why do you give that rating? (Open response)
8. How important is it to you that your community has clean rivers, creeks and ponds?
 - Extremely important
 - Very important
 - Important
 - Somewhat important
 - Not at all important
9. How does rain affect the water quality or health of our river, creeks and ponds? Please select one.
 - Restores vital nutrients
 - Washes away pollution
 - Adds pollutants to the water
 - Don't know
 - Other [Please specify]:
10. After it rains, you should not use the local area river, creeks and ponds because they have become unsafe with increased levels of pollution and bacteria.
 - True
 - False
 - Not sure

11. What do you think would cause the river, creeks and ponds to become polluted after a rain?
(Open response)
12. Please indicate how much you agree with the following statements.
- a) Water that flows through street gutters and storm drains goes through a treatment facility before being released in our waterways.
 - b) Rainwater runoff is a leading cause of water pollution in my area.
 - c) Sewer system overflow occurs frequently in my community.
 - Strongly agree
 - Agree
 - Neither agree nor disagree
 - Disagree
 - Strongly disagree
13. How informed do you feel about the causes of rainwater runoff pollution in your area?
- Very informed
 - Informed
 - Somewhat informed
 - Not very informed
 - Not at all informed
14. How informed do you feel about the causes of sewer system overflow in your area?
- Very informed
 - Informed
 - Somewhat informed
 - Not very informed
 - Not at all informed
15. Do you think there are actions you can take to reduce water pollution in the river, creeks and ponds?
- Yes
 - No

16. Rainwater runoff and sewer system overflow contribute to water pollution. Do you currently take actions to reduce water pollution?
- Yes
 - No
- If yes, ask #17
17. What actions do you currently take to reduce water pollution? (Open response)
18. Do you think any of these actions would increase the amount of pollution from rainwater runoff?
(Select all that apply)
- Putting trash in the street gutter
 - Improperly disposing hazardous waste, such as paint and motor oil
 - Using non environmentally friendly lawn chemicals
 - Leaving pet waste on the ground
 - Allowing fluids to leak from cars and trucks
 - Washing your car in the driveway or street
 - Other [Please specify]:
19. Do you think any of these actions cause sewer system overflow? (Select all that apply)
- Pouring fats, oils, greases and food particles down the sink
 - Flushing diaper wipes and other wet wipes down the toilet
 - Flushing dental floss down the toilet
 - Flushing hair down the toilet
 - Using water-using appliances, such as a dishwasher or clothes washer, when it is raining
 - Connecting the groundwater sump pump to the basement sewer connection
 - Putting lawn grass clippings and leaves in the street gutter
 - Other [Please specify]:

20. Please indicate how much you agree or disagree with the following statements about the water quality or health of the river, creeks, and ponds in Jefferson County, KY.
- a) We can all do our part to reduce the effects of water pollution.
 - b) I am personally responsible for reducing rainwater runoff pollution and sewer system overflow.
 - c) Local governments, businesses and industries are responsible for reducing rainwater runoff and sewer system overflow.
 - d) I would only do my part to reduce water pollution if everyone else did as well.
 - e) The utility company should provide incentives for people to reduce water pollution.
 - f) Human activities have no significant impact on the water quality of river, creeks and ponds.
 - g) Water pollution of river, creeks and ponds frightens me.
 - h) The evidence for water pollution of river, creeks and ponds is unreliable or insufficient.
 - Strongly agree
 - Agree
 - Neither agree nor disagree
 - Disagree
 - Strongly disagree
21. I personally would be willing to take the following actions to reduce the amount of water pollution in river, creeks and streams. (Select all that apply)
- Picking up trash that is in the gutter on and/or around where I live.
 - Disposing of household hazardous wastes by taking them to a collection center.
 - Installing a rain barrel to catch rainwater from my downspouts.
 - Creating a rain garden on my property or in my neighborhood.
 - Using environmentally friendly lawn products.
 - Picking up pet waste in public spaces.
 - Picking up pet waste in my yard.
 - Recycling my used motor oil.
 - Washing my car at the carwash or on a lawn.
 - Putting fats, oils, grease and food particles in the trash can rather than down the sink drain.
 - Putting baby wipes, personal wipes and other wet wipes in the trash can rather than down the toilet.
 - Waiting to run the dishwasher or washing machine 24-48 hours after the rain subsides and the sewers aren't full.

