

Urban Water Values in the Twin Cities

Phase 1 Survey Research

Technical Report

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1. Background

This report describes findings from two recent survey efforts conducted in 2021-2022 in the Minneapolis-St. Paul Metropolitan Area (Twin Cities) funded by the Metropolitan Council. The survey designs and findings were limited by the COVID-19 pandemic. Thus, University of Minnesota researchers and Metropolitan Council partners view this report as exploratory, and its findings as preliminary, representing Phase 1 of the research. Phase 2 research planning is ongoing. Phase 2 is intended to expand upon Phase 1 findings with more inclusive onsite surveying methods (see Roth, Green, Pradhananga, & Davenport 2021).

An understanding of diverse water values in Minnesota has been growing. In 2018, the Center for Changing Landscapes (CCL) and Humphrey School of Public Affairs, University of Minnesota, with funding from Minnesota Clean Water Legacy Funds and Environment and Natural Resources Trust Fund, conducted a statewide U.S. Postal Service mail survey of residents of present-day Minnesota about their relationships with water. We inquired about water values, concerns, and behaviors. The statewide survey was a first step in charting a deeper understanding of not only the core values Minnesotans ascribe to water, but also uncovering diverse relationships and unique priorities for water protection across social groups: by gender, age, and geographic area of residence (Davenport & Keeler 2020). The mail survey effort yielded strong representation of residents across gender and geographic areas, however the vast majority of respondents (93%, 1385 out of 1498) identified as White and not of Hispanic descent. Thus, Black, Indigenous, and People of Color (BIPOC) and their diverse voices were significantly underrepresented in the study findings. In 2019, CCL met with community partners and organizations in the Twin Cities to explore how environmental social science research could be more inclusive of and meaningful to BIPOC communities. With funding from Minnesota Stormwater Research Council and in collaboration with Mississippi Watershed Management Organization and Capitol Region Watershed District, the CCL team put community feedback into action with a survey designed to be conducted in person at community events (e.g., West Broadway Open Streets, Hmong American New Year, and Festival de Independencia de Mexico [Roth et al. 2021]). In this onsite survey study, we engaged 492 Minnesota residents; 75% identified as BIPOC (Figure 1, Roth et al 2021). The scope and scale of the onsite survey method enabled comparative analysis across race, specifically between BIPOC-identifying respondents and White-identifying respondents. To our knowledge, this exploratory survey was the first quantitative study to focus on water values and priorities among BIPOC communities in the Twin Cities (qualitative study examples exist, see Mississippi Watershed Management Organization 2007, Pradhananga, Davenport & Green 2019, Salk 2016).

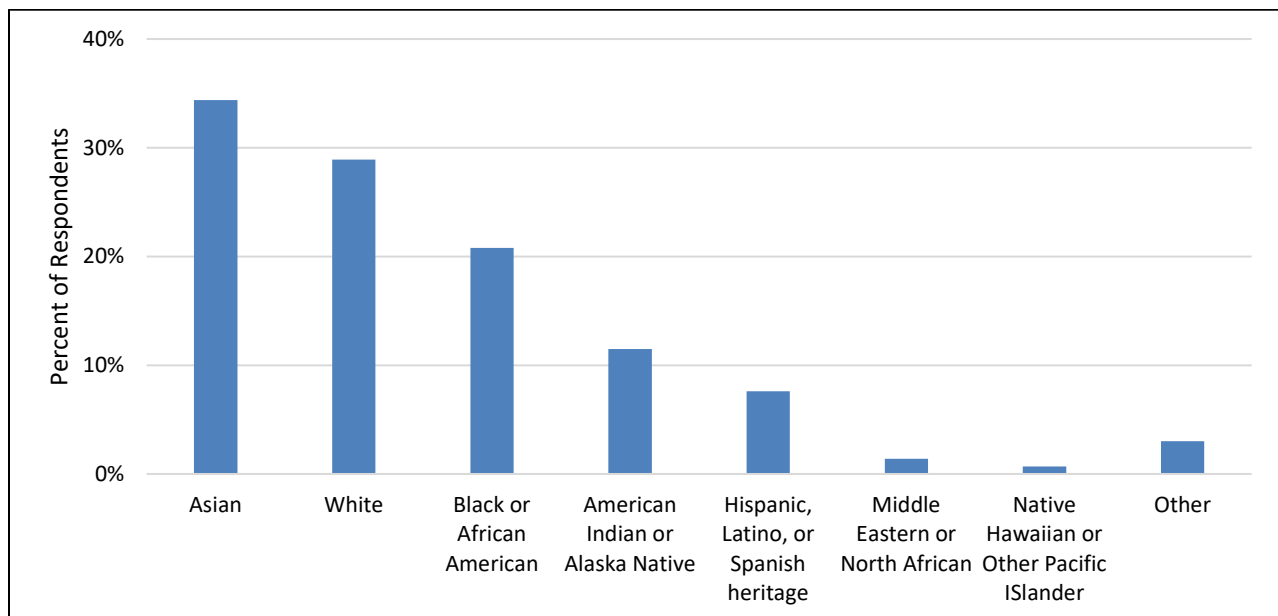


Figure 1. Respondents' reported race or ethnicity (Roth et al. 2021)

Inspired by the 2018 and 2019 survey findings, Twin Cities area Metropolitan Council staff in the Water Resources Planning Division approached our research team to develop a study that would build on the previous work and support Metropolitan Council's efforts to engage Twin Cities communities in the seven-county area in water planning and management. In March 2020, we drew up a plan to conduct onsite surveys at community events in particular Twin Cities metro area neighborhoods and to facilitate focus groups with water professionals to examine survey findings and prioritize action steps. Then, the COVID-19 pandemic disrupted our plans. Community event planning and in-person social interactions in the Twin Cities metro area and across the U.S. suddenly halted. Center for Disease Control and Minnesota Department of Health guidelines forced CCL to pause all in-person research activities from May-August 2020. In September 2020 our social science research program pivoted, going to remote data collection only by USPS mail or teleconference focus groups. Because of our methodology and study design limitations due to COVID, we were unable to provide intentional cultural access to the survey, which in turn means BIPOC perspectives are significantly underrepresented. Thus, the summary statistics presented here (Section 3), cannot be generalized to the broader population. Still, the data demonstrate a diversity in views and perspectives among respondents in the relatively homogeneous study sample. Efforts are underway to supplement these Phase 1 data with onsite surveying at community events. In addition, comparative statistical analysis, planned for Phase 2, will explore important differences in values and priorities at regional scales, and sociodemographic characteristics such as race/ethnicity, homeownership, and gender.

2. Methods

In consultation with Metropolitan Council partners, we developed two survey study designs: a survey of Metropolitan Council staff administered through the online survey platform Qualtrics (Qualtrics, Provo, UT) and a mail survey of residents in eight "neighborhoods" (Figure 2) of the seven-county metropolitan area. Standard protocol for protecting human subjects, including informed consent, were followed in this research.

2.1 Online Survey of Metropolitan Council staff

To pilot the survey questionnaire, raise awareness of the effort and conduct a baseline assessment of Metropolitan staff perspectives on water, we administered the survey to Metropolitan Council staff via the online survey administration software Qualtrics. The questionnaire included a variety of fixed-choice and scale questions. It included questions about local water issues, water bills, water values, and community engagement. It also asked basic sociodemographic questions (e.g., race, education, age) and household characteristics (e.g., ownership/rental status, number of individuals in household). The questionnaire was developed in collaboration with project partners. Recruitment for the online survey was done through Metropolitan Council partners. A link to the online survey was published in multiple organization-wide newsletter efforts and promoted internally. The survey was administered in October and December 2021. De-identified survey responses were automatically compiled and coded in a password-secured database within Qualtrics. The data were analyzed within Qualtrics to determine basic descriptive statistics such as frequency distribution. A total of 76 respondents completed the online survey. All departments and divisions of Metropolitan Council were represented in survey results.

2.2 Mail Survey of Twin Cities area residents

The mail survey questionnaire was developed in collaboration with project partners and included an identical format as the online survey for Metropolitan Council staff, with employment-related items removed. Metropolitan Council project

partners developed a geographic focus on communities with concentrations of cultural and economic diversity, as well as communities with known water issues (Figure 2). The communities were divided into eight regions. We purchased a sample of 2000 residents' names and addresses across those eight regions from Dynata (www.dynata.com). The sample included both renters and homeowners. Demographics of the sample varied by region as shown in Table 1 below.

The survey was administered between October 2021 and February 2022. We used an adapted Dillman's (2014) Tailored Design Method to increase response rates. Three mailing waves of the survey were administered – each with a cover letter (Appendix A), the survey questionnaire (Appendix B), and a pre-paid business reply envelope. A \$2 cash incentive was also included in the first wave of the survey to increase response rates. Each questionnaire had a unique identification number to track responses for future mailings.

Returned questionnaires were logged into a password-protected database. We analyzed survey responses using Statistical Package for Social Sciences (SPSS release 25.0). Basic descriptive statistics were conducted to determine frequency distribution and central tendency of individual variables.

