

2022/2023 Watershed Resident Survey Report

A look at public attitudes and behaviors towards fresh water resources and pollution prevention in the Huron River watershed.

Sponsored by the Middle Huron Partners
and the Livingston Watershed Advisory Group

Huron River watershed Council

December 2023



Executive Summary

The Huron River watershed Council (HRWC) ran a Watershed Resident Survey in 2022/2023 to better understand what watershed residents think about water quality issues, if stormwater public education initiatives are reaching target communities, and if these initiatives have an impact on self-reported behaviors. This survey is a requirement for evaluating collaborative public education efforts under Michigan's MS4 stormwater permits, which the Huron River watershed Council helps manage for two regional Stormwater Groups made of local agencies and municipalities.

A diverse pool of 741 respondents ranked water quality issues of highest importance compared to other environmental and non-environmental issues, ranked pollution and drinking water quality as top concerns, and have a variety of communication preferences for interacting with local governments and receiving information on how to protect water resources. Respondents also showed high interest and participation in individual behaviors to protect water resources, with the most popular behaviors being avoiding fertilizers, purchasing environmentally friendly products, and appropriately disposing of hazardous waste. Most respondents are very familiar with what a watershed is, and although most respondents understand that storm drains in the Huron River watershed lead directly to our waterways – no filters or treatments (unlike other areas in the state, such as in Detroit), the belief that storm drains in our watershed lead to treatment plants is still common.

The results from this survey show that respondents are already doing a lot to protect their water resources, but there is still work to do. Two areas to focus education and outreach efforts are 1) Encouraging more individual actions for pollution prevention and 2) Spreading the word that storm drains in the Huron River watershed are separate from wastewater systems and lead straight to waterways. A multimedia messaging approach, using both digital and non-digital mediums, is needed given the diverse communication preferences of respondents.

Because participants self-selected to take the survey, self-selection bias is a significant concern. With self-selection bias, the thoughts and beliefs of people who choose to take the survey may vary greatly from those who choose not to take the survey. 33,000 calendars were mailed directly to homes inviting residents to take the survey, and over 39,000 users saw Facebook ads, demonstrating that only a sliver, 741, of those invited took the survey. Residents who care greatly about watershed issues may be more inclined to take a survey about watershed issues than those who are not. While the results from this particular pool of respondents look promising, it is hard to say how representative this is across the entire watershed, home to over 650,000 residents.

Acknowledgements

This survey was the result of a team effort, and we would like to recognize the hard work of all of those involved. Mary Crocket, HRWC's Pure Oakland Water Communications Intern led the development of the survey instrument and distribution plan. From the HRWC marketing team, Marisa Salice led the distribution and marketing of the survey to the watershed community; Maaike Wielenga analyzed the results and drafted this report; and Pam Labadie coordinated the project. We would also like to thank the University of Michigan Institute for Social Research for their guidance on the survey instrument and its distribution.

Recommendations

Results from this survey will inform future public education efforts. Some recommendations for future actions are described below.

What to continue:

Promoting individual actions: Results from this survey show a high level of support from respondents for river protection, and a concern for pollution impacts to our waterways. The high willingness of respondents to take individual actions shows support for the current education campaigns to encourage individual pollution prevention behaviors, like picking up pet waste, decreasing fertilizer use, and disposing of household hazardous waste appropriately.

Using social media, email, and websites to spread the word: Respondents have a wide variety of communication preferences, so HRWC and stormwater group partners conducting public education should continue to use a multimedia approach. Materials are already distributed via email, social media, and websites. These should be continued to be used given they were in the top 5 communication preferences and top 5 ways respondents interacted with their local governments.

How to improve:

Investigate additional metrics to assess program impact and reduce self-selection bias: Survey data can be augmented by looking at other data sources, such as participation in county programs and monitoring data, to better understand the outcomes and impacts of outreach efforts. The risk of self-selection bias, where people who take the survey have significantly different responses than those who don't take the survey, is great in surveys distributed like this one. Because we cannot say if it is a representative sample, it is necessary to look at additional metrics to evaluate public education initiatives.

Emphasize the Storm Drain Connection in the Huron River Watershed: We saw 22% of respondents, most of whom care a lot about water quality issues, incorrectly think that storm drains lead to treatment plants. It is important to emphasize that stormwater systems in the Huron River watershed are separate from wastewater systems, and thus go straight into waterways. This is different in other parts of the state. When asking this question in future surveys, be sure to emphasize that we are talking about storm drains in the Huron River watershed.

Use non-internet forms of outreach (but not brochures): There is a need to use non-internet forms of outreach, and the data from this survey can inform what methods might work best for a given demographic. 32% of respondents said they preferred communication methods other than email and Facebook. Spreading educational information through newsletters mailed to homes, television news, materials from municipal governments, and community newspapers are top preferences for this subset of our respondents.

Use different media channels to target younger audiences: Respondents under 25 showed very different communication preferences than those over 25. When engaging youth in stormwater education, using emails, the internet and Instagram may be more effective than Facebook.

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Stormwater Groups

Middle Huron Partners (MHP) Livingston Watershed Advisory Group (LivWAG)

The Middle Huron Partners and the Livingston Watershed Advisory Group are coalitions of organizations that work collaboratively with regional partners to coordinate and implement best management practices that improve the quality of and manage the volume of polluted urban runoff entering the Huron River system.

Current MHP and LivWAG activities include monitoring water quality and stream habitat, coordinating efforts to address state-listed water body impairments, and implementing watershed-wide public education to raise awareness about the problems caused by polluted runoff.

The **Middle Huron Partners** is made up of 19 local municipalities and agencies within the middle section of the Huron River watershed which lies mostly within Washtenaw County, extending from Portage Lake downstream to the French Landing Dam, which forms Belleville Lake.

The **Livingston Watershed Advisory Group** is made up of 13 local municipalities and agencies. It was originally formed to develop watershed management plans for the Huron Chain of Lakes and Upper Shiawassee River watersheds in Livingston County.

Middle Huron Partners members:

Ann Arbor Charter Township
Ann Arbor Public Schools
City of Ann Arbor
City of Belleville
City of Chelsea
City of Dexter
City of Ypsilanti
Eastern Michigan University
Pittsfield Charter Township
Scio Township
Superior Township
University of Michigan Environmental Health and Safety
VA Ann Arbor Healthcare System
Village of Barton Hills
Washtenaw County Road Commission
Washtenaw County Water Resources Commissioner
Washtenaw County Environmental Health Division
MSU Extension Garden Hotline
Ypsilanti Charter Township

Livingston WAG members:

Livingston County Drain Commissioner's Office
Livingston County Road Commission
City of Brighton
Village of Pinckney
Brighton Township
Green Oak Charter Township
Hamburg Township
Hartland Township

Survey Overview

The Huron River watershed Council ran a Watershed Resident Survey to better understand what people think about water quality issues, if stormwater public education initiatives are reaching target communities, and if these initiatives have an impact on self-reported behaviors. The survey was open from October 1, 2022 through February 15, 2023. The data supports HRWC and partner agencies' efforts to evaluate our overall collaborative public education efforts for stormwater permitting.

Distribution and Incentives

Survey participants were recruited primarily through the distribution of the 2023 Huron River watershed Community Calendar and paid social media advertisements which included "take the survey" calls to action. The print calendar, featuring watershed nature photography and stormwater pollution prevention tips, has been produced and provided to residents by communities participating in collaborative stormwater groups in the Washtenaw County and Livingston County areas of the watershed since 2003, and annually since 2019. Calendars were direct mailed to residents in Ann Arbor, Dexter, Brighton, Green Oak and Pinckney. 22 other communities and public agencies distributed calendars in person at various public and business venues. Paid advertisements promoted the survey on Facebook and Instagram to targeted geographic areas, reaching over 39,000 users, earning over 150,000 impressions. Gift card drawings for five \$200 gift cards and ten \$100 gift cards incentivized participation.

While this method was a cost effective way to reach thousands of residents, it introduces a significant risk of self-selection bias. With self-selection bias, the thoughts and beliefs of people who choose to take the survey may vary greatly from those who choose not to take the survey. 33,000 calendars were mailed directly to homes inviting residents to take the survey, and over 39,000 users saw Facebook ads, demonstrating that only a sliver, 741, of those invited took the survey. Residents who care greatly about watershed issues may be more inclined to take a survey about watershed issues than those who are not. While the results from this particular pool of respondents look promising, it is hard to say how representative this is across the entire watershed, home to over 650,000 residents.

The Survey

The survey consisted of 30 questions and was administered digitally using an online tool called Survey Monkey. The University of Michigan Institute for Social Research reviewed and advised the implementation team on the survey distribution strategy and survey instrument, including the number, order, style and wording of questions. 19 questions were designed to collect information about how residents engage with the river, their water quality concerns, how they interact with their local governments, where they like to get information and, actions they've taken to prevent pollution or protect the environment. Several of these questions replicated those asked in a 2016 survey conducted by the Alliance of Downriver Watersheds. Seven questions asked respondents to report demographic information. To facilitate comparative analysis by geographic location, respondents were required to identify their municipality/county of residence.

In 2011, HRWC distributed a survey with many similar questions. The 2011 survey was distributed using comparable methods. 741 residents in total completed the 2011 survey, with 77% of residents residing in Washtenaw County, 6% from Livingston County, 6% from Oakland, and 11% from areas beyond the watershed boundary.

Who took our survey?

741 people completed the 2022 survey.

Geography

Most respondents were from Washtenaw County (n=509, 69%), but there was a notable increase in respondents from Livingston County (n=150, 20%) when compared to the previous survey, where only 6% of residents were from Livingston. A more detailed breakdown can be found in the “Questions 1 – 4: Where are you from?” section of this report.

Demographics

Most people who took this survey were white (82%), identified with she/her (62%), were over the age of 45 (66%), had a bachelor’s or master’s degree (83%), and made over \$60,000 a year (60%). A more detailed breakdown can be found in the “Questions 24 – 29: Demographics” section of this report. The demographics skew slightly more white, older, more formally educated, and more women-identifying than 2020 census data for the region.

Target Audience

Our target audience was residents in Huron River watershed in Livingston and Washtenaw County Communities. The Huron River watershed Council assists in managing collaborative stormwater permit requirements, including public education, for these areas of the watershed. We reached out to these individuals via:

2023 Huron River Watershed Community Calendar: There was a call to action to take the survey with a QR code on the calendar cover, the inside front page and in the first two months of the calendar. Municipal communities direct mailed them to 33,000+ residents (Ann Arbor, Brighton, Dexter, Green Oak and Pinckney) and other communities distributed in-person to an additional 10,000+ residents. This includes a 2,000-piece direct mailing to City of Brighton residents in order to increase participation. The goal was to remedy the low response rate and sample from Livingston County residents for the 2011 survey and the lack of resources in municipal communities to distribute the calendar and the survey via direct mail.

Direct mail of the 2023 Watershed Community Calendar was as follows – lists provided by municipalities. Calendars addressed to “resident”:

- City of Ann Arbor – 28,277
- City of Brighton – 2,000 (random sample of single-family resident addresses)
- City of Dexter – 2,127
- Green Oak Township – 246 (sub-group of shoreline property owners in the natural river district)
- Village of Pinckney – 450 (random sample)

Email: HRWC avoided any email marketing targeting its own subscribers/donors/volunteers/followers in an attempt to control for bias. However, we encouraged participating partner communities to share the survey via their communication channels, including email.