22. How concerned are you that water pollution will cause the river, creeks and ponds to become un-fishable and un-swimmable for the next generation if actions are not taken now?
- Very concerned
 - Concerned
 - Somewhat concerned
 - Not very concerned
 - Not at all concerned
23. In the past 12 months have you heard anything about the impact of rainwater runoff pollution and sewer system overflow and ways that residents can prevent it?
- Yes
 - No
 - Not sure/don't know
- If yes, ask #24 & #25
24. Where did you see or hear about rainwater runoff pollution and sewer system overflow? (Select all that apply)
- Television
 - Radio
 - Newspaper
 - Email
 - Website [Please specify]:
 - Brochure
 - Neighborhood meeting
 - Poster
 - Facebook
 - Twitter
 - Sign/billboard
 - Posting near river, creek, or pond
 - Other source [Please specify]:
 - Not sure

25. What do you remember about the information that you saw or heard? Be as detailed as possible.
(Open response)
26. Which of the following kinds of information would get you personally to pay attention to rainwater runoff pollution and sewer system overflow to help improve the water quality or health of river, creeks, and ponds after a storm? (Select all that apply)
- General education
 - Campaign with emotional/dramatic impact
 - Financial reward
 - Financial consequences
 - Statistical data
 - Environmental report
27. What types of messages would you need to hear that would make you want to take action to reduce rainwater pollution and sewage system overflow? (Open response)
28. People get information from many different sources. Rank the sources that you would most prefer to hear from in an emergency (such as a weather alert). Please select at most 4 answers.
- Radio
 - Television
 - Email
 - Social Media
 - Direct Mail
 - Internet
 - Neighborhood Meeting
 - Signs/Billboards
 - Postings at river, creek or pond

29. People get information from many different sources. Rank the sources that you would most prefer to hear from for community news (such as a river walk clean-up). Please select at most 4 answers.
- Radio
 - Television
 - Email
 - Social Media
 - Direct Mail
 - Internet
 - Neighborhood Meeting
 - Signs/Billboards
 - Postings at river, creek or pond
30. People get information from many different sources. Rank the sources that you would most prefer to hear from for "How To" information (such as how to install a rain barrel). Please select at most 4 answers.
- Radio
 - Television
 - Email
 - Social Media
 - Direct Mail
 - Internet
 - Neighborhood Meeting
 - Signs/Billboards
 - Postings at river, creek or pond
31. People get information from many different sources. Rank the sources that you would most prefer to hear from for notices (such as upcoming dates for recycling hazardous chemicals). Please select at most 4 answers.
- Radio
 - Television
 - Email
 - Social Media
 - Direct Mail
 - Internet
 - Neighborhood Meeting
 - Signs/Billboards
 - Postings at river, creek or pond