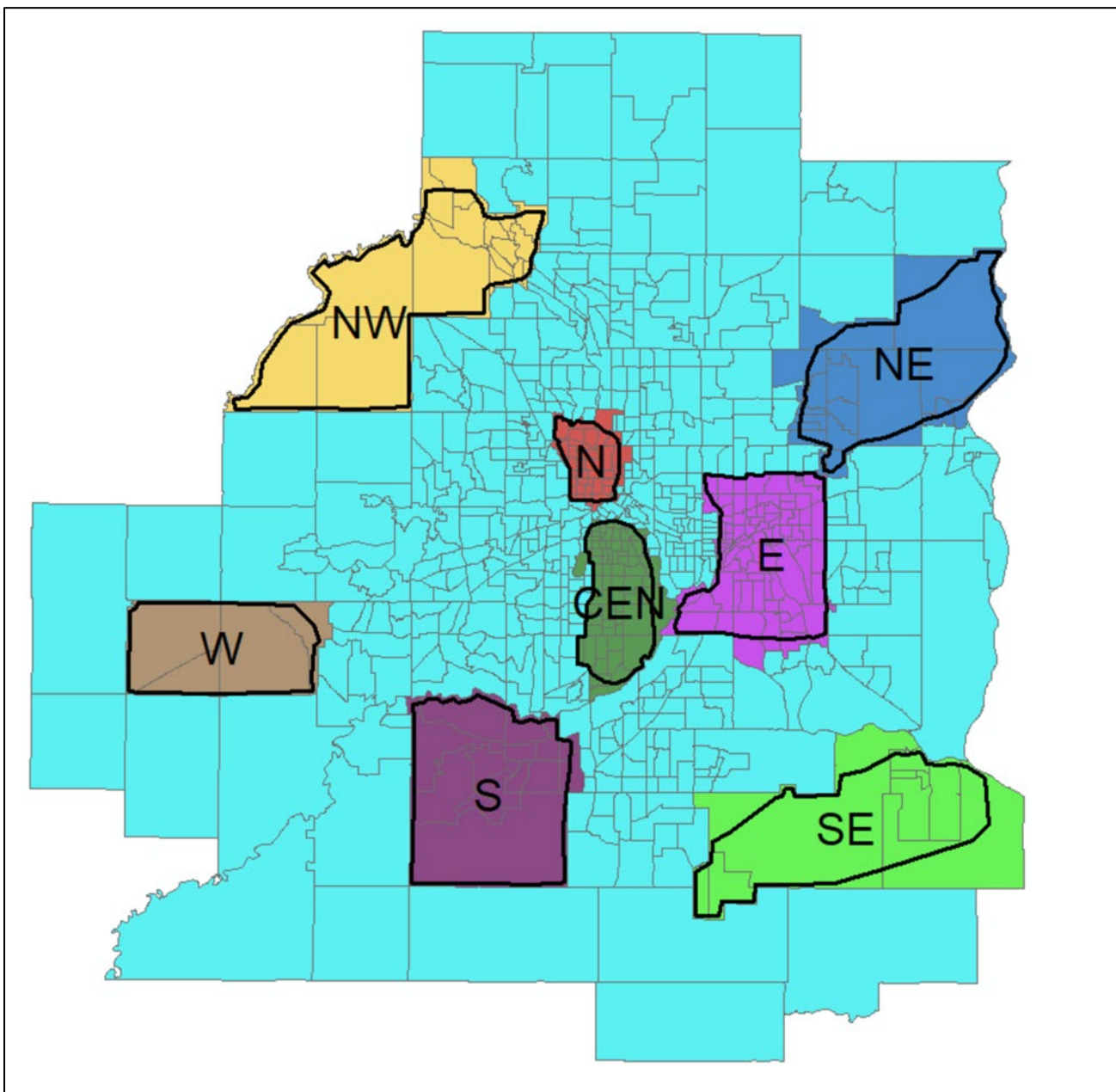


Figure 2. Targeted communities for Water, Community and You - 2021 Survey of Twin Cities Metro Area Residents

Sampling Unit	White	Black or African American	Asian	Hispanic or Latino of any race	Owner-occupied	Persons below poverty
<i>CEN</i>	64%	17%	4%	15%	50%	15%
<i>E</i>	57%	15%	19%	12%	54%	17%
<i>N</i>	49%	31%	9%	10%	54%	21%
<i>NE</i>	92%	3%	3%	3%	81%	5%
<i>NW</i>	88%	4%	4%	4%	78%	5%
<i>S</i>	80%	6%	8%	6%	82%	5%
<i>SE</i>	94%	2%	1%	3%	74%	6%
<i>W</i>	96%	1%	1%	2%	86%	3%
All Metro	76%	10%	8%	6%	68%	9%

Table 1. Demographic information associated with each sampling unit. Codes correspond with areas on the map in Figure 2 (Source: 2010 US Census).

3. Results

Results presented here are based on basic descriptive analysis (i.e., summary statistics) of the online survey of Metropolitan Council Staff and mail survey of Twin Cities-area residents. Selected results are described below and full descriptive statistics in tabular form are presented in the report Appendices C and D.

3.1 Online Survey of Metropolitan Council Staff—Selected Findings

Respondent Profile

Respondents (n=76) were asked a series of questions about their socio-demographic background, household, and Metropolitan Council employment duties. Most respondents identified as female (51%) and White (81%) with a median age of 49. Most respondents (84%) had attained at least a college bachelor’s degree and a slight majority of respondents (51%) reported a household income of \$100,000 or more. Most respondents (79%) reported owning their current residence. (Appendix C, Tables 1, 3-4).

Respondents’ roles at the Metropolitan Council varied across all 10 divisions or departments. The top represented divisions were Water Resources Planning (23%), Metro Transit (16%), and Environmental Services: Operations and Maintenance Services (14%; Appendix C, Table 2).

Perspectives on Household Water

Respondents were asked several questions regarding the source of their household drinking water. The vast majority (92%) reported getting their water from a public water supplier. When ask about the original source of their household water, about a third (34%) reported their water comes from surface water while over a quarter of respondents (28%) said they did not know the original source. Most respondents (80%) were not at all or only slightly concerned about the safety of the drinking water delivered via their tap at home. Respondents also generally agreed that their regular water usage rate (76%), wastewater service charges (76%), and stormwater service charges (65%) were somewhat to very affordable (Appendix C, Tables 9, 10, 13, 17).

Perspectives on Local Water

Respondents were asked how important it is to them to protect and restore Minnesota waters for a variety of values and uses. The top water values overall (ranked by proportion rating the value as very or extremely important) were habitat for native fish and wildlife (100%), safe and clean drinking water (99%), water for future generations (99%), and equitable access to clean drinking water (96%). In response to the question “to what extent do [respondents] trust or distrust information sources about water,” the most trusted sources were universities or academic institutions (92%), Minnesota state agencies (91%), local or city governments (91%), local water and soil agencies (88%), and the Metropolitan Council (88%) (Appendix C, Tables 18-19).

Respondents were asked to rate their level of concern for water issues in their community on a five-point scale from not at all concerned to extremely concerned. Top issues about which respondents were very to extremely concerned were climate change impacts to water (72%), aquatic invasive species (51%), proper disposal of pharmaceuticals (49%), water that is not healthy for fish (49%) and lead pipes or lead exposure in drinking water (47%). Additionally, more than three-quarters of respondents agreed that water in Minnesota is at risk (77%) and needs better protection (81%) (Appendix C, Tables 22-23).

3.2 Mail Survey of Twin Cities Area Residents

Respondent and Community Profile

Who are respondents?

The mail survey of Twin Cities area residents achieved a final response rate of 36%, or 622 questionnaires completed and returned out of the adjusted original sample of 1,712 (2,000 minus undeliverables). Respondents were asked a series of questions about their socio-demographic background. Most respondents (57%) identified as male. The respondents ranged in age from 18 to 97 with a median age of 57. Most respondents (91%) reported their race or ethnicity as White only. One in 10 respondents (10%) identified as BIPOC or multiracial. More than half (57%) of respondents had attained at least a bachelor’s degree. Forty-two percent reported a household income of \$100,000 or more (Appendix D, Table 25). Most respondents (88%) reported owning their current residence (Appendix D, Table 26). Though the number of people residing in each household ranged from one to eight, 42% reported that 2 people reside in their current household. More than 8% of respondents reported five or more people residing in their household (Appendix D, Table 27).

When sample sociodemographic characteristics are compared to the Twin Cities Metropolitan area overall, the study sample underrepresents BIPOC residents. Almost one in three Metro-area residents identify as BIPOC (31%, U.S. Census 2020), and proportions of BIPOC-identifying residents are increasing across the metro area. Only 10% of our sample respondents identified as BIPOC or multiracial. The survey sample has a higher proportion of college graduates or higher formal education than the Metropolitan area (45%) and a higher rate of homeownership than the Metropolitan area (69%, American Community Survey 2020).

How do respondents view their community?

When asked to rate the importance of several community qualities on a five-point scale from not at all important (1) to extremely important (5), the highest valued community amenities overall were “a place that is safe and accessible to me” (94% rated very to extremely important) and “clean streams, rivers, and lakes” (92%). Other top important qualities of a community included desirable housing (88%), and opportunities to earn an adequate income (84%) (Appendix D, Table 28).

Where do respondents get their drinking water?

Respondents were asked several questions regarding the source of their household drinking water. When asked where they primarily get their household drinking water, 74% report getting it from a public water supplier such as a city. An additional 15% reported having a private well, and another 10% reported using purchased bottled water as their primary drinking water source (Appendix D, Table 32). When respondents were asked about the *original* source of their household drinking water, 45% percent reported they “do not know” the original source, while 38% reported it coming from groundwater and 9% from surface water (Appendix D, Table 33).

Respondents also were asked whether they use drinking water filter or treatment systems. More than one-third reported using a water softener (38%) and roughly the same proportion reported using a refrigerator filtration system (36%). Other filtration systems used include pitcher filters (16%), sink filter system (11%), and a whole house filter system (9%). Twenty-four percent reported they do not use any additional treatments (Appendix D, Table 34).

What type of wastewater treatment do respondents have?

Respondents were also asked how their household wastewater is treated. The majority (62%) reported being connected to a municipal sanitary sewer line. Other reported treatments included a private septic system onsite at their residence (14%) or a community septic system (5%). An additional 15% reported not knowing how their wastewater is treated (Appendix D, Table 35).

What are respondents' perceptions of their drinking water?

Respondents were asked how much they worry about the safety of drinking water delivered via their home taps. The majority (74%) said they either worry “not at all” or “only a little” (Appendix D, Table 36). When asked to what extent respondents agree or disagree about more specific drinking water statements, most agreed that they have reliable access to drinking water (97%), that they trust their drinking water is safe (76%), and that they like the way their drinking water tastes (70%). Respondents generally disagreed with the statement “my drinking water has a smell I don’t like” (71%). Despite most trusting their current drinking water, nearly half of respondents (49%) agreed that they are concerned about contaminants in their drinking water (Appendix D, Table 37).

What are respondents' perceptions of their water utility bill?

About three-quarters (73%) of respondents reported receiving a household water utility bill (Appendix D, Table 38). Of those respondents that do receive one (n=469), about half (49%) believe it is very or extremely important to understand their water utility bill (Appendix D, Table 39).

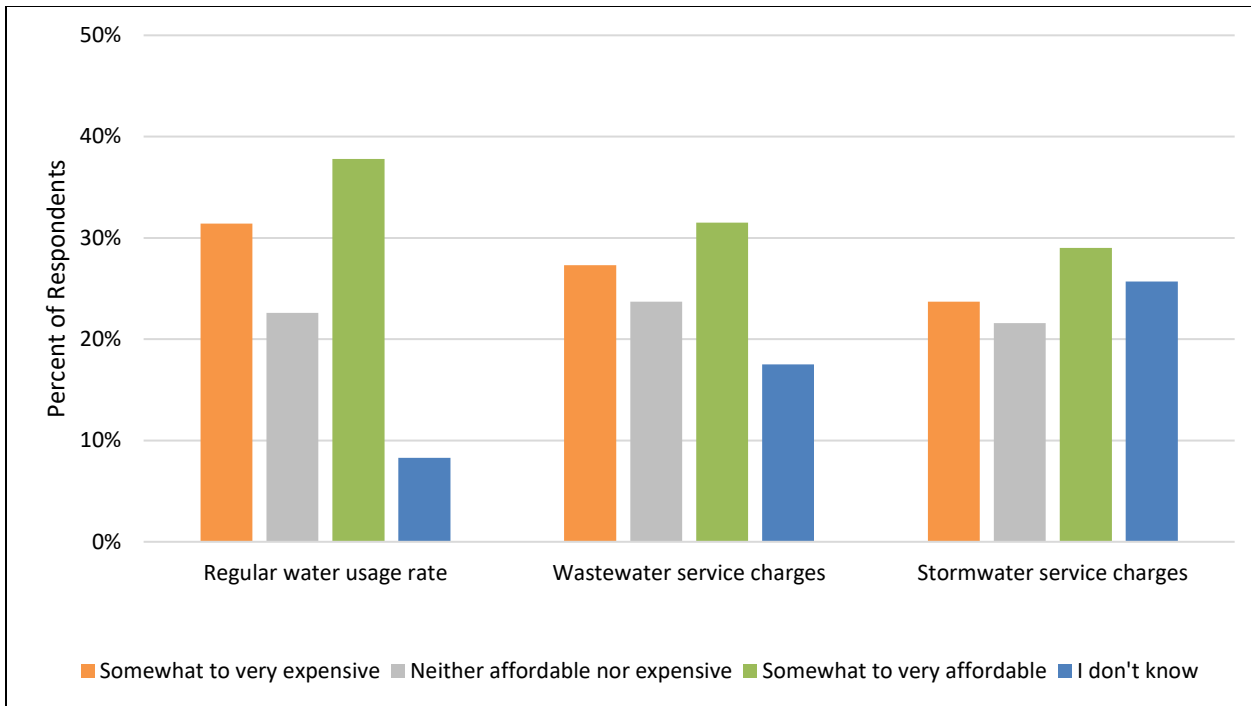


Figure 3. Respondents' perceptions of water bill affordability (Source: Water, Community and You - 2021 Survey of Twin Cities Metro Area Residents)

Respondents were asked about the affordability of three different elements of their water utility bill: regular water usage rates, wastewater service charges, and stormwater service charges. Fewer than one-third of respondents viewed the rates/charges as expensive (31%, 28%, 24%, respectively; Figure 3, Appendix D, Table 40).