Social Media: Paid advertising campaigns on Facebook and Instagram were run by HRWC to all county zip code areas in the Livingston-WAG and MHP boundaries.

Communities: The survey was shared by participating communities via citywide newsletters and announcements on social media and through various communications channels.

Insights

There were three main goals of this survey:

- 1) Understand what people think about water quality issues.
- 2) Understand if stormwater public education initiatives are reaching target communities.
- 3) Understand if the initiatives had an impact on self-reported behaviors.

Key Findings:

We've identified 9 key findings, shown below. These findings are described in detail in the following sections, and the data from all 30 questions of the survey is included in the appendix of this report. As a reminder, it is important to consider the possibility of self-selection bias in our survey results, where people who may not care very much about water quality issues may not have filled out the survey.

What do people think about water quality issues?

1. Respondents care immensely about water quality and water resources and believe it is urgent to address water issues now.
2. Most respondents think that the water quality of local waterways, the Huron River, and Lake Erie is getting worse.
3. Pollution, drinking water quality, and ecological natural area protection as top issues of concern.
4. Most respondents believe individuals working together with others in their communities can make a big difference, but corporations, utilities, and government have a great deal of responsibility to prevent water pollution and protect waterways.

Are stormwater public education initiatives reaching target communities?

5. There is a notable misconception that storm drains lead to wastewater treatment plants.
6. Most respondents understand the concept of a watershed.
7. A multimedia approach is needed for communication. Email newsletters, social media posts, and websites were the three most common way respondents interacted with their local government.

Are initiatives having an impact on self-reported behavior?

8. 99% of respondents reported taking at least one action in the last 12 months to protect water quality and/or the environment.
9. There were no increases in self-reported behavior for safely disposing of hazardous materials, picking up pet waste from your yard, and avoiding fertilizer from the 2011 survey.

What do residents think about water quality issues?

This first question aims to understand residents' attitudes on water quality issues and who is responsible for addressing those issues. A majority of survey respondents believe the water quality of the Huron River is getting worse. Perhaps in part because of this, respondents care immensely about water quality and water resources and indicated a high level of interest in taking individual action to address water issues. This is really promising for stormwater group public education initiatives that mostly revolve around actions individuals can take. In addition to individual action, respondents also strongly indicated that businesses and government have an important responsibility to protect water quality.

1. Respondents care immensely about water quality and water resources and believe it is urgent to address water issues now.

- 78% of respondents strongly agree that it is urgent to address water pollution and related problems now.
- 70% or more of respondents ranked Environment and Public Health in their top three most important local issues.
- 86% of respondents ranked water pollution in local waterways, the Huron River, and Lake Erie in their top three local environmental issues. 77% ranked Contaminants in Food and Drinking Water in their top three as well. These topics appeared in respondents top three issues far more than other environmental issues like Global warming, also known as climate change (45%), Parks, natural areas, and wildlife (35%), Hazardous waste sites (23%), Waste disposal and recycling (18%), and Air pollution (13%).
- **77% of respondents** believe that wetlands protect communities from forest fires and **89% believe wetlands** help filter pollution from water and reduce floods.

2. Most respondents think that the water quality of local waterways, the Huron River, and Lake Erie is getting worse.

- 53% of respondents believe the water quality of local waterways, the Huron River, and Lake Erie is getting worse, while 21% believe it is getting better.

Contextual Note: Respondents could be considering major water-related issues that have occurred in the last several years that have resulted in significant local and/or national media coverage and concern among residents: Flint Water Crisis; widespread PFAS contamination; Gelman 1,4-dioxane plume litigation; Suspected hexavalent chromium spill; Lake Erie Harmful Algal Blooms impacts in Toledo; Sanitary Sewer Overflows in Ann Arbor and surrounding region.

3. Most respondents believe individuals working together with others in their communities can make a big difference, but corporations, utilities, and government have a great deal of responsibility to prevent water pollution and protect waterways.

- Over 62% believe water pollution and related problems affect me or my family, and others in my community.

- 87% somewhat or strongly agree that “I can take action to prevent water pollution and protect waterways”
- 90% somewhat or strongly agree that “if the community works together, we can solve these problems”.
- 91% believe that individuals have at least some responsibility to prevent water pollution (only 45% indicated “a great deal”)
- Over 85% of people believe that corporations/big business, water and wastewater utilities, local government, and state government have a “great deal” of responsibility to prevent water pollution.

4. A majority of respondents see pollution, drinking water quality, and ecological natural area protection as top issues of concern.

- Pollution (e.g. stormwater runoff, PFAS, microplastics) is the watershed issue that residents are most concerned with.
 - 79% of respondents think polluted runoff from yards, streets, parking lots, and farms is very harmful to local waterways, the Huron River, and Lake Erie.
 - Similarly, 92% believe Industrial waste facilities and 80% think loss of wetlands and natural areas are very harmful.
- When asked their top three watershed issues of most concerns, 85% of respondents included Pollution (e.g., stormwater runoff, PFAS, microplastics), 65% included Drinking Water Quality, and 61% of respondents included Ecological natural area protection. Only 10% selected Dams (i.e., removal, management), 16% selected flooding, and 27% selected Recreation access and safety in their top three.

Are stormwater public education initiatives reaching target communities?

Our second question aims to understand residents’ knowledge of stormwater topics covered in education campaigns and how residents receive and want to receive stormwater information. Many survey respondents understand stormwater concepts such as what a watershed is, and that storm drains lead directly to waterways, no treatment. We used similar questions from the 2011 survey to see how understanding has changed over time. Unfortunately, we found there is lots of work to do to combat the misconceptions around storm drains.

While no questions were asked that could tie specific stormwater education campaigns and outreach to knowledge, data was collected about how residents interact with their local governments, which is how much of our initiatives are distributed, and their communication preferences to inform future work. but it is difficult to assess if this is due to the stormwater group’s efforts.

5. There is a notable misconception that storm drains in the Huron River watershed lead to wastewater treatment plants.

While a majority of respondents (67%) indicated correctly in the 2022 survey that storm drains in the Huron River Watershed lead directly to waterways, 22% had the misconception that it first goes to a treatment plant.

- The percentage of respondents who said storm drains lead directly to lakes and streams was similar, 67% in 2022, compared with 73% in 2011.

- The percent of residents who said the water goes to a treatment plant before going into lakes and streams notably increased from 9.3% in 2011 to 22% in 2022, more than doubling.
- The percentage of residents who said they don't know what happens was similar as well, with 17.7% in 2011 to 11% in 2022.

Contextual note: In the Huron River watershed, storm drains lead directly to local waterways, no filters, no treatment. Across the Southeast Michigan region there are many communities in other watersheds that rely on combined storm and sewer systems. Media coverage of urban flooding and sewage overflows due to increasingly intense rain storms could account for a change in understanding.

6. Most respondents understand the concept of a watershed.

Most residents (65%) are very or extremely familiar with the concept of a watershed.

7. A multimedia approach to communication is needed. Email newsletters, social media posts, and websites were the three most common ways respondents interacted with their local government.

Information about stormwater and other water topics for MHP and LivWAG stormwater education permit requirements is disseminated to the public mainly through local governments. Stormwater public education information is distributed by local governments in many ways including printed materials at local government's service desks, information on their website, social media and print and digital newsletters. While the survey didn't ask about government interactions around stormwater in particular, general information about government interactions can inform stormwater information communication. Notably, brochures at local offices were one of the least common interactions for respondents.

- 94% of respondents interacted with their local government in the past 12 months.
- 68% of respondents read an email newsletter from their local government, and 60% read a social media post from their government.
- Only 18% of respondents indicated they picked up brochures or literature from a local government office in the last 12 months.

Respondents were also asked about their preferences to receive information on what they can do to protect our lakes and rivers. Respondent's communication preferences varied, with no single method emerging as a clear winner. While email, internet, and community newspaper were the top three preferred methods overall, differences were seen between the preferences of Livingston and Washtenaw County respondents, young and old respondents, and urban and rural respondents. Furthermore, most stormwater educational campaigns are distributed via emails and Facebook, but there were many respondents who preferred other forms of communication.

- The top five preferred communication channels are:
 - 1) E-mail (50%)
 - 2) Internet (47%)
 - 3) Community Newspaper (44%)
 - 4) Materials from municipal government (42%)
 - 5) Facebook (41%)
- The top five preferred communication channels for Livingston County respondents are:
 - 1) E-mail
 - 2) Facebook

- 3) Internet
- 4) Television News
- 5) Materials from municipal government
- The top five preferred communication channels for Washtenaw County respondents are:
 - 1) Email
 - 2) Internet
 - 3) Community Newspaper
 - 4) Materials from municipal government
 - 5) Facebook
- 32% of respondents prefer communication methods other than Facebook or Email. For these respondents, we see differences in preferences between counties:
 - For Livingston County residents who did not select Facebook or Email as a preferred communication method, Newsletters mailed to home, Television News, and Materials from municipal government were the top three methods, followed closely by Community Newspaper, Internet, and Radio.
 - For Washtenaw County residents who did not select Facebook or Email as a preferred communication method, Community newspaper, Internet, and materials from municipal government were the top three methods, followed closely by Radio, Newsletter of information mailed to home, and Television News.
- Respondents under 25 had different communication preferences than other age groups, having a higher preference for internet (59%) and Instagram (45%), and a very low preference for Facebook (14%).
 - In contrast, the average percentage of respondents preferences are 50% for internet, 15% for Instagram, and 41% for Facebook.

Are initiatives having an impact on self-reported behavior?

Our final question looks at respondent's self-reported behavior using two measures: actions within the last 12 months, and change in behaviors between the 2011 and 2022 surveys. Comparing the 2011 and 2022 surveys has some difficulties. First, the 2011 and 2022 survey questions were not identical. Because of this, we can only compare self-reported behaviors on three topics that had similar questions for both surveys:

- Safely disposing of hazardous materials
- Picking up pet waste from your yard
- Avoiding fertilizer

Second, both surveys were anonymous and were not sampled randomly, so we won't know if changes in survey responses are due to general trends changing, different people taking the survey, or other factors.

8. 99% of respondents reported taking at least one action in the last 12 months to protect water quality and/or the environment.

The most popular activities included:

- Avoided using chemicals or fertilizers in my lawn or garden (75% of respondents)

- Purchased a product or service because it was better for the environment (74% of respondents)
- Made a special effort to dispose of household or automotive chemicals safely (71% of respondents)

9. There were no increases in self-reported behavior for safely disposing of hazardous materials, picking up pet waste from your yard, and avoiding fertilizer from the 2011 survey.

The results for changes in self-reported behavior were inconclusive, indicating the need for better evaluation of education programs.

Safely disposing of hazardous materials: inconclusive

Although we saw a slight decrease in this behavior from the 2011 to the 2022 survey, it is not necessarily due to actual behavior change. The difference could be due to how the question was asked, or an unrepresentative sample. Data from the 2023 Washtenaw County Home Toxics Center Annual Report tells a different story – they have seen an increase in participation and amount of materials processed from 2018 to 2022, indicating that more people are disposing of hazardous materials, at least in Washtenaw County.