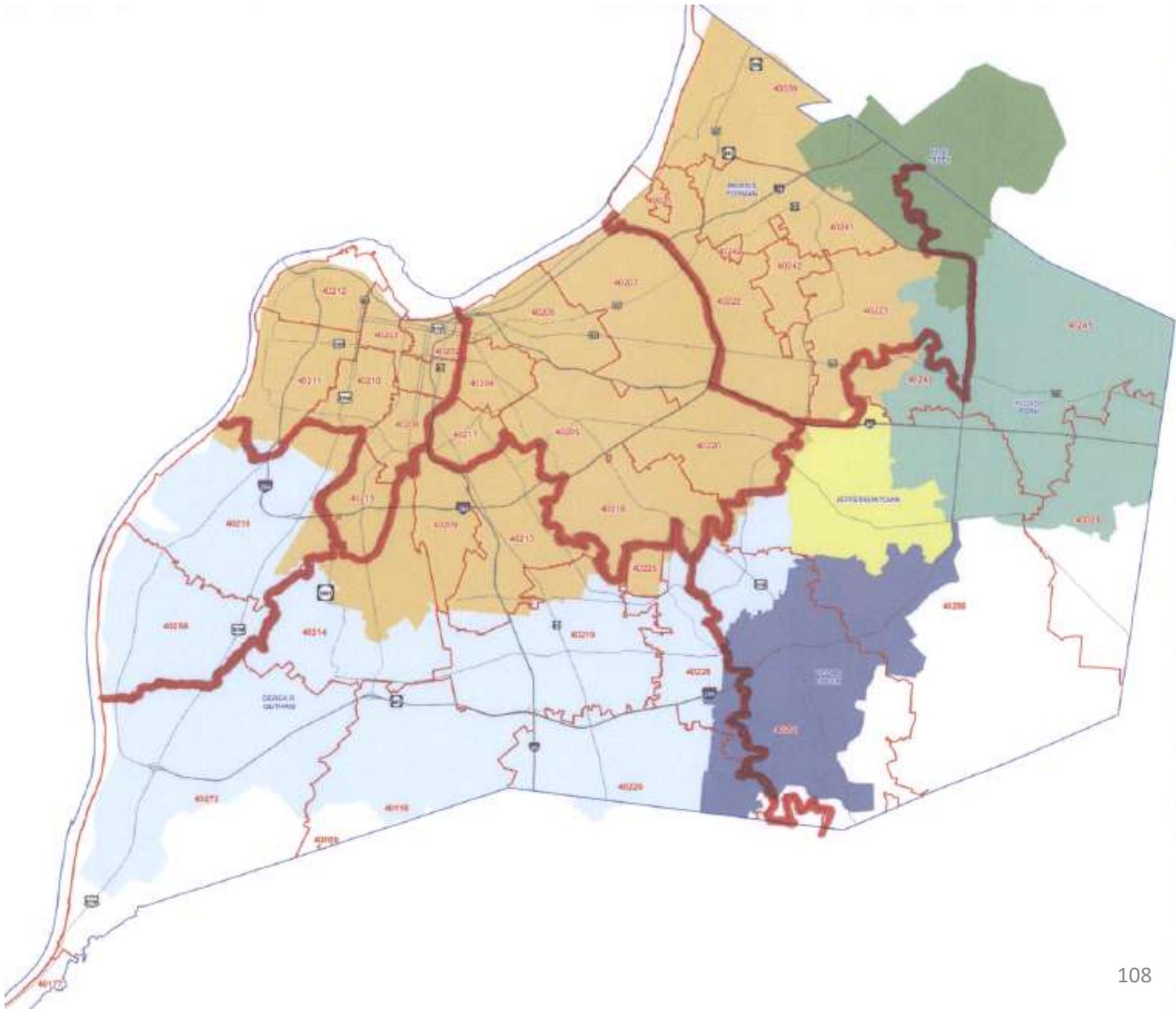
32. Do you read newsletters that are included in your monthly bills?
- Yes
 - No
33. What does the Metropolitan Sewer District (MSD) do for your community? (Open response)
34. What is your opinion of MSD?
- Positive
 - Somewhat positive
 - Neutral
 - Somewhat negative
 - Negative
35. MSD helps your community manage its sewer system and protect the health of the river, creeks and ponds. What role do you think MSD should take in helping residents reduce the household causes of waterway pollution? (Open response)
36. What was your age on your last birthday?
37. Are you:
- Female
 - Male
38. How many children do you have in your household:
- a) Age 0-6:
 - b) Age 7-12:
 - c) Age 13-18:
39. What is your highest level of education?
- Some high school
 - High school graduate
 - Some college
 - College graduate
 - Masters or post graduate

40. What is your household income?
- Less than \$20,000 per year
 - \$20,000 to \$39,999 per year
 - \$40,000 to \$59,999 per year
 - \$60,000 to \$89,999 per year
 - \$90,000 or more per year
41. Do you rent or own your residence?
- Rent
 - Own
42. What is your ZIP code?
43. Do you own a dog?
- Yes
 - No
44. Do you use yard/landscape fertilizer?
- Yes
 - No
45. If you would like to be entered into a drawing for a prize, please provide your name, email address, and phone number so that we may contact the winners.
- a) Name:
 - b) Email:
 - c) Phone Number:
46. What device are you using to take this survey?
- PC or laptop
 - Tablet
 - Smartphone

Appendix B – Zip Code Segmentation Maps

MSD Sewer Service Areas By Zip Codes

Jefferson County, Kentucky



- Legend**
- Major Roads**
- Interstate
 - Major Arterial
 - Minor Arterial
 - Zip Codes
- Sewer Service Areas**
- CEAR CREEK
 - DEREK H. OUTBACK
 - FLOYD PARK
 - HFS CREEK
 - JEFFERSON PARK
 - ROBERTS FORUM