Perspectives on Local Water

How do respondents interact with water in their local community?

Respondents were asked how they have interacted with water outdoors in or near their community in the past 12 months. The top ways respondents reported interacting with water were experiencing scenic beauty (83%), observing wildlife (76%), and hiking/walking near water (75%; Appendix D, Table 29). When respondents were asked to share their feelings about the amount of time they spent interacting with water over the past 12 months, more than half (52%) reported spending *less* time than they would prefer (Appendix D, Table 30).

Those who reported spending less time than they would have preferred were also asked about constraints to interacting with water. Not having enough time was the top reported constraint by respondents (33%). Other top limiting factors included too many family obligations (12%), Covid-19 related reasons (12%), weather/climate conditions (11%), and not having the right equipment (10%; Appendix D, Table 31).

How familiar are respondents with local water issues in their community?

When asked about water issues in or near their community, responses varied greatly. Nearly one-quarter of respondents (22%) reported being not at all familiar with local water issues, and another 30% were only slightly familiar. Eleven percent of respondents reported being very or extremely familiar (Appendix D, Table 43). Respondents' perceptions of water quality also varied. Fifty-seven percent of respondents reported their local waters as being of good or very good quality (Appendix D, Table 44).

How do respondents value water?

Respondents were asked how important it is to protect and restore Minnesota waters for a set of water values and uses on a five-point scale from not at all important (1) to extremely important (5).

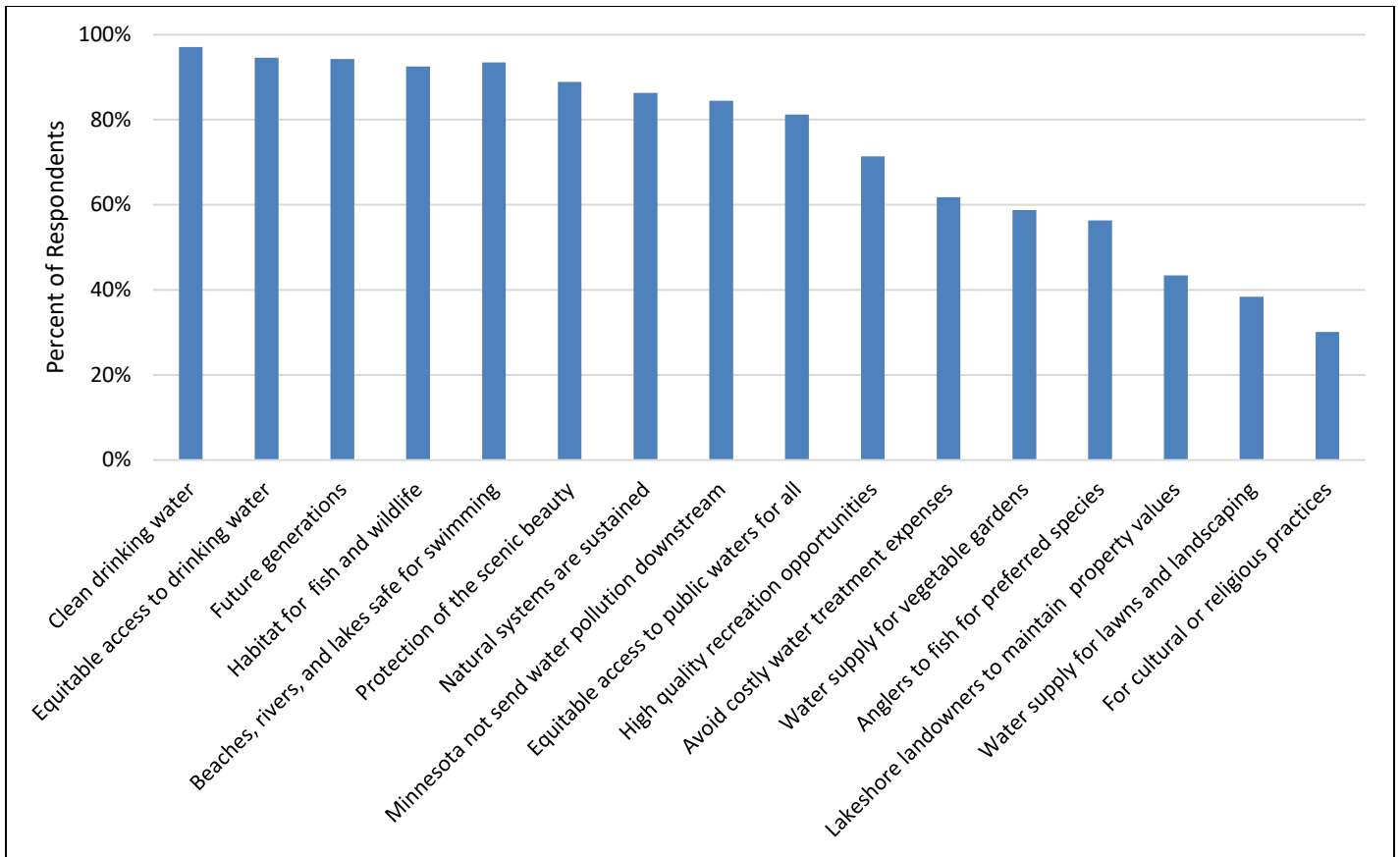


Figure 4. Proportion of respondents rating water values or uses as very or extremely important (Source: Water, Community and You - 2021 Survey of Twin Cities Metro Area Residents)

Of the values reported to be either very or extremely important, the top reported water values were safe and clean drinking water (97%), equitable access to clean drinking water (95%), future generations (94%), beaches, rivers, and lakes that are safe for swimming (94%), and habitat for native fish and wildlife (93%) (Figure 4, Appendix D, Table 42).

Who do respondents trust regarding information about local water?

Respondents were asked about their trust in 13 information sources for water information on a five-point scale from strongly distrust (1) to strongly trust (5). The most trusted information sources when it comes to water were universities/academic institutions (71%), local water and soil agencies (66%), family (65%), and Minnesota state agencies (62%). The most distrusted information source when it comes to water was media, including newspapers, Internet, TV, and social media (41% distrust) (Appendix D, Table 41).

What water issues are respondents concerned about?

Respondents were asked how concerned they are about local water issues. Respondents rated 14 water issues on a five-point scale from not at all concerned (1) to extremely concerned (5).

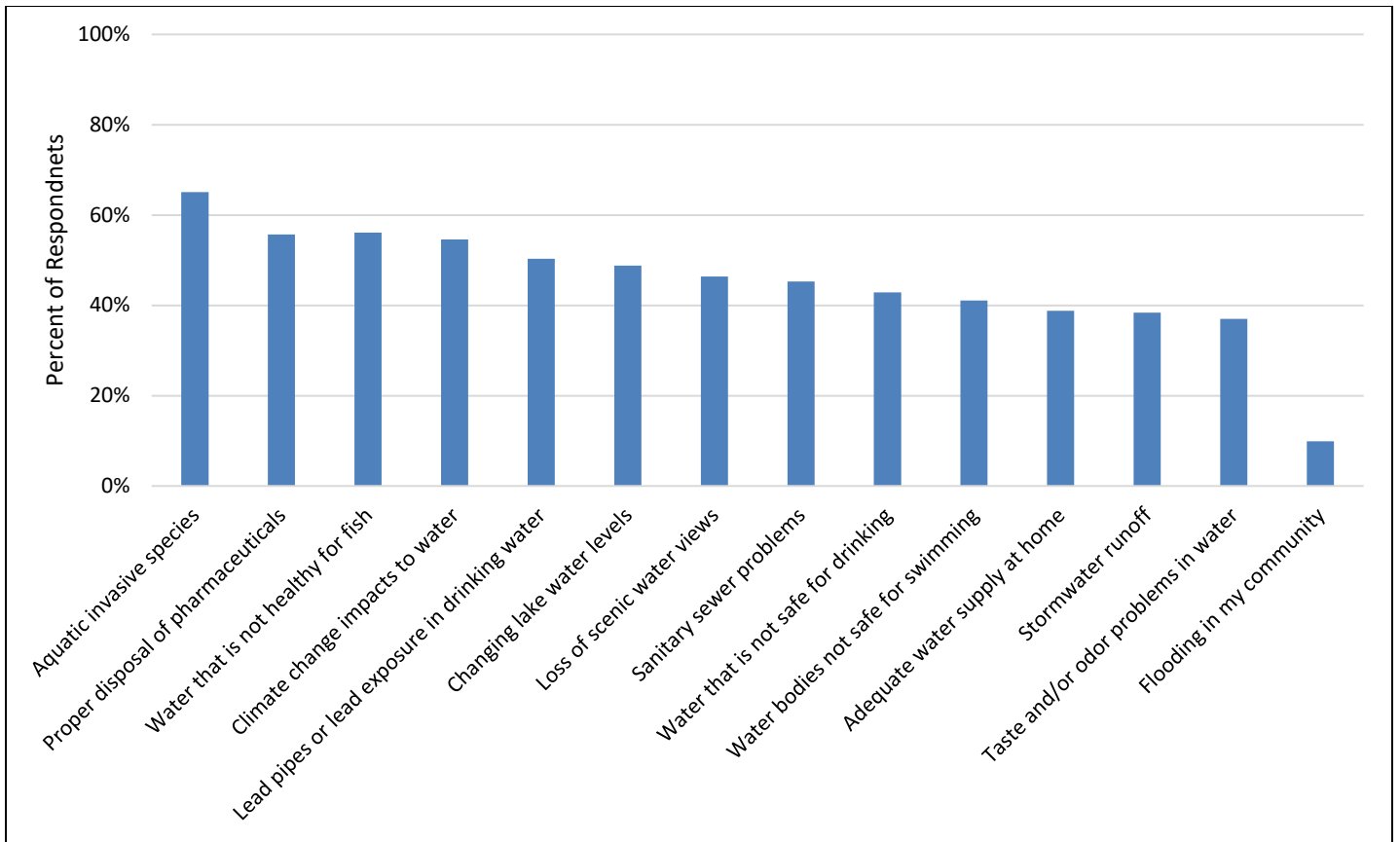


Figure 5. Percentage of respondents rating local water issues as very or extremely concerning (Source: Water, Community and You - 2021 Survey of Twin Cities Metro Area Residents)

The top water issues respondents rated as very or extremely concerning were aquatic invasive species (65%), proper disposal of chemicals (56%), water that is not healthy for fish (56%), and climate change impacts to water (55%). Flooding was the least concerning water issue to respondents with only 10% of respondents reporting being very or extremely concerned (Figure 5, Appendix D, Table 45).