- 79% of participants in 2011 said they typically dispose of materials, such as old oil or fluids from vehicles, batteries, pesticides, and other household hazardous wastes at a community collection site or special curbside collection program. Additionally, 90% of 2011 participants indicated that they sometimes, frequently, or always dispose of hazardous materials at a collection site.
- Only 71% of 2022 respondents said they made a special effort to dispose of household or automotive chemicals safely in the last 12 months.

Picking up pet waste from your yard: no change

- 39% of 2011 participants said they or other members of their household pick up their dog’s waste from their yard. 55% of respondents indicated this question was not applicable to them.
- 40% of 2022 respondents said they removed pet waste from their backyard at least twice a week in the last 12 months. No “not applicable” data was collected.

Avoiding fertilizer: inconclusive

- 54% of 2011 respondents said they seldom or never fertilize their lawn. 6% indicated this question was not applicable to them. Additionally, 89% of 2011 participants said they sometimes or never fertilize their lawn or garden.
- 75% of 2022 participants said they avoided using chemicals or fertilizers in their lawn or garden in the last 12 months. No “not applicable” data was collected.

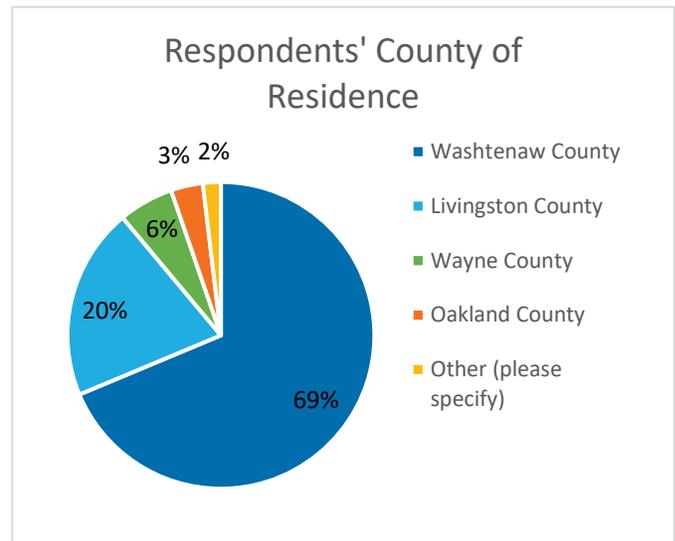
Appendix: Survey Questions and Results

Below are data from each of the 30 questions asked on the survey.

Questions 1 – 4: Where are you from?

1. Which of these counties do you live in?

Washtenaw County	69%	509
Livingston County	20%	150
Wayne County	6%	43
Oakland County	3%	25
Other (please specify)	2%	14
<i>Total</i>	<i>100%</i>	<i>741</i>



Counties (Other)	
Hampshire County	1
Ingham	2
Jackson	2
Kent, previously Livingston	1
Lenawee	2
Lucas (Toledo, OH)	1
Michigan	1
Monroe	3
Nantucket	1

Key Insights:

- 20% (n = 150) of respondents were from Livingston County, a substantial increase from the 6% of respondents from the previous survey.
 - Our targeted outreach on social media worked!
- 69% (n=509) of respondents were from Washtenaw County.
- 28% (n=206) of respondents were from the City of Ann Arbor. (40% of Washtenaw County Residents)
- Very few responses f from the communities of Chelsea (n = 11) Brighton (n = 14) and Belleville (n = 7). Consider targeting these communities in the next iteration of this survey.

2. Within Washtenaw County, which of these communities do you live in?

Washtenaw Communities	
City of Ann Arbor	206
Ypsilanti Township	51
Ann Arbor Township	34
City of Ypsilanti	30
Northfield Township	26
Scio Township	26
None of the above	24
Pittsfield Township	22
Webster Township	21
Dexter Township	16
City of Chelsea	11
Superior Township	9
Sylvan Township	9
Lyndon Township	8
City of Dexter	4
Lima Township	3
Salem Township	3
Freedom Township	2
Lodi Township	2
Barton Hills Village	1
Sharon Township	1

3. Within Livingston County, which of these communities do you live in?

Livingston Communities	
Hamburg Township	62
Green Oak Township	29
City of Brighton	14
Putnam Township	10
Brighton Township	9
City of Howell	5
Village of Pinckney	5

Genoa Township	4
Hartland Township	3
Oceola Township	3
Unadilla Township	3
None of the above	2
Marion Township	1

4. Which City, Village, or Township do you live in?

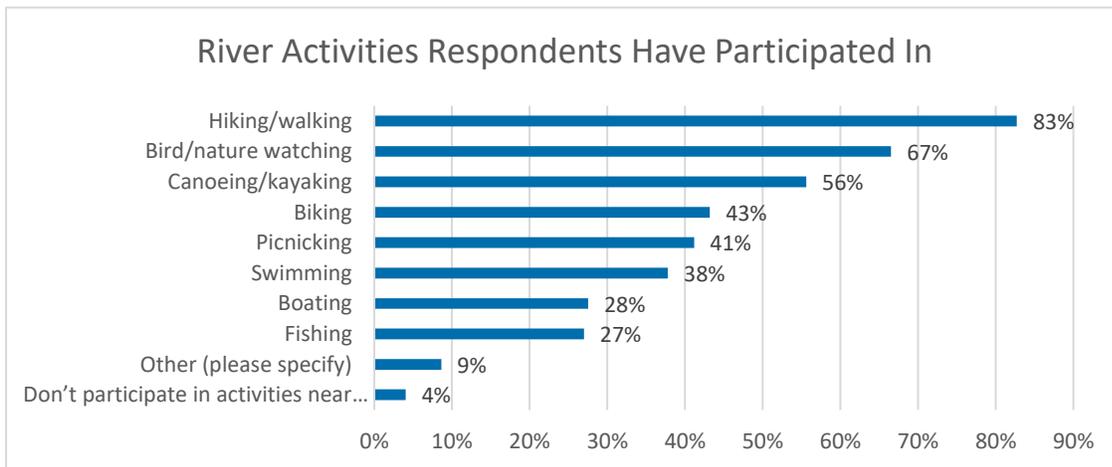
Other Communities			
Canton	6	Livonia	2
Saline	6	Lyon Township	1
Van Buren Twp	5	Milford	2
Belleville	7	Nantucket	1
South Lyon	4	New Boston	2
Manchester	3	Northville	1
Flat Rock	2	Northville Township	1
Holly	2	Norvell township	1
Lyon Township	2	Novi	1
Milan	2	Plymouth	1
Pinckney	2	Plymouth township	1
Plymouth	2	Riverview	1
Van Buren	2	Rose Twp	1
aewfga	1	Saline city	2
Ann Arbor	1	Saline Township	1
Augusta	4	South Lyon	1
Brownstown	1	South Rockwood	2
Cambridge Twp	1	Southgate	1
Canton township	1	Stockbridge	1
City of Saline	2	Sumpter township	2
Commerce	2	Tecumseh Township	1
Commerce Township	1	Temperance	1
Dearborn	1	Toledo	1
Dearborn Heights	1	Van Buren	1

Easthampton, Mass	1	Van Buren Township	1
Farmington Hills	1	West Bloomfield	1
Flat Rock	1	White Lake	1
Grass Lake	1	White Lake township	1
Greenville	1	Whittaker Village; Augusta Township	1
Haslett	1	Willis	1
Highland	2	Wyandotte	1
Iosco Township	2		

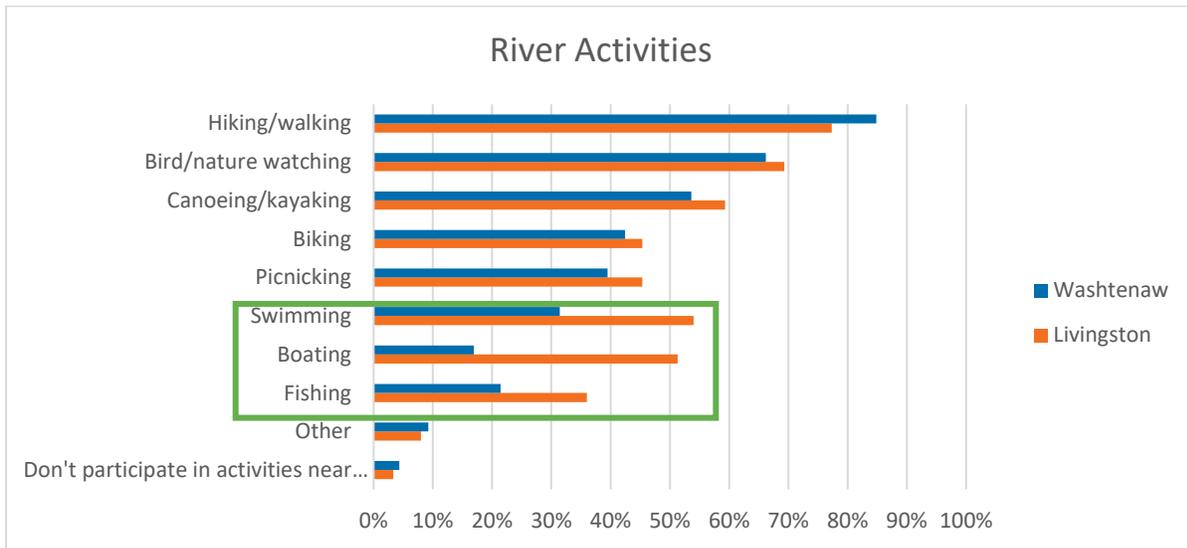
Question 5: River Activities

5. Which activities have you or other members of your household participated in or near lakes and streams in this area during the past year? (Check all that apply)

Activities	Count	Percentage
Hiking/walking	613	83%
Bird/nature watching	493	67%
Canoeing/kayaking	412	56%
Biking	320	43%
Picnicking	305	41%
Swimming	280	38%
Boating	204	28%
Fishing	200	27%
Other (please specify)	64	9%
Don't participate in activities near lakes/rivers/streams	30	4%



Comparing Washtenaw and Livingston Counties



Activities	Liv Percent	Activities	Wash Percent
Hiking/walking	77%	Hiking/walking	85%
Bird/nature watching	69%	Bird/nature watching	66%
Canoeing/kayaking	59%	Canoeing/kayaking	54%
Swimming	54%	Biking	42%
Boating	51%	Picnicking	39%
Biking	45%	Swimming	31%
Picnicking	45%	Fishing	21%
Fishing	36%	Boating	17%
Other	8%	Other	9%
Don't participate in activities near lakes/rivers/streams	3%	Don't participate in activities near lakes/rivers/streams	4%

Key Insights:

- Hiking/walking is by far the most popular activity for respondents.
- Respondents in Livingston County Swim, Boat, and Fish more than people in Washtenaw County.
 - Hiking/walking, Bird/nature watching, and canoeing/kayaking are still the most popular river activities for both counties.
- The vast majority of respondents (more than 96%) in both counties recreate on lakes and streams.

Question 6: Important Local Issues

6. Here are some issues your local community leaders deal with. Please rank by what you personally consider most important (on top) to least important (on bottom).