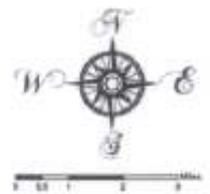
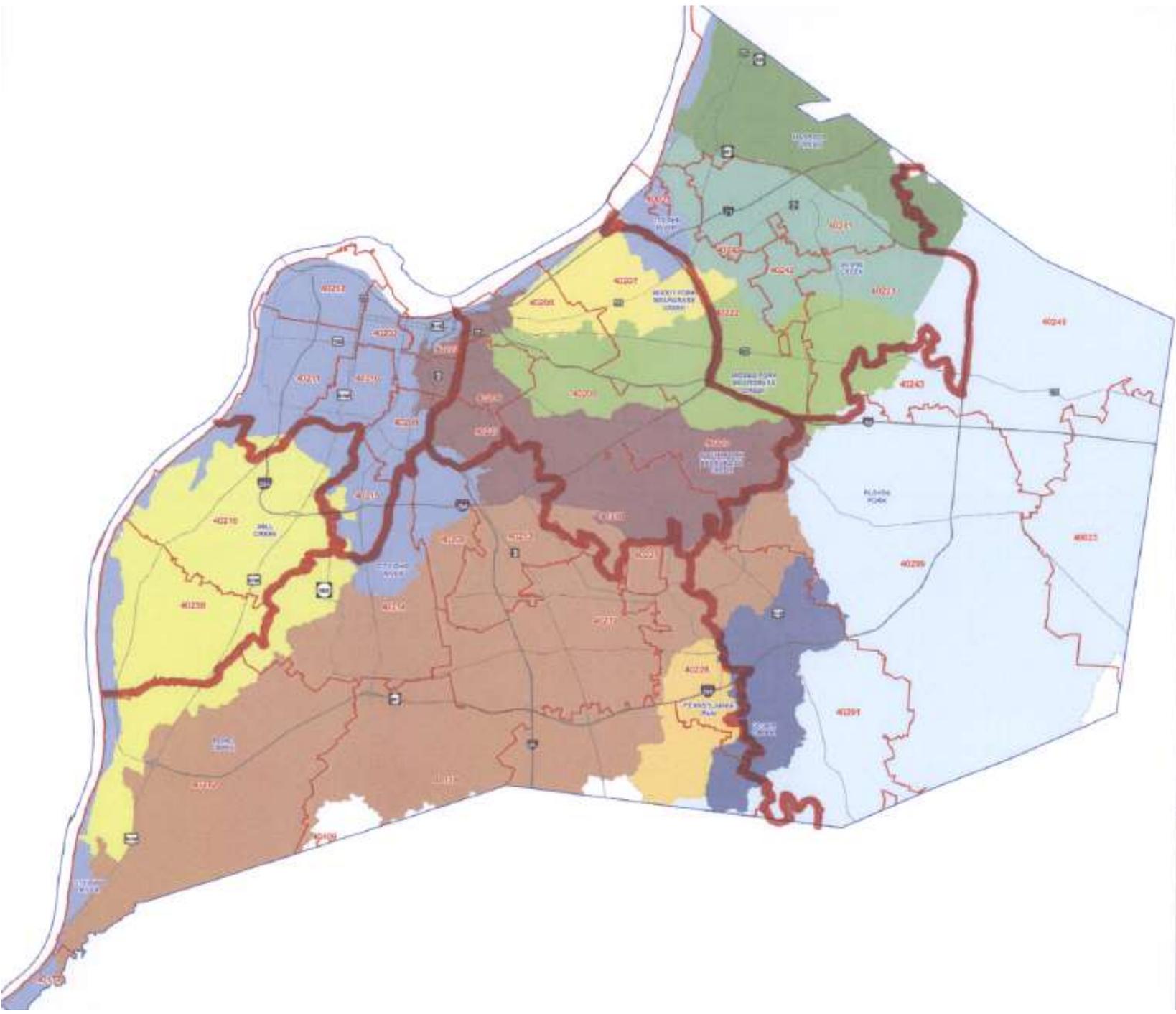


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Watersheds By Zip Codes

Jefferson County, Kentucky

- Legend**
- Major Roads**
- Interstate
 - Major Arterial
 - Minor Arterial
- ZIP Codes**
- Watersheds**
- CEDAR CREEK
 - CITY/HIO RIVER
 - FLOYD FORK
 - GOOSE CREEK
 - HARTCO'S CREEK
 - MIDDLE FORK BEARGRASS CREEK
 - MILL CREEK
 - MUDDY FORK BEARGRASS CREEK
 - PENNSYLVANIA RUN
 - POND CREEK
 - SOUTH FORK BEARGRASS CREEK



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