What are respondents’ beliefs about water resource protection?

Respondents were asked to what extent they agree or disagree with a series of belief statements about local water resource protection on a five-point scale from strongly disagree (1) to strongly agree (5). The vast majority of respondents agree that water pollution can affect human health (97%). More than half of respondents agree that water in Minnesota needs better protection (70%), water in my community is adequately protected (61%), and water resources in Minnesota are at risk (53%). Fewer than one-quarter of respondents (21%) believe their community has the leadership it needs to protect water resources. Still, two-thirds of respondents (66%) disagree that protecting water in their communities is a *lost cause* (Appendix D, Table 46).

How likely are respondents to be engaged in civic action related to water in the future?

Respondents were asked how likely they are to take a variety of pro-environmental actions over the next 12 months on a five-point scale from most certainly not (1) to most certainly will (5).

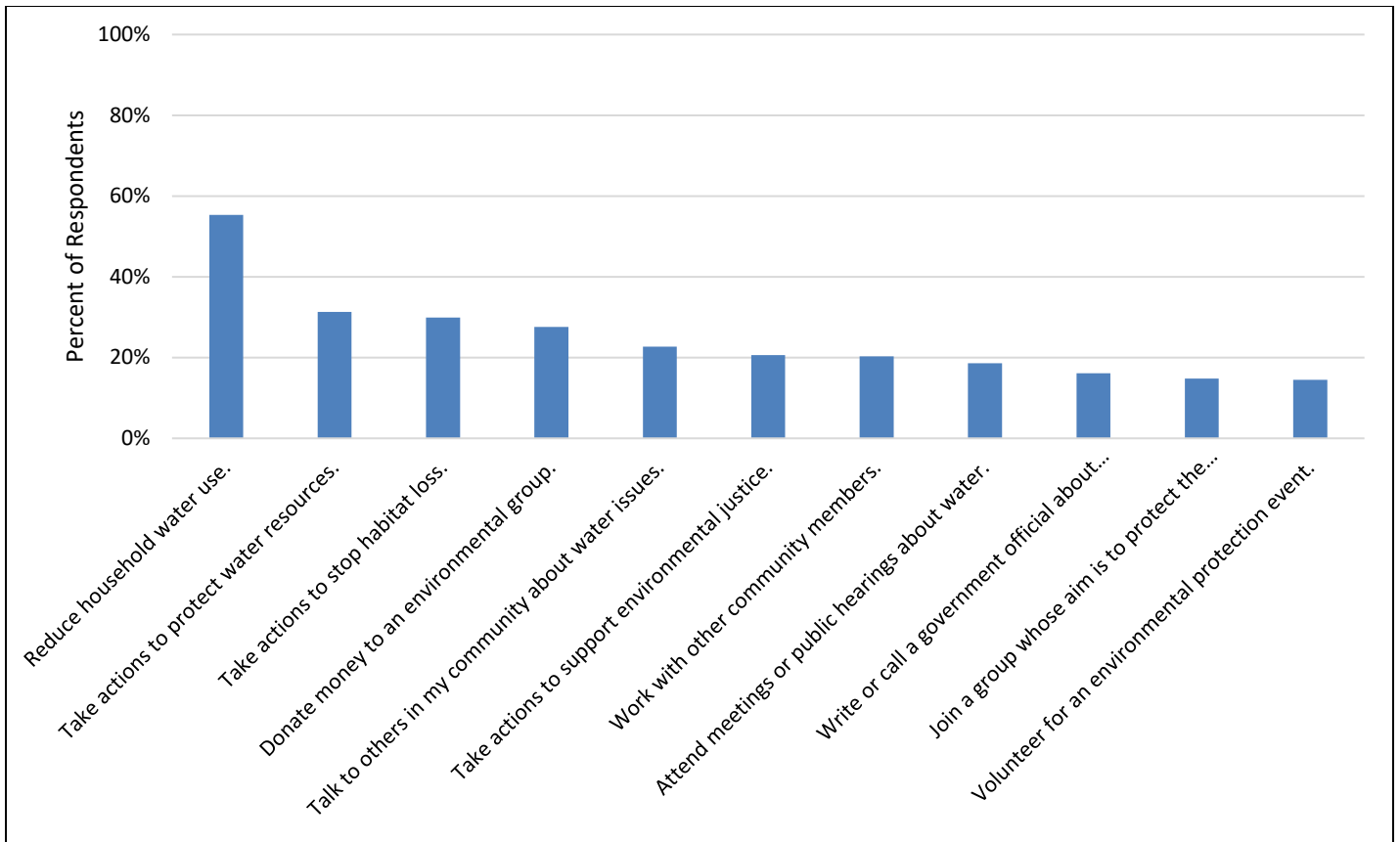


Figure 6. Proportion of respondents reporting they probably or most certainly engage in the pro-environmental actions over the next 12 months (Source: Water, Community and You - 2021 Survey of Twin Cities Metro Area Residents)

The most common action in which respondents reported they “probably” or “most certainly” will engage was reducing household water usage (55%). Fewer than one-third of respondents reported that they probably or most certainly will engage in the other actions such as taking actions to protect water resources (31%), taking actions to stop fish and wildlife habitat loss (30%), or donating money to an environmental group (28%). At least half of respondents reported that they probably will not or most certainly will not attend meetings/public hearings about water (50%), join/be a member of an environmental group (53%), volunteer for an environmental protection event (53%), or write/call a government official to support strong environmental protection (54%) (Figure 6, Appendix D, Table 47).

3.3 Selected Subgroup Comparisons

Preliminary statistical analyses were conducted to compare survey subgroups including select sociodemographic characteristics. It is important to stress that our results are considered preliminary because the sample sizes of some of the subgroups was below n=60. We report statistical differences here only to underscore potential differences that the research team plans to investigate further during Phase 2.

There were observed differences between White respondents (n=532) and those who identified as Black, Indigenous, or person of color (BIPOC) (n=56). BIPOC respondents were concerned to a greater degree than White respondents about several water issues: lead pipes or lead exposure in water (3.78 to 3.3 mean), proper disposal of pharmaceuticals (3.98 to 3.47 mean), and water bodies that are not safe for swimming (3.52 to 3.08 mean). Additionally, BIPOC respondents rated several water value as more important to protect than White respondents did: having a consistent water supply for lawns and landscaping (3.52 to 3.11 mean), avoiding costly water treatment expenses (4.13 to 3.76 mean), and for cultural and religious practices (3.34 to 2.85 mean). BIPOC respondents were also more likely to be civically engaged in their communities around water in the future than White respondents. BIPOC respondents were more likely to express

intentions to engage in a variety of actions at least once over the next year including supporting environmental justice (3.02 to 2.65 mean), volunteering for an environmental protection event (2.91 to 2.52 mean), attending public meetings about water (2.91 to 2.59 mean), and talking to others in their community about water issues (2.96 to 2.68 mean). BIPOC respondents also agreed to a higher degree than White respondents that water in Minnesota needs better protection (4.19 to 3.92 mean). However, White respondents trusted several sources of water information to a higher degree than BIPOC respondents including local water and soil agencies (3.86 to 3.45 mean) and universities/academic institutions (3.99 to 3.55 mean).

Some notable potential differences also were observed between homeowners (n=532) and those who rent (n=66). Relative to homeowners, renters rated several water values and uses as more important to protect including equitable access to public waters (4.48 to 4.2 mean), consistent water supply for vegetable gardens (3.97 to 3.64), and for cultural or religious practices (3.38 to 2.83 mean). Renters were also more concerned than homeowners about several water issues including climate change impacts to water (3.91 to 3.47), lead pipes or lead exposure in drinking water (3.94 to 3.28 mean), sanitary sewer problems (3.55 to 3.13 mean), taste and/or odor problems in water (3.34 to 2.77 mean), and proper disposal of pharmaceuticals (3.91 to 3.47 mean). Renters were also more likely to intend to participate in community engagement activities at least once over the next year including supporting environmental justice (3.0 to 2.63 mean) and being a member of an environmental protection group (2.87 to 2.52 mean). Homeowners, on the other hand, agreed to a higher degree than renters that they trust their drinking water is safe (4.0 to 3.59 mean), that they have reliable access to drinking water (4.79 to 4.53 mean), and that they like the way their drinking water tastes (3.84 to 3.39 mean).

4. Lessons Learned

Social Science Research Methods Matter

Survey respondents to both the 2021 Metropolitan Council staff online survey and the 2021 Twin Cities-area resident mail survey, Phase 1 of this research, identified as White (81% and 90%, respectively) in greater proportions than are actually represented in Twin Cities-area populations, by 12-21 percentage points. Thus, the data and summary statistics presented in this report are not representative of the racial and ethnic diversity of the Twin Cities. In the case of the Twin Cities-area resident survey, the mail survey research method clearly underrepresented BIPOC voices across the neighborhoods sample. Our research team and Metropolitan Council partners have initiated planning for Phase 2 research that will include onsite surveys at community events which has been a more successful and inclusive methodology to engage diverse voices and perspectives in previous studies. Our previous research findings using onsite survey methods indicated that BIPOC-identifying residents tend to place higher importance than White residents on several urban water values including water supply for vegetable gardens, quality recreation opportunities, reducing water treatment costs for cities, anglers to fish for particular species, water supply for lawns and religious and cultural practices (Roth et al. 2021). The 2019 onsite survey findings also indicated that BIPOC-identifying residents expressed greater concern for water damage to homes and water scarcity than White residents. Finally, BIPOC-identifying residents were more likely than White-identifying residents to have worked with other community members to protect water in their community, in the past 12 months. To better represent BIPOC voices, social science research methods need to be community based and culturally relevant. Our Phase 2 aims to accomplish that.

Policy Implications

Protecting water resources is very important to Twin Cities-area residents and for a variety of reasons. Phase 1 research confirms past studies finding that Twin Cities-area residents believe safe and clean drinking water, equitable access to drinking water, protecting water for future generations, safe waters for swimming, and habitat for native fish and wildlife are very important urban water values and top priorities for protection. More than two-thirds of respondents overall rated 10 of the 16 value items listed as very to extremely important to protect.

“Clean streams, rivers, and lakes” was a highly rated community quality in a list of 12 community qualities, second only to “a place that is safe and accessible to me.” For survey respondents, clean streams, rivers, and lakes are fundamental to community quality of life, even ranking slightly above desirable housing, adequate income, outdoor recreation, scenery, and relationships with neighbors. These preliminary findings do not adequately account for variation across cultural backgrounds or life experiences in the Twin Cities; however, they do suggest that clean streams, rivers, and lakes should be considered in policy aimed at supporting and maintaining healthy and livable communities in the Twin Cities area.