Ranking	Public Health	Housing	Education	Environment	Crime	Economy	Transportation
1st Choice	224	71	83	238	55	51	13
2nd Choice	175	102	146	171	46	63	31
3rd Choice	122	124	182	126	70	71	37
4th Choice	72	139	159	106	72	113	71
5th Choice	80	121	90	50	121	134	135
6th Choice	43	110	51	25	130	200	167
7th Choice	18	61	18	16	233	97	275
Top 3	521	297	411	535	171	185	81
	70%	40%	55%	72%	23%	25%	11%

Comparing Washtenaw and Livingston Counties

	Public Health	Housing	Education	Environment	Crime	Economy	Transportation
Livingston Top 3	103	39	86	108	49	47	11
Percentage	69%	26%	57%	72%	33%	31%	7%
Washtenaw Top 3	359	228	280	369	100	117	62
Percentage	71%	45%	55%	72%	20%	23%	12%

Key Insights

- Environment and Public Health were ranked in the top three issues for 70% or more of respondents.
- The Environment was ranked in the top three issues for over 70% of Livingston and Washtenaw respondents. Public health followed closely, ranking in the top three issues for more than 69% of Livingston and Washtenaw respondents.

Question 7: Important Environmental Topics

7. Here are some environmental topics your local community leaders deal with. Please rank by what you personally consider most important (on top) to least important (on bottom)

Ranking	Water pollution in local waterways, the Huron River, and Lake Erie	Contaminants in food and drinking water	Global warming, also known as climate change	Parks, natural areas, and wildlife	Hazardous waste sites	Waste disposal and recycling	Air pollution
1st Choice	241	228	157	59	20	22	7
2nd Choice	272	218	56	72	42	34	40
3rd Choice	123	126	123	128	106	81	47
4th Choice	56	73	89	176	119	130	88
5th Choice	22	40	71	132	181	171	110
6th Choice	12	30	68	97	156	197	169
7th Choice	6	17	166	67	102	97	267
Top 3	636	572	336	259	168	137	94
	86%	77%	45%	35%	23%	18%	13%

Key Insights

- Water pollution is one of the most important environmental topics for most respondents
 - 86% of respondents ranked “Water pollution in local waterways, the Huron River, and Lake Erie” in their top three important environmental topics.
 - 77% of respondents ranked “Contaminants in food and drinking water’ in their top three important environmental topics.

Question 8: Information Exposure

8. How often do you come across information or conversations about these topics?

	Never	Rarely	Sometimes	Often
Contaminants in food and drinking water	3%	21%	48%	27%
Global warming, also known as climate change	2%	6%	23%	69%
Protecting parks, natural areas, and wildlife	3%	23%	46%	27%
Hazardous waste sites	14%	47%	30%	8%
Water pollution in local waterways, the Huron River, and Lake Erie	3%	19%	45%	32%
Waste disposal and recycling	4%	27%	46%	22%
Air Pollution	14%	46%	30%	9%
	Never/Rarely		Sometimes/Often	
Contaminants in food and drinking water	25%		75%	
Global warming, also known as climate change	8%		92%	
Protecting parks, natural areas, and wildlife	26%		73%	
Hazardous waste sites	61%		38%	
Water pollution in local waterways, the Huron River, and Lake Erie	22%		77%	
Waste disposal and recycling	32%		68%	
Air Pollution	61%		39%	

Key Insights

- The majority of respondents never or rarely hear about hazardous waste sites (61%) and air pollution (61%).
- 92% of respondents sometimes or often hear about climate change.

Question 9: Harm of Threats

9. In your personal opinion, how harmful are these threats to local waterways, the Huron River, and Lake Erie?

	Not harmful at all	Not very harmful	Somewhat harmful	Very harmful	Don't Know
Loss of wetlands and natural areas	0%	1%	17%	80%	1%
Polluted runoff from yards, streets, parking lots, and farms	0%	1%	18%	79%	1%
Industrial facilities dumping waste	0%	0%	5%	92%	2%
Residents disposing of oil or household chemicals down the drain	0%	2%	28%	66%	3%
Mining, drilling, and other extractive industries	2%	7%	31%	51%	9%
Overuse of water by homes, farms, and businesses	2%	12%	49%	30%	6%
Unnaturally intense weather and floods, caused by global warming also known as climate change	5%	7%	33%	50%	4%
Invasive pest species like Asian carp or zebra mussels	0%	1%	32%	63%	4%

Question 10: Water pollution attitudes

10. Here are some statements about water pollution related to threats to waterways. How do you feel about them?

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
All Respondents					
It is urgent to address water pollution and related problems now	2%	1%	3%	16%	78%
Water pollution and related problems affect others in my community	2%	1%	3%	23%	70%
Water pollution and related problems affect me or my family	3%	2%	6%	26%	62%

Comparing Washtenaw and Livingston Counties

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Washtenaw County					
It is urgent to address water pollution and related problems now	2%	1%	3%	17%	77%
Water pollution and related problems affect others in my community	3%	3%	3%	24%	70%
Water pollution and related problems affect me or my family	3%	3%	7%	28%	60%

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Livingston County					
It is urgent to address water pollution and related problems now	3%	1%	3%	15%	78%
Water pollution and related problems affect others in my community	2%	1%	2%	21%	73%
Water pollution and related problems affect me or my family	2%	1%	4%	23%	70%

Question 11: Pollution Prevention Responsibility

11. In your opinion, how much responsibility does each of the following have to prevent water pollution or protect local waterways, including the Huron River and Lake Erie?

	No responsibility	A little responsibility	Some responsibility	A great deal of responsibility
Individuals like me	<1%	7%	46%	45%
Local businesses/small business	<1%	3%	36%	60%
Corporations/big business	<1%	<1%	9%	90%
Water and wastewater utilities	<1%	<1%	9%	89%
Local government	<1%	1%	12%	85%
State government in Lansing	<1%	1%	10%	88%

Key Insights:

- 91% of respondents believe that individuals have at least some responsibility to prevent waterways (only 45% indicated “a great deal”)
 - Similar to the previous survey (89% “each of us as individuals” should take responsibility about protecting and preserving the water quality of local lakes, rivers, and streams)
- Over 85% of respondents agree that corporation/big business, water and wastewater utilities, local government, and state government have a “great deal” of responsibility to prevent water pollution.

Question 12: Action attitudes

12. Here are other statements about water pollution and related threats to waterways. How do you feel about these?

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I can take action to prevent water pollution and protect waterways	1%	4%	7%	44%	43%
The actions of a single person like me won't make any difference	40%	32%	9%	16%	2%
If the community works together, we can solve these problems	1%	2%	6%	42%	48%
There is nothing anybody can do to solve these problems	76%	17%	4%	1%	1%

	Somewhat or Strongly disagree	Neutral	Somewhat or Strongly agree
I can take action to prevent water pollution and protect waterways	6%	7%	87%
The actions of a single person like me won't make any difference	72%	9%	18%
If the community works together, we can solve these problems	4%	6%	90%
There is nothing anybody can do to solve these problems	94%	4%	2%

Question 13: Water Quality Trend

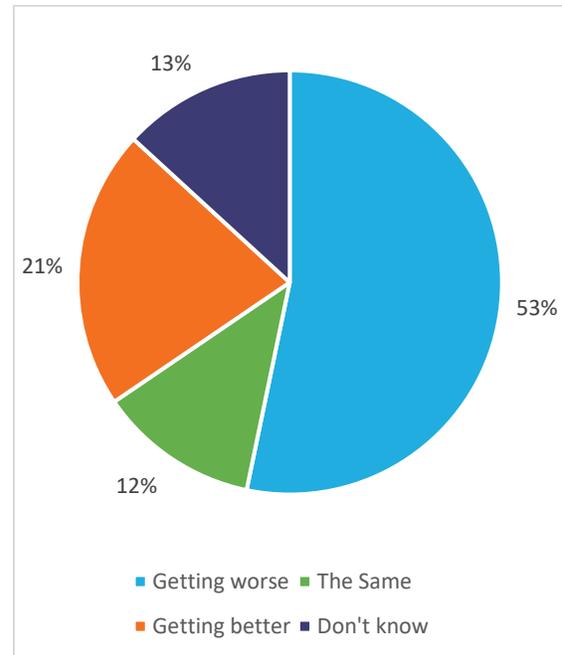
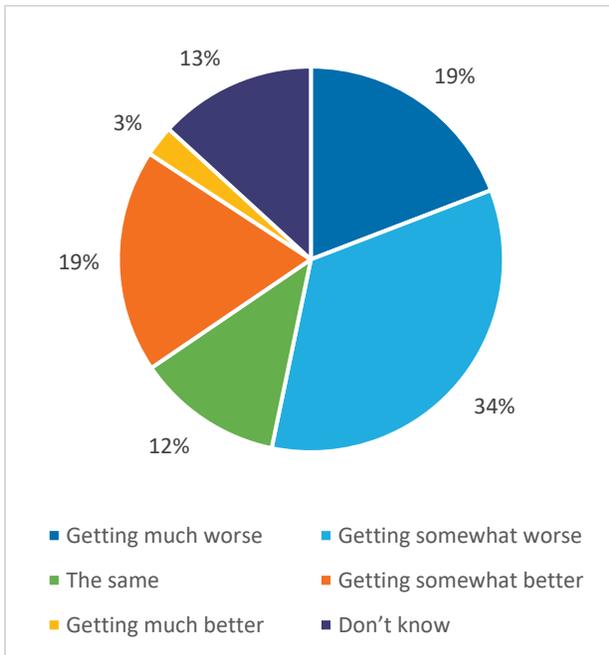
13. In your personal opinion, the water quality of local waterways, the Huron River, and Lake Erie is:

Original Breakdown:

Getting much worse	141	19%
Getting somewhat worse	251	34%
The same	90	12%
Getting somewhat better	138	19%
Getting much better	19	3%
Don't know	97	13%

Simplified Breakdown:

Getting worse	392	53%
The Same	90	12%
Getting better	157	21%
Don't know	97	13%



Question 14: Imagine Action

14. Imagine tomorrow you will do something to protect your local waterways, the Huron River, and Lake Erie. What would it be?

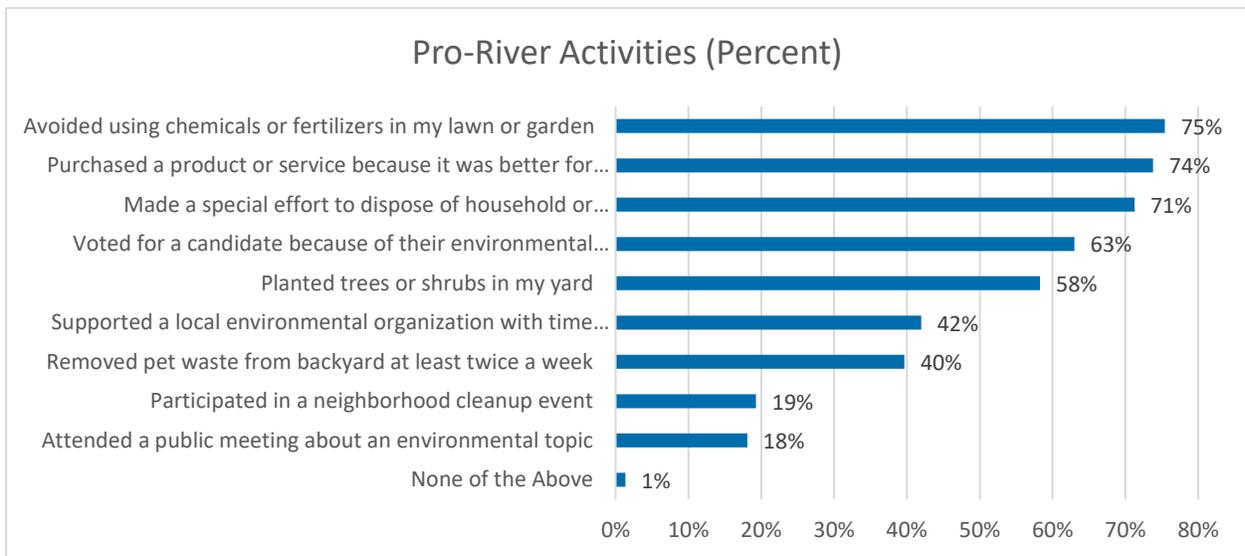
Q14 Imagine tomorrow you will do something to protect your local waterways, the Huron River, and Lake Erie. What would it be?

Clean trash Remove Learn land responsible representatives Avoid clear people
accountable property see litter companies water use ban Keep using chemicals lawn
SURE plant rain garden Continue invasive species polluting elected officials trash
Education prevent idea better much drain ensure know aware home action
dumping used lawns Rain garden issues chemicals local
river Take use organizations Stop garden make products
clean near waterways need water plants
recycle will Pick trash rain barrels waste Huron River Vote
protect Reduce pfas Use less water Hold help watershed pollution
leave storm drains work runoff water system Pick water ways Go
Stop using chemicals don t know sewers lawn Donate Contact neighbors put garbage
Support cleanup plastic Talk lakes others yard natural debris Create Make sure
Pick trash along

Question 15: Actions in the last 12 months

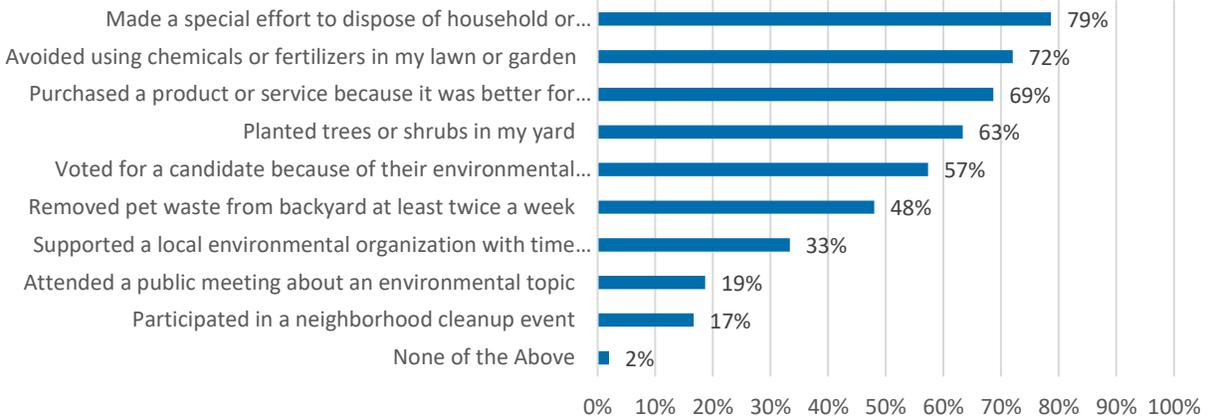
15. Which of the following actions do you recall taking in the last 12 months? Check all that apply.

Activity	Count	Percentage
Avoided using chemicals or fertilizers in my lawn or garden	559	75%
Purchased a product or service because it was better for the environment	547	74%
Made a special effort to dispose of household or automotive chemicals safely	528	71%
Voted for a candidate because of their environmental record or campaign promises	467	63%
Planted trees or shrubs in my yard	432	58%
Supported a local environmental organization with time or money	311	42%
Removed pet waste from backyard at least twice a week	294	40%
Participated in a neighborhood cleanup event	143	19%
Attended a public meeting about an environmental topic	134	18%
None of the Above	10	1%

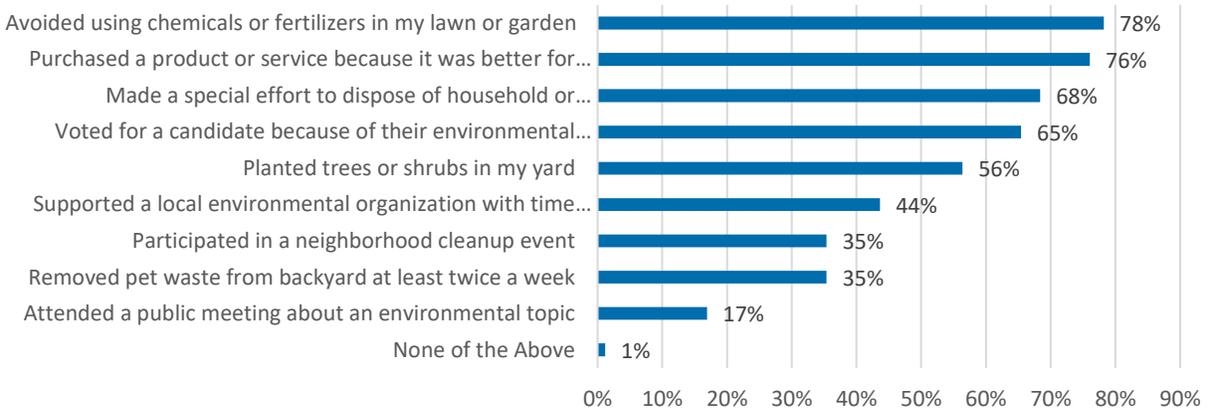


Comparing Washtenaw and Livingston Counties

Livingston Pro-River Activities (Percent)



Washtenaw Pro-River Activities (Percent)



Key Insights:

- 99% of respondents took part in a pro-water activity in the last 12 months.
- Avoiding chemicals and fertilizers and purchasing an eco-friendly product are the most popular pro-water actions.
- Top three for Washtenaw respondents:
 - Avoiding fertilizers/chemicals
 - Purchasing an environmentally friendly product
 - Disposing of household hazardous waste
- Top three for Livingston respondents:
 - Disposing of household hazardous waste
 - Avoiding fertilizers/chemicals
 - Purchased an environmentally friendly product.

Comparing Calendar Respondents vs. Non-Calendar Respondents.

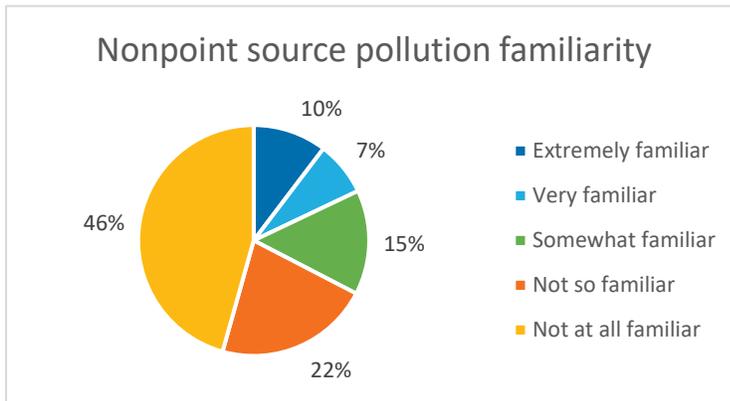
Activity	Calendar Response		Non-Calendar Response		Difference
	Count	Percentage	Count	Percentage	
Made a special effort to dispose of household or automotive chemicals safely	105	65%	422	73%	-8%
Voted for a candidate because of their environmental record or campaign promises	92	57%	373	64%	-7%
Attended a public meeting about an environmental topic	23	14%	111	19%	-5%
Planted trees or shrubs in my yard	89	55%	342	59%	-4%
Avoided using chemicals or fertilizers in my lawn or garden	117	73%	440	76%	-3%
Participated in a neighborhood cleanup event	27	17%	115	20%	-3%
Removed pet waste from backyard at least twice a week	60	37%	233	40%	-3%
Supported a local environmental organization with time or money	68	42%	242	42%	1%
None of the Above	3	2%	6	1%	1%
Purchased a product or service because it was better for the environment	127	79%	418	72%	7%

Actions from calendar respondents did not vary significantly from non-calendar respondents.

Question 16: Nonpoint source pollution familiarity

16. How familiar are you with the concept of "nonpoint source pollution"?

How familiar are you with the concept of "nonpoint source pollution?"	Count	Percent
Extremely familiar	76	10%
Very familiar	56	8%
Somewhat familiar	108	15%
Not so familiar	160	22%
Not at all familiar	336	46%



Calendar Comparisons:

How familiar are you with the concept of "nonpoint source pollution?"	Calendar Respondent		Non-Calendar Respondent		Difference
	Count	Percent	Count	Percent	
Extremely familiar	18	11%	58	10%	1%
Very familiar	7	4%	49	8%	-4%
Somewhat familiar	17	11%	91	16%	-5%
Not so familiar	35	22%	125	22%	0%
Not at all familiar	80	50%	256	44%	6%

ADW Results:

How familiar are you with the concept of "nonpoint source pollution?"	ADW	Livingston	Washtenaw
Extremely familiar	8%	6%	11%
Very familiar	12%	8%	8%
Somewhat familiar	12%	12%	15%
Not so familiar	24%	17%	22%
Not at all familiar	44%	56%	44%

Key Insights:

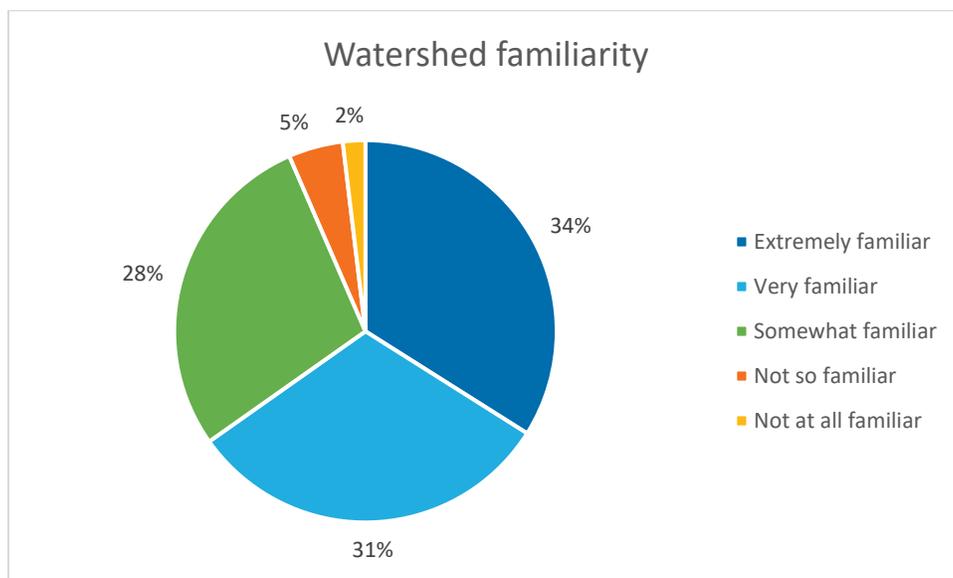
Most respondents are not familiar with the term “nonpoint source pollution”. This tracks with our messaging. We don’t use the term “nonpoint source” pollution in our materials.