Further analysis and more inclusive data collection in Phase 2 research will provide additional insights for policy making and water justice work, including exploring how water values, concerns, and priorities for protection might vary across cultural and social background, experiences, and relationships with water. Questions around representation justice persist—how adequately and equitably are diverse water experiences and relationships represented among Metropolitan Council staff, policy makers, and the policies they set?

5. Appendices

Appendix A. Mail Survey Cover Letter

[Date]

[First Name] [Last Name]
[Street Address]
[City] [State] [Zip code]

Water, Community, and You: Twin Cities Metro Area Residents Survey Information and Consent Form

Dear [First name] [Last name],

Will you please help us with a study about water in your community?

The study is being conducted by the University of Minnesota and is funded by the Metropolitan Council. You are a resident of the Twin Cities metro area and we believe you have an important perspective to share about your community and its water resources.

We will use study findings to help water managers and community leaders better understand residents' views and to facilitate improved communication and outreach programs in the future. We really appreciate you taking the time to help us with this study. It should take you only about 15 minutes to complete the questionnaire. We are only contacting a random sample of residents in this area, so it is important that we hear from you!

*****We have enclosed a small cash gift to thank you in advance for your help with this study.*****

This survey is voluntary and completely confidential. The risks of participating in this study are minimal. There are no direct benefits to you for participating in this study. You are free to withdraw at any time. Completion of this survey indicates your voluntary consent to participate. Your decision to participate will not affect your current or future relationship with the University of Minnesota. The ID # on the front page of your survey is used to help us track mailings and will ensure that your name is never affiliated with your responses. Please answer the questions as completely as possible. Once you have **completed the questionnaire, fold it in thirds and mail it back in the enclosed self-addressed, postage-paid envelope.**

We would be happy to answer any questions or listen to any comments you may have about this study. Please feel free to contact me by phone at 612-624-2721, or by email at mdaven@umn.edu.

I hope you enjoy completing the questionnaire and I look forward to receiving your response.

Sincerely,



Mae Davenport
Professor

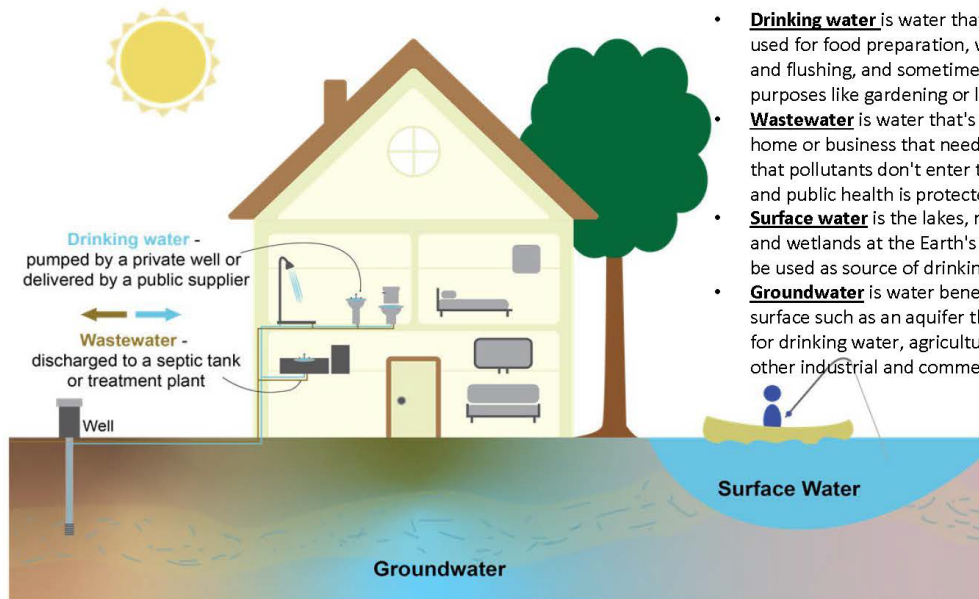
Water, Community and You

2021 Survey of Twin Cities Metro Area Residents

Thank you for taking the time to answer questions about your community and your perspectives on water. The findings from this study will be used to help resource managers and community leaders understand residents' perspectives on the value of water and to facilitate improved communication and programs.

Your opinions are very valuable to us. This survey is **voluntary and completely confidential**. Please answer the questions as completely as possible. It should take you about 20 minutes to complete the questionnaire. Please complete the survey, fold it in thirds, and mail it back in the enclosed self-addressed stamped envelope.

Please keep in mind the following definitions while you are completing this questionnaire.



- **Drinking water** is water that is safe to drink, used for food preparation, washing, bathing, and flushing, and sometimes for outdoor purposes like gardening or lawn irrigation.
- **Wastewater** is water that's been used in a home or business that needs to be treated so that pollutants don't enter the environment and public health is protected
- **Surface water** is the lakes, rivers, streams and wetlands at the Earth's surface and can be used as source of drinking water
- **Groundwater** is water beneath the Earth's surface such as an aquifer that can be used for drinking water, agricultural irrigation, and other industrial and commercial activities

I. Water and Your Community

There are many different definitions of “community.” For example, your neighborhood, ethnic group, friends and family, faith group, or other social groups can all come to mind when you think of your community. In this survey, when we refer to “community” we would like you to think of a geographic community, such as the local neighborhood, town, or city in which you reside.

1. How important are the following qualities of a community to you? (Check one box in each row.)

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
a. Strong family ties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Good relationships among neighbors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Opportunities to be involved in community projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Opportunities to express my culture and traditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Clean streams, rivers, and lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Access to scenic landscapes/views	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Opportunities for and access to outdoor recreation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Opportunities to earn an adequate income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Opportunities to serve in leadership roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. A place with a climate that fits my lifestyle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. A place that is safe and accessible to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Desirable housing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How have you interacted with water outdoors in or near your community in the past 12 months?

(Check all that apply.)

- | | | |
|--|--|---|
| <input type="checkbox"/> Swimming in lakes or streams | <input type="checkbox"/> Fishing for food | <input type="checkbox"/> Setting for picnicking and gathering |
| <input type="checkbox"/> Swimming in pools | <input type="checkbox"/> Fishing for sport | <input type="checkbox"/> Biking near water |
| <input type="checkbox"/> Wading or playing in water | <input type="checkbox"/> Hiking or walking near water | <input type="checkbox"/> Gathering plants (e.g., wild rice) |
| <input type="checkbox"/> Experiencing scenic beauty | <input type="checkbox"/> Motorized boating | <input type="checkbox"/> Hunting waterfowl |
| <input type="checkbox"/> Observing wildlife | <input type="checkbox"/> Non-motorized boating | <input type="checkbox"/> Spiritual or cultural practices |
| | (e.g., canoeing, kayaking, paddle-boarding) | |
| <input type="checkbox"/> I did not interact with water | <input type="checkbox"/> Other (please specify): _____ | |

3. Which of the following best describes your feeling about the amount of time you have spent interacting with water in or near your community in the past 12 months? (Check one.)

- Less time than I would prefer
- About the right amount of time (skip ahead to question 4.)
- More time than I would prefer (skip ahead to question 4.)

a. If you have spent less time than you would prefer, what limits your interactions? (Check all that apply.)

- | | |
|---|---|
| <input type="checkbox"/> Water is too far from my home | <input type="checkbox"/> I don't have transportation to water |
| <input type="checkbox"/> I don't have enough time | <input type="checkbox"/> I don't know enough about the water |
| <input type="checkbox"/> I don't have enough money | <input type="checkbox"/> Information about water is not in my native language |
| <input type="checkbox"/> I don't have the right equipment | <input type="checkbox"/> The water is unsafe |
| <input type="checkbox"/> I have too many family obligations | <input type="checkbox"/> The water is too crowded |
| <input type="checkbox"/> I don't feel welcome at the water | <input type="checkbox"/> The water does not have enough people nearby |
| <input type="checkbox"/> Water is too difficult to access | <input type="checkbox"/> Pollution problems |
| <input type="checkbox"/> Outdoor pests | <input type="checkbox"/> Physical or mental health barriers |
| <input type="checkbox"/> Weather/climate conditions | <input type="checkbox"/> Covid-19 related reasons |
| | <input type="checkbox"/> Other _____ |

II. Your Water Supply

4. Where do you primarily get your household drinking water? (Check one.)

- Public water supplier (e.g., city) Private well Purchased bottled water
 I don't know / not sure

5. Do you happen to know the original source of your household drinking water? (Check one.)

- Surface water (e.g., lake or river) Groundwater Both surface and groundwater
 I don't know / not sure

6. Do you treat or filter your drinking water at home? (Check all that apply.)

- | | |
|--|---|
| <input type="checkbox"/> Yes, a refrigerator filter system | <input type="checkbox"/> Yes, a pitcher or similar water filter (e.g., Brita filter) |
| <input type="checkbox"/> Yes, a sink filter system | <input type="checkbox"/> No, we don't use any additional treatments |
| <input type="checkbox"/> Yes, a water softener | <input type="checkbox"/> No, we only drink purchased bottled water |
| <input type="checkbox"/> Yes, a whole house filter system | <input type="checkbox"/> I don't know / not sure <input type="checkbox"/> Other _____ |

7. Do you happen to know how your household wastewater is treated? (Check one.)

- I have a private septic system onsite I am on a community septic system
 I am connected to a municipal sanitary sewer line I don't know / not sure

8. To what extent do you agree or disagree with the following? (Check one box in each row.)

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
a. I like the way my drinking water tastes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. My drinking water has a smell I don't like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I trust that my drinking water is safe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I have reliable access to my drinking water (i.e., water always flows when I turn on my tap.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I am concerned about contaminants in my drinking water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. How much do you worry about the safety of drinking water from your tap at home? (Check one.)

- Not at all Only a little A fair amount A great deal

10. Does your household receive a water utility bill? (Check one.)

- Yes No (skip ahead to question 12.) I don't know / not sure

11. How important is it to you to understand your household water utility bill rates and charges? (Check one.)

- Not at all important Slightly important Moderately important Very important Extremely important

a. In your opinion, how affordable or expensive are the following aspects of your household water bill?
(Check one box in each row.)

	Very Expensive	Somewhat Expensive	Neither affordable nor expensive	Somewhat affordable	Very Affordable	I don't know
a. My regular water usage rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Wastewater service charges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Stormwater service charges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

III. Your Water Values and Concerns

12. When it comes to water, to what extent do you trust or distrust the following sources of information?

(Check one box in each row.)

	Strongly distrust	Somewhat distrust	Neither trust nor distrust	Somewhat trust	Strongly trust
a. My family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. People in my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. My local or city government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. My county government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. My local water and soil agencies (e.g. conservation districts and watershed management organizations)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Metropolitan Council	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Minnesota state agencies (e.g. Pollution Control Agency, Dept of Natural Resources, Dept of Health)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Universities and other academic institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Federal government agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Tribal government agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Environmental organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Sportsperson's clubs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Media (e.g. newspaper, tv, internet, and social media)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. How important is it to protect and restore Minnesota waters (lakes, streams, rivers, and groundwater) for the following values and uses? (Check one box in each row.)