There is not a big difference in understanding between calendar and non-calendar respondents.

Question 17: Watershed familiarity

17. How familiar are you with the concept of a "watershed?"

How familiar are you with the concept of a "watershed?"	Count	Percent
Extremely familiar	250	34%
Very familiar	230	31%
Somewhat familiar	208	28%
Not so familiar	34	5%
Not at all familiar	14	2%



Calendar Comparisons

How familiar are you with the concept of a "watershed?"	Calendar Respondents		Non-Calendar Respondents		Difference
	Count	Percent	Count	Percent	
Extremely familiar	49	30%	201	35%	-4%
Very familiar	45	28%	185	32%	-4%
Somewhat familiar	49	30%	159	27%	3%
Not so familiar	12	7%	22	4%	4%
Not at all familiar	3	2%	11	2%	0%

Key Insights:

Most respondents (93%) are at least somewhat familiar with the concept of a watershed.

There is not a big difference in understanding between calendar and non-calendar respondents.

Question 18: Wetland Impacts

18. How much do you agree or disagree with the following statements about wetland habitats' impact on surrounding areas?

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly Agree	Did Not Answer
Wetlands protect communities from forest fires	3%	2%	16%	40%	38%	1%
Wetlands prevent the introduction of undesirable plants and animals	5%	11%	34%	31%	18%	1%
Wetlands help filter pollution from water and reduce floods	3%	1%	7%	18%	71%	1%
Wetlands are good sites for landfills	89%	5%	4%	1%	1%	1%

	Disagree	Neutral	Agree	Did not answer
Wetlands protect communities from forest fires	6%	16%	77%	1%
Wetlands prevent the introduction of undesirable plants and animals	16%	34%	49%	1%
Wetlands help filter pollution from water and reduce floods	4%	7%	89%	1%
Wetlands are good sites for landfills	94%	4%	2%	1%

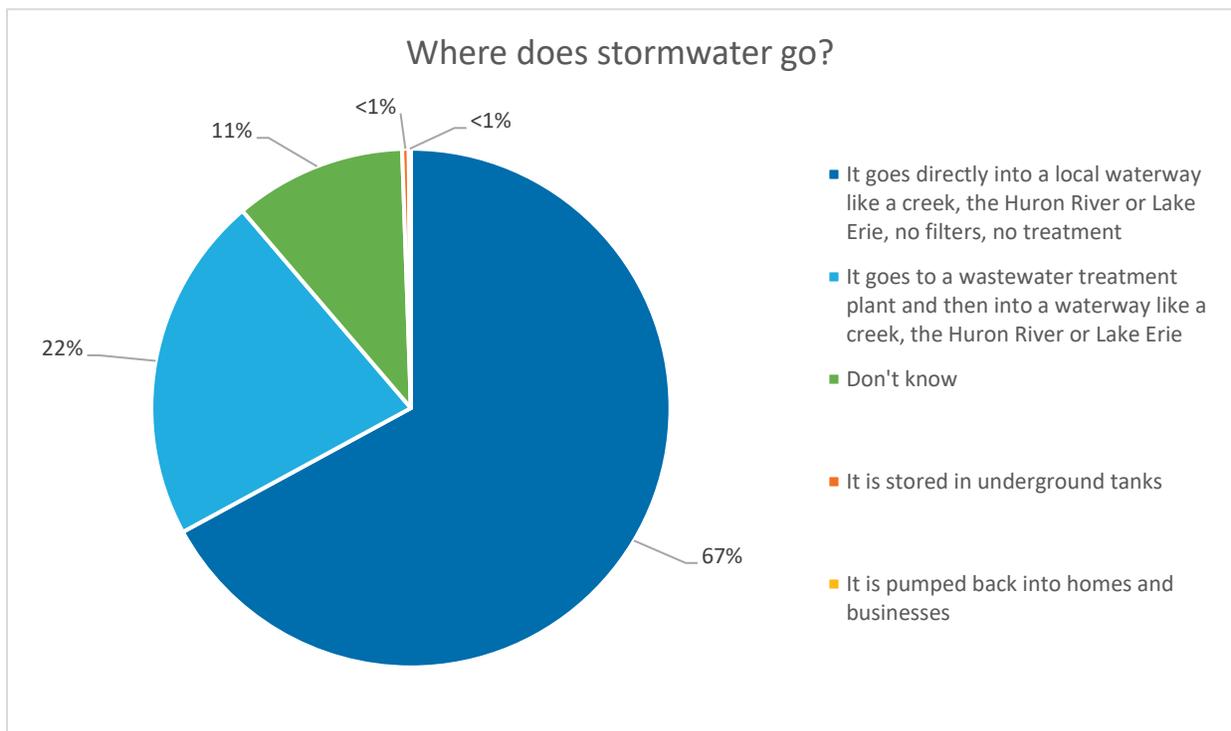
Key Insights:

Most respondents recognize the important of wetlands.

Question 19: Storm drain connection

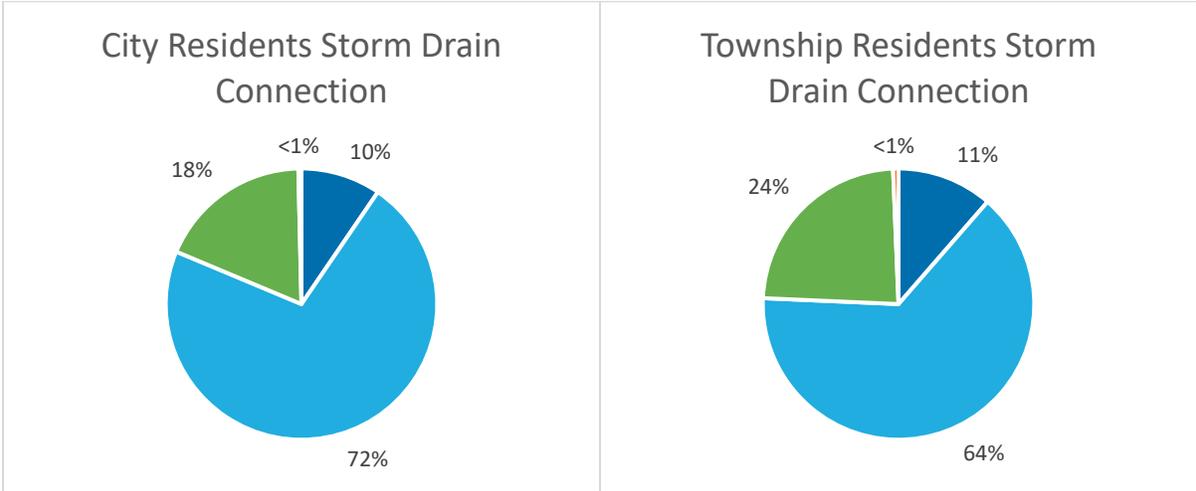
19. When rainwater or melting snow goes into the storm drains along the street, what happens to it?

It goes directly into a local waterway like a creek, the Huron River or Lake Erie, no filters, no treatment	495	67%
It goes to a wastewater treatment plant and then into a waterway like a creek, the Huron River or Lake Erie	160	22%
Don't know	79	11%
It is stored in underground tanks	3	<1%
It is pumped back into homes and businesses	1	<1%



City Responses	Count	Percent
Don't know	26	10%
It goes directly into a local waterway like a creek, the Huron River or Lake Erie, no filters, no treatment	196	72%
It goes to a wastewater treatment plant and then into a waterway like a creek, the Huron River or Lake Erie	50	18%
It is pumped back into homes and businesses	1	0%
Grand Total	273	100%

Township Responses	Count	Percent
Don't know	53	11%
It goes directly into a local waterway like a creek, the Huron River or Lake Erie, no filters, no treatment	299	64%
It goes to a wastewater treatment plant and then into a waterway like a creek, the Huron River or Lake Erie	110	24%
It is stored in underground tanks	3	1%
Grand Total	465	100%



Calendar Respondents Comparisons

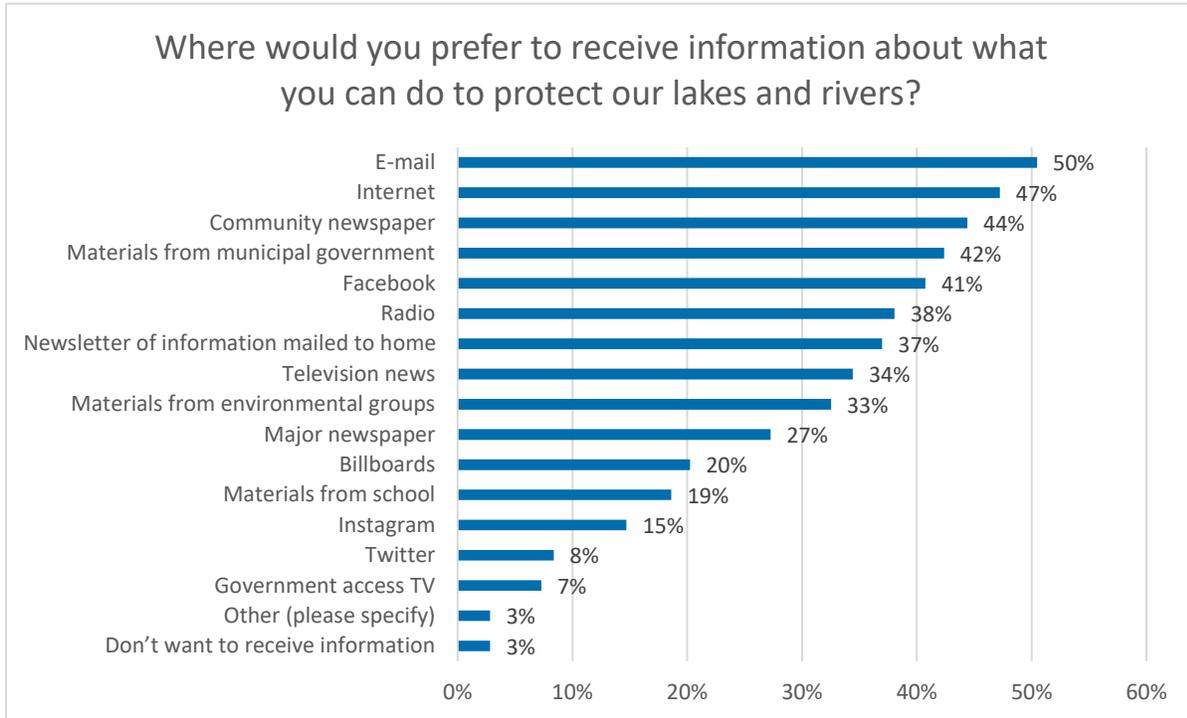
Storm Drain Connection	Calendar Respondents		Non-Calendar Respondents		Difference
It goes directly into a local waterway like a creek, the Huron River or Lake Erie, no filters, no treatment	88	55%	406	70%	-15%
It is stored in underground tanks	0	0%	2	0%	0%
It is pumped back into homes and businesses	0	0%	1	0%	0%
Did not respond	3	2%	3	1%	1%
It goes to a wastewater treatment plant and then into a waterway like a creek, the Huron River or Lake Erie	43	27%	116	20%	7%
Don't know	27	17%	52	9%	8%

Key Insights

- Most people understand that storm drains lead directly to local waterways without treatment.
- City (urban) residents are more likely to understand that storm drains lead to local waterways than township (rural) residents.
- People who responded via the calendar were more likely to say it went to a wastewater treatment plant, or did not know.