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
a. Drinking water that is safe and clean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Beaches, rivers, and lakes that are safe for swimming and recreation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Equitable access to public waters for all Minnesotans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Anglers to be able to fish for preferred species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Future generations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. High quality recreation opportunities for my or my family's use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Habitat for native fish and wildlife to survive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Lakeshore landowners to maintain their property values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Protection of the scenic beauty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Consistent water supply for watering lawns and landscaping around my neighborhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Avoid costly water treatment expenses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Natural systems and processes are sustained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Minnesota does <u>not</u> to send water pollution downstream to other states or nations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Equitable access to clean drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Consistent water supply for watering vegetable gardens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. For cultural or religious practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. How familiar are you with water issues in or near your community? (Check one.)

- Not at all familiar Slightly familiar Moderately familiar Very familiar Extremely familiar

15. Overall, how would you rate the quality of the streams, lakes or rivers in or near your community? (Check one.)

- Very poor Poor Fair Good Very good I don't know / not sure

16. How concerned are you about the following water issues in your community? (Check one box in each row.)

	Not at all concerned	Slightly concerned	Moderately concerned	Very concerned	Extremely concerned
a. Flooding in my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Water that is not safe for drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Adequate water supply at home (e.g. drinking, watering plants)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Taste and/or odor problems in water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Water bodies that are not safe for swimming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Water that is not healthy for fish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Sanitary sewer problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Aquatic invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Changing lake water levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Loss of scenic water views	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Stormwater runoff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Lead pipes or lead exposure in drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Proper disposal of pharmaceuticals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Climate change impacts to water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV. Water and Community Actions

17. To what extent do you agree or disagree with the following? (Check one box in each row.)

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
a. Water pollution can affect human health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Water in my community is adequately protected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Water in Minnesota needs better protection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Protecting water in my community is a lost cause.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Water resources in Minnesota are at risk.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. My community has the leadership it needs to protect water resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Residents in my community have the ability to work together to protect water resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. How likely are you to take the following water protection actions in the next 12 months? (Check one box in each row.)

In the <u>next 12 months</u> , I intend to...	Most certainly not	Probably not	Not sure/ uncertain	Probably will	Most certainly will
a. Take actions to protect water resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Take actions to stop the loss of fish and wildlife habitat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Reduce the amount of water my household uses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Join or be a member of any group whose main aim is to protect the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Volunteer for an environmental protection project or event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Talk to others in my community about water quality issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Work with other community members to protect the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Take actions to support environmental justice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Attend meetings or public hearings about water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Donate money to an environmental group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Write or call a government official to support strong environmental protection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

V. Information about You

Your individual responses are confidential and will only be used in aggregate or grouped form.

19. Do you own or rent your current residence? Own Rent Other

20. How many people reside in your current household (including yourself)? _____

21. In what year were you born? _____

22. To which gender identity do you most identify? (Check one.)

- Female Transgender Non-binary/gender non-conforming
 Male Prefer not to respond Other: _____

23. What is the highest level of formal education you have completed? (Check one.)

- Did not finish high school College bachelor's degree
 High school diploma/GED Some college graduate work
 Some college but no degree Completed graduate degree (Master's, Ph.D.)
 Associate degree or vocational degree Prefer not to respond

24. Which of the following best describes your total household income from all sources in 2020, before taxes?

(Check one.)

- Less than \$20,000 \$35,000-\$49,999 \$75,000-\$99,999 \$150,000 or more
 \$20,000-\$34,999 \$50,000-\$74,999 \$100,000-\$149,999 Prefer not to respond

25. What category best describes you? (Check all that apply.)

- American Indian or Alaska Native** (For example, Anishinaabe, Dakota (Sioux), Navajo Nation, Mayan, Aztec, Nome Eskimo Community, etc.)
 Asian (For example, Chinese, Filipino, Asian Indian, Vietnamese, Hmong, Korean, Japanese, etc.)
 Black or African American (For example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somalian, etc.)
 Hispanic, Latino, or Spanish heritage (For example, Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Colombian, etc.)
 Middle Eastern or North African (For example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian etc.)
 Native Hawaiian or other Pacific Islander (For example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese, etc.)
 White (For example, German, Irish, English, Italian, Polish, French, Swedish, Norwegian, etc.)
 Multiracial or Biracial
 A race, ethnicity or heritage not listed here (Please specify): _____
 Prefer not to respond

26. Do you have any other comments about your community or water?

Thank you very much for taking the time to respond to this survey!
You will be able to access survey results at www.changinglandscapes.umn.edu

Appendix C. Online Staff Survey Data Tables

Table 1. Respondents' sociodemographic characteristics

Sociodemographic characteristics		N	Percent
Gender Identity	Male	29	38.7
	Female	38	50.7
	Transgender	0	0.0
	Non-binary / gender non-conforming	0	0.0
	Other	2	2.7
	Prefer not to respond	6	8.0
Race/ethnicity*	White	62	80.5
	Asian	3	3.9
	Black or African American	2	2.6
	Multiracial or Biracial	2	2.6
	Hispanic, Latino, or Spanish heritage	1	1.3
	Middle Eastern or North African	0	0.0
	Native Hawaiian or Other Pacific Islander	0	0.0
	American Indian or Alaska Native	0	0.0
	A race, ethnicity, or heritage not listed here	0	0.0
Prefer not to respond	6	7.8	
Age	Mean	48.1	-
	Median	49.0	-
	Min	21	-
	Max	64	-
Formal Education	Did not finish high school	0	0.0
	Completed high school/GED	1	1.4
	Some college but no degree	7	9.6
	Associate degree or vocational degree	4	5.5
	College bachelor's degree	25	34.2
	Some graduate work	5	6.8
	Completed graduate degree (Masters or PhD)	31	42.5
Total Household Income	Less than \$20,000	0	0.0
	\$20,000 - \$34,999	0	0.0
	\$35,000 - \$49,999	2	2.8
	\$50,000 - \$74,999	10	13.9
	\$75,000 - \$99,999	11	15.3
	\$100,000 - \$149,999	21	29.2
	\$150,000 or more	16	22.2
	Prefer not to respond	12	16.7

*Respondents could give more than one response.

n=66-75

Table 2. Respondents' Metropolitan Council division or department

	N	Percent^a
Environmental Services: Water Resources Planning	17	23.3
Metro Transit	12	16.4
Environmental Services: Operations & Maintenance Services	10	13.7
Regional Administration	8	11.0
Community Development	8	11.0
Environmental Services: Pretreatment & Finance	7	9.6
Environmental Services: Utility Management Systems	4	5.5
Environmental Services: Wastewater Planning & Capital Project Delivery	4	5.5
Environmental Services: Other	2	2.7
Metropolitan Transportation Services	1	1.4
Council Member	0	0.0

Source: Water, Community, and You - Metropolitan Council staff survey
 Survey question: Which council division or department do you currently work within?

^aPercentages based on number of respondents that responded to the survey question (n=73); Rank ordered by percent

Table 3. Respondents reported current residence

	N	Percent^a
Own	59	78.7
Rent	15	20.0
Other	1	1.3

Source: Water, Community, and You - Metropolitan Council staff survey
 Survey question: Do you own or rent your current residence?

^aPercentages based on number of respondents that responded to the survey question

Table 4. Number of people residing in respondents' current household

	N	Percent^a	Mean	Min	Max
1	8	11.1	2.8	1	12
2	35	48.6			
3-4	24	33.3			
5-6	2	2.8			
7+	3	4.2			

Source: Water, Community, and You - Metropolitan Council staff survey
 Survey question: How many people reside in your current household (including yourself)?

^aPercentages based on number of respondents that responded to the survey question

Table 5. Respondents' important qualities of a community

	N	Mean*	SD^a	Not at all important^b	Slightly important	Moderately important	Very important	Extremely important
Clean streams, rivers, and lakes	76	4.67	0.53	0.0	0.0	2.6	27.6	69.7
Opportunities to earn an adequate income	76	4.53	0.76	0.0	3.9	3.9	27.6	64.5
Opportunities for and access to outdoor recreation	76	4.41	0.70	0.0	1.3	7.9	39.5	51.3
A place that is safe and accessible to me	76	4.43	0.72	0.0	1.3	9.2	34.2	55.3
Access to scenic landscapes/views	76	4.29	0.81	1.3	1.3	10.5	40.8	46.1
Desirable housing	76	4.28	0.67	0.0	0.0	11.8	48.7	39.5
Good relationships among neighbors	76	3.95	0.81	0.0	2.6	27.6	42.1	27.6
A place with a climate that fits my lifestyle	76	3.75	0.83	0.0	6.6	30.3	44.7	18.4
Strong family ties	76	3.57	1.05	3.9	9.2	34.2	31.6	21.1
Opportunities to be involved in community projects	76	3.14	0.81	1.3	18.4	48.7	27.6	3.9
Opportunities to express my culture and traditions	76	2.96	1.05	9.2	21.1	42.1	19.7	7.9
Opportunities to serve in leadership roles	76	2.62	1.06	15.8	30.3	34.2	15.8	3.9

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How important are the following qualities of a community to you?

*Responses based on a 5-point scale

^a SD=Standard deviation

^b Percent

Table 6. Respondents' interactions with water in past 12 months

	N	Percent^a
Hiking or walking near water	72	93.5
Experiencing scenic beauty	71	92.2
Observing wildlife	65	84.4
Setting for picnicking and gathering	52	67.5
Swimming in lakes or streams	47	61.0
Wading or playing in water	47	61.0
Non-motorized boating (e.g., canoeing, kayaking, paddle-boarding)	44	57.1
Biking near water	39	50.6
Motorized boating	33	42.9
Swimming in pools	30	39.0
Fishing for sport	23	29.9
Gathering plants (e.g., wild rice)	9	11.7
Spiritual or cultural practices	8	10.4
Fishing for food	7	9.1
Hunting waterfowl	2	2.6
I did not interact with water	0	0.0
Other*	3	3.9

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How have you interacted with water outdoors in or near your community in the past 12 months?

^aPercentages based on number of respondents that responded to the survey question;

Respondents could give more than one response; Rank ordered by percent

*Other includes: collecting data, collecting shells/agates, playing in park nearby water

Table 7. Respondents' feelings of time spent interacting with water in past 12 months

N	Mean*	SD^a	Less time than I would prefer^b	About the right amount of time	More time than I would prefer
76	1.32	0.47	68.4	31.6	0.0

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: Which of the following best describes your feeling about the amount of time you have spent interacting with water in or near your community in the past 12 months?