Question 20: Communication Preference

20. Where would you prefer to receive information about what you can do to protect our lakes and rivers?



Communication preference	Count	Percent	Previous Percent
E-mail	374	50%	51%
Internet	350	47%	34%
Community newspaper	329	44%	46%
Materials from municipal government	314	42%	n/a
Facebook	302	41%	13%
Radio	282	38%	28%
Newsletter of information mailed to home	274	37%	46%
Television news	255	34%	5.5%
Materials from environmental groups	241	33%	n/a
Major newspaper	202	27%	24%
Billboards	150	20%	10%
Materials from school	138	19%	10%
Instagram	109	15%	13%
Twitter	62	8%	13%
Government access TV	54	7%	n/a

Don't want to receive information	21	3%	n/a
Other (please specify)	21	3%	n/a

Communication preference	Counts		Percents		% Difference
	City	Township	City	Township	
E-mail	136	238	(50%)	(51%)	1%
Internet	134	216	(49%)	(46%)	3%
Community newspaper	137	192	(50%)	41%	9%
Materials from municipal government	118	196	43%	42%	1%
Facebook	97	205	35%	(44%)	8%
Radio	110	172	40%	37%	3%
Newsletter of information mailed to home	116	158	42%	34%	9%
Television news	73	182	27%	39%	12%
Materials from environmental groups	89	152	32%	33%	0%
Major newspaper	82	120	30%	26%	4%
Billboards	57	93	21%	20%	1%
Materials from school	54	84	20%	18%	2%
Instagram	39	70	14%	15%	1%
Twitter	19	43	7%	9%	2%
Government access TV	15	39	5%	8%	3%
Other (please specify)	12	9	4%	2%	2%
Don't want to receive information	7	14	3%	3%	0%

Preferred Communication by Age						Prefer not	
	Under 25	25 - 44	45 - 64	65+	to answer	Everyone	
E-mail	55%	50%	52%	53%	26%	50%	
Internet	59%	53%	43%	47%	41%	47%	
Community newspaper	48%	41%	44%	46%	51%	44%	
Materials from municipal government	41%	39%	40%	49%	33%	42%	
Facebook	14%	42%	47%	37%	33%	41%	
Radio	38%	46%	41%	32%	18%	38%	
Newsletter of information mailed to home	31%	34%	38%	41%	21%	37%	
Television news	34%	24%	35%	42%	36%	34%	
Materials from environmental groups	38%	27%	28%	41%	31%	33%	
Major newspaper	28%	29%	26%	28%	21%	27%	

Billboards	38%	23%	22%	15%	10%	20%
Materials from school	38%	26%	21%	9%	13%	19%
Instagram	45%	27%	14%	3%	8%	15%
Twitter	21%	11%	10%	3%	8%	8%
Government access TV	17%	4%	9%	6%	13%	7%
Don't want to receive information	10%	2%	2%	2%	15%	3%
Other (please specify)	0%	2%	3%	4%	3%	3%

How many respondents don't use Facebook or email?

Total Respondents:	741	100%
People who selected e-mail:	374	50%
People who selected Facebook:	302	41%
People who selected E-mail and Facebook:	174	23%
People who selected Only E-Mail:	200	27%
People who selected Only Facebook:	128	17%
People who selected neither email nor Facebook:	239	32%

Top communication preferences by County

Values	Livingston County	Oakland County	Other (please specify)	Washtenaw County	Wayne County	Grand Total
E-mail	76	14	10	247	27	374
Internet	72	13	7	239	19	350
Community newspaper	59	12	8	230	20	329
Materials from municipal government	64	10	6	217	17	314
Facebook	74	7	7	193	21	302
Radio	56	12	7	192	15	282
Newsletter of information mailed to home	63	11	4	179	17	274
Materials from environmental groups	44	11	5	169	12	241
Television news	66	11	8	153	17	255
Major newspaper	41	8	4	138	11	202
Billboards	31	4	2	106	7	150
Materials from school	19	3	2	103	11	138
Instagram	15	5	2	82	5	109
Twitter	11	1	1	43	6	62
Government access TV	8	4	2	37	3	54
Other (please specify)	3			17	1	21
Don't want to receive information	2		1	15	3	21

Communication preferences for respondents who didn't select Facebook nor Email		
Community newspaper	108	45%
Internet	91	38%
Materials from municipal government	90	38%
Newsletter of information mailed to home	85	36%
Radio	83	35%
Television news	83	35%
Major newspaper	67	28%
Materials from environmental groups	58	24%
Billboards	42	18%
Materials from school	31	13%
Don't want to receive information	20	8%
Instagram	20	8%
Twitter	12	5%
Government access TV	10	4%
Other (please specify)	7	3%
E-mail	0	0%
Facebook	0	0%

Communication preferences for respondents who didn't select Facebook nor Email by County (Top 6 highlighted)						
	Livingston County	Oakland County	Other	Washtenaw County	Wayne County	Grand Total
Community newspaper	16	5	3	79	5	108
Internet	15	2	2	68	4	91
Materials from municipal government	18	3		67	2	90
Radio	15	3	2	62	1	83
Newsletter of information mailed to home	22	4	2	56	1	85
Television news	19	3	3	56	2	83
Materials from environmental groups	6	4		47	1	58
Major newspaper	13	4	2	46	2	67
Billboards	8	2		31	1	42
Materials from school	5	1		24	1	31
Instagram	3	1		16		20
Don't want to receive information	2			15	3	20
Twitter	2			8	2	12
Government access TV	1	1		8		10
Other (please specify)	1			5	1	7
E-mail						
Facebook						

Key insights:

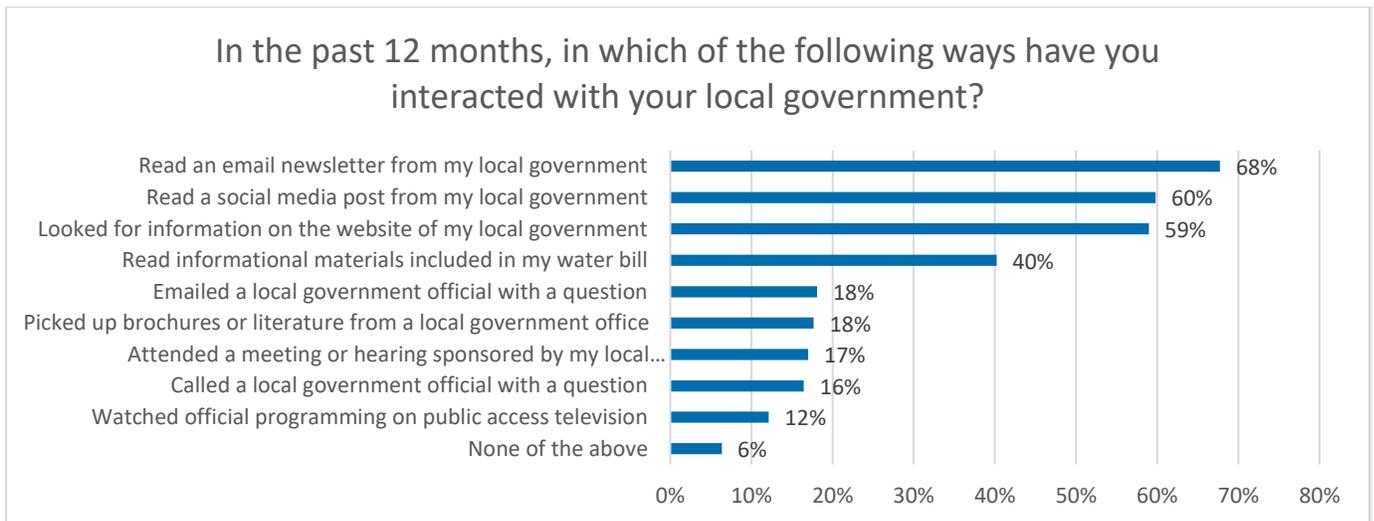
- Communication preferences have appeared to have changed between 2011 and 2022.
 - 2011 top 3: email (51%), community newspaper (46%), mail (45%).
 - 2022 top 3: email (50%), internet (47%), community newspaper (44%)
 - Social Media preferences increased substantially from 2011 (12.8%) to 2022 (Facebook 41%)
 - Other substantial increases included Internet (34% to 47%), Radio (28% to 38%) TV (5.5% to 34%), and Billboards (10% to 20%)
 - Preference for mailed newsletters decreased from 46% to 37%.
- No communication method is a clear favorite for a majority of respondents, indicating that a multi-media approach is necessary to reach watershed residents.
- Some significant differences exist between urban and rural respondents:
 - Township (rural) residents prefer to receive information from Television news and Facebook significantly more (12% and 8% more respectively) than city (urban) residents.
 - City (urban) residents prefer information from community newspapers and mailed newsletters more (9%) than township (rural) residents.
- Overall, the top 5 preferred communication methods for respondents are:
 - Email 50%
 - Internet 47%
 - Community Newspaper 44%
 - Materials from Municipal government 42%
 - Facebook 41%
- For those who did not check email (49.5% of respondents), the top five preferred methods are:
 - Community newspaper 43%
 - Internet 43%
 - Materials from municipal government 41%
 - Radio 39%
 - Television news 36%
- For those who did not check email and internet (28.2% of respondents), the top five preferred methods are:
 - Community Newspaper 42%
 - Materials from municipal government 39%
 - Newsletter of information mailed to home 32%
 - Facebook 29%
 - Radio 29%
- We must be wary of bias towards online communication methods since this survey was distributed via an online survey.
- There were some differences in preferences depending on age, particularly with social media.
 - Only 14% of respondents under 25 prefer Facebook, compared to 42% of 25-44, 47% of 45-64, and 37% of 65+
 - 45% of respondents under 35 prefer Instagram, compared to 27% of 25-44, 14% of 45-64, and 3% of 65+

- More 65+ and Under 25 respondents prefer materials from environmental groups (41%, 38%) than those 25 – 64 (27%).