*Responses based on a 3-point scale from less time than I would prefer (1) to more time than I would prefer (3)

^a SD=Standard deviation

^b Percent

Table 8. Limitations to respondents' interactions with water

	N	Percent^a
I don't have enough time	42	54.5
Pollution problems	11	14.3
Covid-19 related reasons	11	14.3
Water is too far from my home	10	13.0
I don't have the right equipment	10	13.0
I have too many family obligations	10	13.0
Weather/climate conditions	10	13.0
The water is too crowded	8	10.4
Outdoor pests	5	6.5
Physical or mental health barriers	5	6.5
I don't have enough money	4	5.2
Water is too difficult to access	3	3.9
The water is unsafe	3	3.9
I don't know enough about the water	3	3.9
I don't have transportation to water	1	1.3
Information about water is not in my native language	0	0.0
I don't feel welcome at the water	0	0.0
The water does not have enough people nearby	0	0.0
Other*	5	6.5

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: If you have spent less time than you would prefer, what limits your interactions?

^aPercentages based on number of respondents that responded to the survey question;

Respondents could give more than one response; Rank ordered by percent

*Other includes: not convenient to enjoy regularly, unsafe if alone, criminal activity, not a priority, other life circumstances

Table 9. Respondents' primary household drinking water method

	N	Percent^a
Public water supplier (e.g., city)	70	92.1
Private well	4	5.3
Purchased bottled water	2	2.6

Source: Water, Community, and You - Metropolitan Council staff survey

Where do you primarily get your household drinking water?

^aPercentages based on number of respondents that responded to the survey question (n=76)

Table 10. Respondents' source of drinking water

	N	Percent^a
Surface water (e.g., lake or river)	26	34.2
Groundwater	20	26.3
Both surface and groundwater	9	11.8
I don't know / not sure	21	27.6

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: Do you happen to know the original source of your household drinking water?

^aPercentages based on number of respondents that responded to the survey question (n=76)

Table 11. Respondents' use of drinking water filter or treatments

	N	Percent^a
Yes, a refrigerator filter system	17	22.1
Yes, a pitcher or similar water filter (e.g., Brita filter)	17	22.1
Yes, a water softener	15	19.5
Yes, a sink filter system	10	13.0
Yes, a whole house filter system	3	3.9
No, we don't use any additional treatments	30	39.0
No, we only drink purchased bottled water	4	5.2
I don't know / not sure	1	1.3
Other*	3	3.9

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: Do you treat or filter your drinking water at home?

^aPercentages based on number of respondents that responded to the survey question (n=76)

*Other includes: 5-gallon bottled containers, some household members filter while others do not, magnetic descaling system

Table 12. Respondents' wastewater treatment method

	N	Percent^a
I am connected to a municipal sanitary sewer line	67	88.2
I have a private septic system onsite	3	3.9
I am on a community septic system	2	2.6
I don't know / not sure	4	5.3

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: Do you happen to know how your household wastewater is treated?

^aPercentages based on number of respondents that responded to the survey question (n=76)

Table 13. Respondents' concern about drinking water from home tap

N	Mean*	SD^a	Not at all^b	Only a little	A fair amount	A great deal
76	1.99	0.86	28.9	51.3	11.8	7.9

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How much do you worry about the safety of drinking water from your tap at home?

*Responses based on a 4-point scale from not at all (1) to a great deal (4)

^a SD=Standard deviation

^b Percent

Table 14. Respondents' perceptions of drinking water

	N	Mean*	SD^a	Strongly disagree^b	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I have reliable access to my drinking water (i.e., water always flows when I turn on my tap.)	76	4.84	0.59	1.3	0.0	2.6	5.3	90.8
I trust that my drinking water is safe.	76	4.11	0.99	0.0	10.5	11.8	34.2	43.4
I like the way my drinking water tastes.	76	3.92	1.30	7.9	10.5	9.2	26.3	46.1
I am concerned about contaminants in my drinking water.	76	3.16	1.24	14.5	14.5	23.7	35.5	11.8
My drinking water has a smell I don't like.	76	1.62	1.05	67.1	14.5	10.5	5.3	2.6

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: To what extent do you agree or disagree with the following?

*Responses based on a 5-point scale from strongly disagree (1) to strongly agree (5)

^a SD=Standard deviation

^b Percent

Table 15. Respondents' receipt of a water utility bill

N	Yes^a	No	I don't know / not sure
76	82.9	15.8	1.3

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: Does your household receive a water utility bill?

^a Percent

Table 16. Respondents' reported importance of understanding their water utility bill

N	Mean*	SD^a	Not at all important^b	Slightly important	Moderately important	Very important	Extremely important
64	2.98	1.12	9.4	25.0	32.8	23.4	9.4

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How important is it to you to understand your household water utility bill rates and charges?

*Responses based on a 5-point scale from not at all important (1) to extremely important (5)

^a SD=Standard deviation

^b Percent

Table 17. Respondents' perceptions of water utility bill cost

	N	Mean*	SD^a	Very expensive^b	Somewhat expensive	Neither affordable nor expensive	Somewhat affordable	Very affordable
My regular water usage rate	53	4.09	0.99	0.0	9.4	15.1	32.1	43.4
Wastewater service charges	50	4.06	1.00	2.0	6.0	16.0	36.0	40.0
Stormwater service charges	43	3.81	1.14	2.3	14.0	18.6	30.2	34.9

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: In your opinion, how affordable or expensive are the following aspects of your household utility bill?

*Responses based on a 5-point scale from very expensive (1) to very affordable (5)

^a SD=Standard deviation

^b Percent

Table 18. Respondents' reported trust of level water information sources

	N	Mean*	SD^a	Strongly distrust^b	Somewhat distrust	Neither trust nor distrust	Somewhat trust	Strongly trust
Universities and other academic institutions	76	4.42	0.74	1.3	0.0	6.6	39.5	52.6
My local water and soil agencies (e.g., conservation districts and watershed management organizations)	76	4.41	0.73	0.0	1.3	10.5	34.2	53.9
Metropolitan Council	76	4.34	0.81	1.3	1.3	9.2	38.2	50.0
Minnesota state agencies (e.g., Pollution Control Agency, Dept of Natural Resources, Dept of Health)	76	4.32	0.73	1.3	0.0	7.9	47.4	43.4
My local or city government	76	4.20	0.63	0.0	1.3	7.9	60.5	30.3
My county government	76	4.08	0.80	0.0	5.3	11.8	52.6	30.3
Environmental organizations	76	3.79	0.87	1.3	6.6	22.4	51.3	18.4
Federal government agencies	76	3.71	0.96	1.3	9.2	28.9	38.2	22.4
Tribal government agencies	76	3.71	0.94	1.3	3.9	42.1	27.6	25.0
My family	76	3.63	0.99	3.9	6.6	30.3	40.8	18.4
People in my community	76	3.39	0.83	3.9	6.6	30.3	40.8	18.4
Sportsperson's clubs	76	2.95	0.83	5.3	18.4	55.3	18.4	2.6
Media (e.g., newspaper, tv, internet, and social media)	76	2.78	1.00	13.2	21.1	43.4	19.7	2.6

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: When it comes to water, to what extent do you trust or distrust the following sources of information?

*Responses based on a 5-point scale from strongly distrust (1) to strongly trust (5)

^a SD=Standard deviation

^b Percent

Table 19. Respondents' reported water protection values and uses

	N	Mean*	SD^a	Not at all important^b	Slightly important	Moderately important	Very important	Extremely important
Drinking water that is safe and clean	75	4.89	0.35	0.0	0.0	1.3	8.0	90.7
Future generations	75	4.83	0.42	0.0	0.0	1.3	14.7	84.0
Habitat for native fish and wildlife to survive	75	4.80	0.40	0.0	0.0	0.0	20.0	80.0
Equitable access to clean drinking water	75	4.79	0.50	0.0	0.0	4.0	13.3	82.7
Natural systems and processes are sustained	75	4.59	0.62	0.0	0.0	6.7	28.0	65.3
Beaches, rivers, and lakes that are safe for swimming and recreation	75	4.51	0.64	0.0	0.0	8.0	33.3	58.7
Protection of the scenic beauty	75	4.40	0.75	0.0	2.7	8.0	36.0	53.3
Minnesota does not send water pollution downstream to other states or nations	75	4.33	0.74	0.0	1.3	12.0	38.7	48.0
Equitable access to public waters for all Minnesotans	75	4.32	0.95	1.3	4.0	13.3	24.0	57.3
High quality recreation opportunities for my or my family's use	75	4.16	0.82	0.0	1.3	22.7	34.7	41.3
Avoid costly water treatment expenses	75	3.72	1.16	6.7	8.0	20.0	37.3	28.0
Consistent water supply for watering vegetable gardens	75	3.32	1.15	4.0	22.7	30.7	22.7	20.0
For cultural or religious practices	75	3.28	1.23	13.3	8.0	32.0	30.7	16.0
Anglers to be able to fish for preferred species	75	3.28	1.19	9.3	14.7	32.0	26.7	17.3
Lakeshore landowners to maintain their property values	75	2.79	1.38	24.0	17.3	32.0	9.3	17.3
Consistent water supply for watering lawns and landscaping around my neighborhood	75	2.41	1.24	30.7	24.0	25.3	13.3	6.7

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How important is it to protect and restore Minnesota waters (lakes, streams, rivers, and groundwater) for the following values and uses?

*Responses based on a 5-point scale from not at all important (1) to extremely important (5)

^a SD=Standard deviation

^b Percent

Table 20. Respondents' familiarity with local water issues

N	Mean*	SD^a	Not familiar at all^b	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar
74	3.32	1.11	5.4	18.9	28.4	32.4	14.9

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How familiar are you with water issues in or near your community?

*Responses based on a 5-point scale from not familiar at all (1) to extremely familiar (5)

^a SD=Standard deviation

^b Percent

Table 21. Respondents' rating of local surface water quality

N	Mean*	SD^a	Very poor^b	Poor	Fair	Good	Very good	I don't know / not sure
75	3.72	0.81	0.0	5.3	32.0	41.3	16.0	5.3

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: Overall, how would you rate the quality of the streams, lakes, or rivers in or near your community?

*Responses based on a 5-point scale from very poor (1) to very good (5); Mean excludes I don't know/not sure

^a SD=Standard deviation

^b Percent

Table 22. Respondents' concern for local water issues

	N	Mean*	SD^a	Not at all concerned^b	Slightly concerned	Moderately concerned	Very concerned	Extremely concerned
Climate change impacts to water	75	3.96	1.10	4.0	6.7	17.3	33.3	38.7
Aquatic invasive species	75	3.57	0.99	2.7	8.0	38.7	30.7	20.0
Proper disposal of pharmaceuticals	75	3.43	1.18	6.7	14.7	29.3	28.0	21.3
Water that is not healthy for fish	75	3.37	1.25	8.0	18.7	24.0	26.7	22.7
Lead pipes or lead exposure in drinking water	75	3.24	1.33	13.3	17.3	22.7	25.3	21.3
Stormwater runoff	75	3.16	1.08	6.7	18.7	38.7	24.0	12.0
Changing lake water levels	75	3.07	1.12	9.3	20.0	36.0	24.0	10.7
Water bodies that are not safe for swimming	75	2.96	1.28	12.0	30.7	22.7	18.7	16.0
Loss of scenic water views	75	2.91	1.32	18.7	21.3	24.0	22.7	13.3
Sanitary sewer problems	75	2.80	1.41	24.0	24.0	14.7	22.7	14.7
Water that is not safe for drinking	75	2.48	1.33	28.0	30.7	18.7	10.7	12.0
Flooding in my community	75	2.09	1.09	41.3	20.0	28.0	9.3	1.3
Adequate water supply at home (e.g., drinking, watering plants)	75	2.00	1.17	46.7	22.7	20.0	5.3	5.3
Taste and/or odor problems in water	75	1.95	1.24	53.3	18.7	13.3	9.3	5.3

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How concerned are you about the following water issues in your community?