Question 21: Local Government Interactions

21. In the past 12 months, in which of the following ways have you interacted with your local government? (Check all that apply)

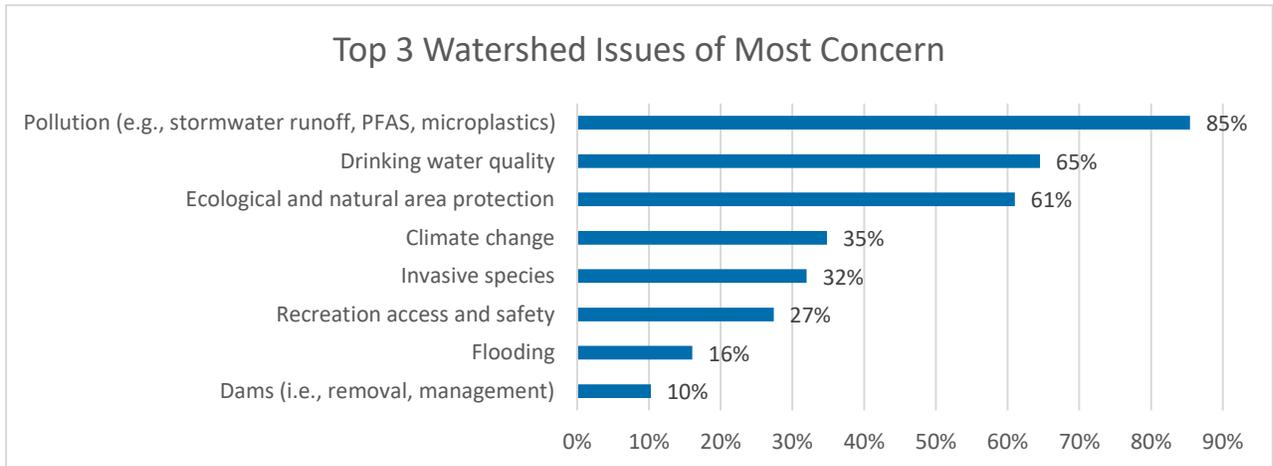
Local Government Interactions	Count	Percent
Read an email newsletter from my local government	502	68%
Read a social media post from my local government	443	60%
Looked for information on the website of my local government	437	59%
Read informational materials included in my water bill	298	40%
Emailed a local government official with a question	134	18%
Picked up brochures or literature from a local government office	131	18%
Attended a meeting or hearing sponsored by my local government	126	17%
Called a local government official with a question	122	16%
Watched official programming on public access television	90	12%
None of the above	47	6%



Question 22: Concerning Watershed Issues

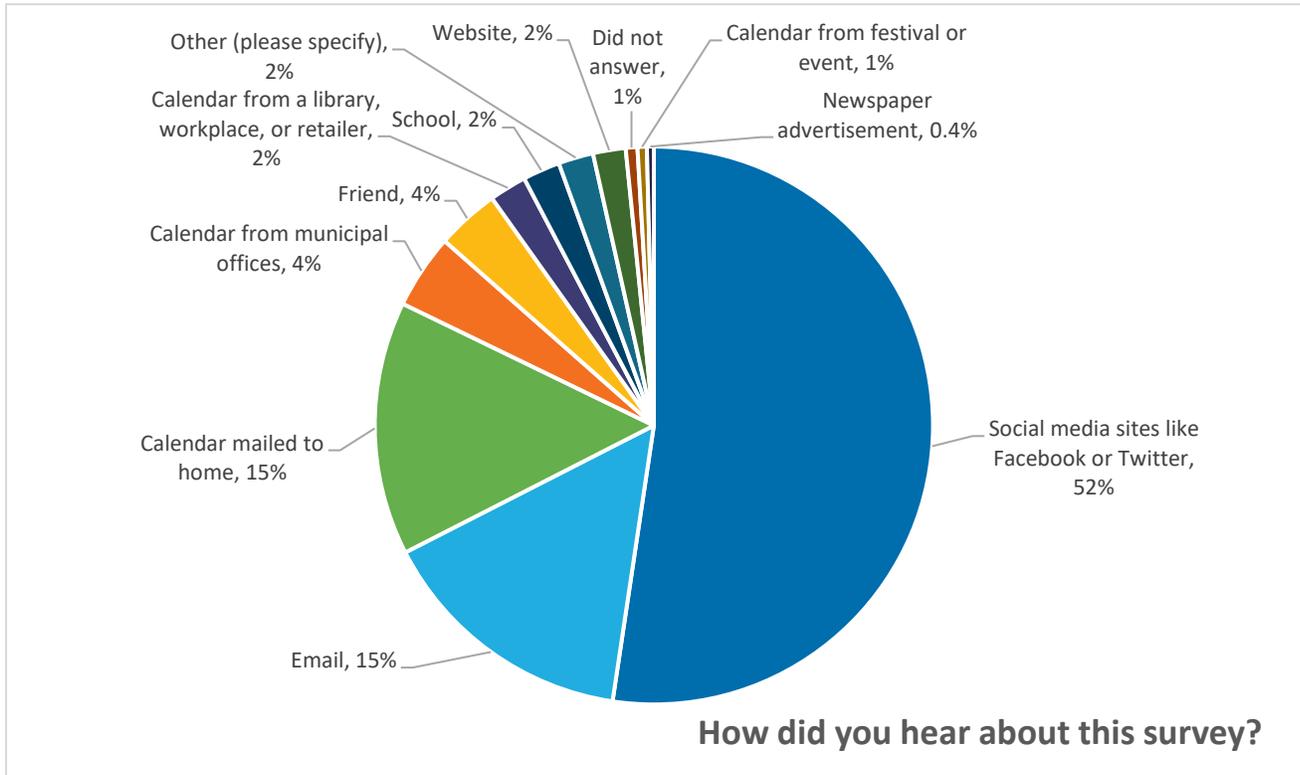
22. What watershed issues are you most concerned with? Please select your top three.

Watershed Issues	Count	Percent
Pollution (e.g., stormwater runoff, PFAS, microplastics)	633	85%
Drinking water quality	478	65%
Ecological and natural area protection	452	61%
Climate change	258	35%
Invasive species	237	32%
Recreation access and safety	203	27%
Flooding	119	16%
Dams (i.e., removal, management)	76	10%



Question 23: How Heard

23. How did you hear about this survey?



How did you hear about this survey?	Count	Percent
Social media sites like Facebook or Twitter	388	52%
Email	112	15%
Calendar mailed to home	109	15%
Calendar from municipal offices	32	4%
Friend	27	4%
Calendar from a library, workplace, or retailer	16	2%
School	16	2%
Other (please specify)	15	2%
Website	14	2%
Did not answer	5	1%
Calendar from festival or event	4	1%
Newspaper advertisement	3	<1%

How Heard (Condensed)	Count	Percent
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Social media sites like Facebook or Twitter	388	52%
Calendar (Mailed and picked up)	161	22%
Email	112	15%
Friend	27	4%
School	16	2%
Other (please specify)	15	2%
Website	14	2%
Did not answer	5	1%
Newspaper advertisement	3	<1%

Other:

- City Newsletter
- It just appeared on my phone
- No
- RSS feed
- Survey sent to me
- The A2 news online
- University of Michigan student email

Count of How did you hear about this survey?	Livingston	Oakland	Other	Washtenaw	Wayne	Total
Calendar from a library, workplace, or retailer	1%	0%	0%	2%	0%	2%
Calendar from festival or event	0%	0%	7%	1%	0%	1%
Calendar from municipal offices	6%	4%	7%	3%	9%	4%
Calendar mailed to home	5%	4%	0%	20%	5%	15%
Email	13%	12%	0%	17%	9%	15%
Friend	2%	12%	21%	2%	7%	3%
Newspaper advertisement	1%	0%	0%	0%	0%	0%
Other (please specify)	3%	4%	0%	8%	5%	7%
Social media sites like Facebook or Twitter	69%	60%	57%	45%	60%	51%
Website	1%	4%	7%	2%	5%	2%
Grand Total	100%	100%	100%	100%	100%	100%

	City of Brighton	Green Oak Township	Village of Pinckney	City of Dexter	City of Ann Arbor
Calendar from a library, workplace, or retailer					
Calendar from festival or event					
Calendar from municipal offices	1	3			
Calendar mailed to home	6		1		83
Email	1	4		1	31
Friend					4
Newspaper advertisement					
Other (please specify)		1	1		16
Social media sites like Facebook or Twitter	6	21	3	2	70
Website				1	1
(blank)					
Grand Total	14	29	5	4	205
<i>Total Calendars Mailed</i>	<i>2,000</i>	<i>246</i>	<i>450</i>	<i>2,127</i>	<i>28,277</i>
<i>Response Rate</i>	<i>0.30%</i>	<i>0.00%</i>	<i>0.22%</i>	<i>0.00%</i>	<i>0.29%</i>

Key Insights:

- Most of our survey respondents found us through social media, especially in counties other than Washtenaw. This reinforces the tactic of providing user-friendly clickable links via digital media to increase responses to an online survey.
- The calendars were more likely to be how people accessed the survey in Washtenaw County than any of the other counties. Calendars are distributed at a higher per person rate in Washtenaw County than in Livingston County.
- Calendars are not the most effective method for engaging residents in taking an online survey.
 - Residents were able to scan a QR code using their phone or type a shortened URL into a web browser on a phone or computer to get to the survey instrument from the print calendar. Not the easiest or most user-friendly approach. Prize money incentives announced in the calendar appeared to have limited impact.
 - Calendars were mailed to residents in Brighton, Green Oak Township, Village of Pinckney, City of Dexter, and City of Ann Arbor, but we only received 90 responses, most from Ann Arbor, which mailed the most calendars of all participating communities.
 - The response rate was extremely low for all cities, less than 1%, indicating a large risk of self-selection bias.

Questions 24 – 29: Demographics

24: What are your pronouns?

What are your Pronouns?	Count	Percent
She/her	457	61.7%
He/him	178	24.0%
Prefer not to answer	51	6.9%
They/them	19	2.6%
Other (please specify)	17	2.3%
No response	19	2.6%

25: Are you Hispanic or Latino?

Hispanic/Latino?	Count	Percent
No	663	89%
Prefer not to answer	39	5%
Yes	23	3%
No Response	16	2%

26: Which of the following best describes your race/ethnicity?

Which of the following best describes your race/ethnicity?	Count	Percent
White	611	82.5%
Prefer not to answer	51	6.9%
Asian or Asian American	22	3.0%
Other or multiple ethnicities (please specify)	19	2.6%
No response	13	1.8%
Black or African American	12	1.6%
American Indian or Alaskan Native	10	1.3%
Native Hawaiian or Other Pacific Islander	3	0.4%

27. What is your age?

What is your age?	Count	Percent
65+	236	32%
55-64	159	21%
35-44	100	13%
45-54	99	13%

25-34	79	11%
Under 25	29	4%
Prefer not to answer	27	4%
No response	12	2%

28. Would you say your annual household income is:

Annual household income	Count	Percent
\$100,000-\$199,999	189	26%
\$60,000-\$99,999	184	25%
Prefer not to answer	129	17%
\$35,000-\$59,999	96	13%
More than \$200,000	66	9%
Under \$35,000	65	9%
No response	12	2%

29. What is the highest level of school you have completed or the highest degree you have received?

Highest school level	Count	Percent
Graduate degree	288	39%
Bachelor's degree	255	34%
Some college but no degree	77	10%
Associate degree	53	7%
Prefer not to answer	28	4%
High school degree or equivalent (e.g., GED)	23	3%
No response	11	1%
Less than high school degree	6	1%

Question 30: Parting Thoughts

30. Do you have any parting thoughts you would like to share?

Key Insights: Generally, very positive feedback. Lots of “thank yous”