*Responses based on a 5-point scale from not at all concerned (1) to extremely concerned (5)

^a SD=Standard deviation

^b Percent

Table 23. Respondents' beliefs of local water resource protection

	N	Mean*	SD^a	Strongly disagree^b	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Water pollution can affect human health.	75	4.97	0.16	0.0	0.0	0.0	2.7	97.3
Water in Minnesota needs better protection.	75	4.17	0.72	0.0	0.0	18.7	45.3	36.0
Water resources in Minnesota are at risk.	75	4.01	0.91	1.3	5.3	16.0	45.3	32.0
Water in my community is adequately protected.	75	3.44	0.99	2.7	18.7	20.0	49.3	9.3
Residents in my community have the ability to work together to protect water resources.	75	3.31	0.91	2.7	16.0	36.0	38.7	6.7
My community has the leadership it needs to protect water resources.	75	3.07	0.92	5.3	18.7	44.0	28.0	4.0
Protecting water in my community is a lost cause.	75	1.60	0.74	53.3	34.7	10.7	1.3	0.0

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: To what extent do you agree or disagree with the following?

*Responses based on a 5-point scale from strongly disagree (1) to strongly agree (5)

^a SD=Standard deviation

^b Percent

Table 24. Respondents' reported likelihood of civic actions

	N	Mean*	SD ^a	Most certainly not ^b	Probably not	Not sure/ uncertain	Probably will	Most certainly will
Take actions to protect water resources.	75	3.89	0.98	0.0	8.0	29.3	28.0	34.7
Reduce the amount of water my household uses.	75	3.65	1.01	1.3	14.7	21.3	42.7	20.0
Donate money to an environmental group.	75	3.43	1.16	5.3	20.0	20.0	36.0	18.7
Talk to others in my community about water quality issues.	75	3.39	1.01	1.3	22.7	24.0	40.0	12.0
Work with other community members to protect the environment.	75	3.36	0.94	0.0	21.3	32.0	36.0	10.7
Take actions to stop the loss of fish and wildlife habitat.	75	3.27	0.99	1.3	21.3	40.0	24.0	13.3
Take actions to support environmental justice.	75	3.25	1.07	4.0	20.0	37.3	24.0	14.7
Attend meetings or public hearings about water.	75	3.20	1.10	2.7	29.3	28.0	25.3	14.7
Join or be a member of any group whose main aim to protect the environment.	74	3.19	1.17	4.1	28.4	31.1	17.6	18.9
Volunteer for an environmental protection event.	75	3.19	0.91	1.3	22.7	38.7	30.7	6.7
Write or call a government official to support strong environmental protection.	75	3.05	1.06	4.0	30.7	32.0	22.7	10.7

Source: Water, Community, and You - Metropolitan Council staff survey

Survey question: How likely are you to take the following water protection actions in the next 12 months?

*Responses based on a 5-point scale from most certainly not (1) to most certainly will (5)

^a SD=Standard deviation

^b Percent

Appendix D. Mail Survey Data Tables

Table 25. Respondents' sociodemographic characteristics

Sociodemographic characteristics		N	Percent
Gender Identity	Male	343	59.2
	Female	230	38.7
	Transgender	1	0.2
	Non-binary / gender non-conforming	1	0.2
	Other	4	0.7
	Prefer not to respond	20	-
Race/ethnicity*	White	546	93.6
	Asian	20	3.4
	Hispanic, Latino, or Spanish heritage	12	2.1
	Black or African American	10	1.7
	American Indian or Alaska Native	6	1.0
	Middle Eastern or North African	2	0.3
	Native Hawaiian or Other Pacific Islander	1	0.2
	Total responses	597	
	Multiracial (two or more races)	17	2.9
	Total cases	588	
	White only	532	90.5
	BIPOC or multiracial	56	9.5
	Total cases	588	-
	Another race, ethnicity, or heritage not listed	2	-
Prefer not to respond or did not respond	32	-	
Age	Mean	58	-
	Median	57	-
	Min	18	-
	Max	97	-
Formal Education	Did not finish high school	8	1.3
	Completed high school/GED	67	11.1
	Some college but no degree	100	16.5
	Associate degree or vocational degree	73	12.1
	College bachelor's degree	194	32.1
	Some graduate work	32	5.3
	Completed graduate degree (Masters or PhD)	121	20.0
Prefer not to respond	10	1.7	
Total Household Income	Less than \$20,000	23	3.8
	\$20,000 - \$34,999	37	6.1
	\$35,000 - \$49,999	48	8.0
	\$50,000 - \$74,999	65	10.8
	\$75,000 - \$99,999	79	13.1
	\$100,000 - \$149,999	127	21.1

\$150,000 or more	128	21.2
Prefer not to respond	96	15.9

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

*Respondents could give more than one response. n=585-605

Table 26. Respondents reported current residence

	N	Percent^a
Own	532	88.1
Rent	66	10.9
Other	6	1.0

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Do you own or rent your current residence?

^aPercentages based on number of respondents that responded to the survey question

Table 27. Number of people residing in respondents' current household

	N	Percent^a	Mean	Min	Max
1	121	20.2	2.5	1	8
2	251	42.0			
3-4	175	29.3			
5-6	46	7.7			
7+	4	0.7			

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: How many people reside in your current household (including yourself)?

^aPercentages based on number of respondents that responded to the survey question

Table 28. Respondents' important qualities of a community

	N	Mean*	SD^a	Not at all important^b	Slightly important	Moderately important	Very important	Extremely important
A place that is safe and accessible to me	599	4.54	0.70	1.0	0.5	5.0	30.1	63.4
Clean streams, rivers, and lakes	605	4.52	0.74	1.0	1.2	5.3	29.9	62.5
Desirable housing	601	4.26	0.85	2.3	1.2	8.8	43.3	44.4
Opportunities to earn an adequate income	601	4.19	0.98	3.8	2.2	10.3	38.1	45.6
Opportunities for and access to outdoor recreation	600	4.15	0.89	0.8	4.3	15.2	38.7	41.0
Access to scenic landscapes/views	602	4.12	0.89	0.8	4.3	15.2	38.7	41.0
Good relationships among neighbors	602	3.88	0.85	1.2	4.0	17.3	38.4	39.5
Strong family ties	600	3.84	1.17	4.7	10.2	19.2	28.7	37.3
A place with a climate that fits my lifestyle	597	3.74	0.90	1.3	6.9	28.5	43.2	20.1
Opportunities to be involved in community projects	599	2.94	0.95	7.7	20.0	45.6	21.7	4.2
Opportunities to express my culture and traditions	596	2.69	1.12	18.1	23.8	34.7	18.0	5.4
Opportunities to serve in leadership roles	597	2.56	1.10	20.9	25.8	34.2	14.9	4.2

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: How important are the following qualities of a community to you?

*Responses based on a 5-point scale

^a SD=Standard deviation

^b Percent

Table 29. Respondents' interactions with water in past 12 months

	N	Percent^a
Experiencing scenic beauty	513	82.5
Observing wildlife	472	75.9
Hiking or walking near water	467	75.1
Swimming in lakes or streams	283	45.5
Setting for picnicking and gathering	250	40.2
Motorized boating	242	38.9
Wading or playing in water	230	37.0
Biking near water	234	37.6
Swimming in pools	202	32.5
Non-motorized boating (e.g. canoeing, kayaking, paddle-boarding)	197	31.7
Fishing for sport	189	30.4
Fishing for food	106	17.0
Spiritual or cultural practices	58	9.3
Hunting waterfowl	36	5.8
Gathering plants (e.g. wild rice)	36	5.8
I did not interact with water	30	4.8
Other*	21	3.4

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents
 Survey question: How have you interacted with water outdoors in or near your community in the past 12 months?

^aPercentages based on number of respondents that responded to the survey question;

Respondents could give more than one response; Rank ordered by percent

*Other includes: watersports, ice fishing, trail running, yoga, restoring shoreline, hand watering gardens, snowmobiling, collecting algae, painting/art

Table 30. Respondents' feelings of time spent interacting with water in past 12 months

N	Mean*	SD^a	Less time than I would prefer^b	About the right amount of time	More time than I would prefer
603	1.49	0.51	51.6	47.8	0.7

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Which of the following best describes your feeling about the amount of time you have spent interacting with water in or near your community in the past 12 months?

*Responses based on a 3-point scale from less time than I would prefer (1) to more time than I would prefer (3)

^a SD=Standard deviation

^b Percent

Table 31. Limitations to respondents' interactions with water

	N	Percent^a
I don't have enough time	202	32.5
I have too many family obligations	73	11.7
Covid-19 related reasons	72	11.6
Weather/climate conditions	69	11.1
I don't have the right equipment	62	10.0
The water is too crowded	49	7.9
Physical or mental health barriers	45	7.2
Pollution problems	42	6.8
I don't have enough money	40	6.4
Outdoor pests	38	6.1
Water is too far from my home	34	5.5
Water is too difficult to access	23	3.7
The water is unsafe	15	2.4
I don't know enough about the water	12	1.9
I don't have transportation to water	8	1.3
I don't feel welcome at the water	4	0.6
The water does not have enough people nearby	4	0.6
Information about water is not in my native language	0	0.0
Other*	25	4.0

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents
 Survey question: If you have spent less time than you would prefer, what limits your interactions?

^aPercentages based on number of respondents that responded to the survey question;
 Respondents could give more than one response; Rank ordered by percent

*Other includes: old age, crime, other priorities, work obligations, water level issues, parking

Table 32. Respondents' primary household drinking water method

	N	Percent^a
Public water supplier (e.g., city)	438	73.9
Private well	91	15.3
Purchased bottled water	61	10.3
I don't know/not sure	2	0.3

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Where do you primarily get your household drinking water?

^aPercentages based on number of respondents that responded to the survey question (n=593)

Table 33. Respondents' source of drinking water

	N	Percent^a
Groundwater	238	38.3
Surface water (e.g., lake or river)	53	8.5
Both surface and groundwater	33	5.3
I don't know / not sure	278	44.7

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Do you happen to know the original source of your household drinking water?

^aPercentages based on number of respondents that responded to the survey question (n=603)

Table 34. Respondents' use of drinking water filter or treatments

	N	Percent^a
Yes, a water softener	234	37.6
Yes, a refrigerator filter system	226	36.3
No, we don't use any additional treatments	146	23.5
Yes, a pitcher or similar water filter (e.g., Brita filter)	97	15.6
Yes, a sink filter system	71	11.4
Yes, a whole house filter system	58	9.3
No, we only drink purchased bottled water	49	7.9
I don't know / not sure	4	0.6
Other*	20	3.2

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Do you treat or filter your drinking water at home?

^aPercentages based on number of respondents that responded to the survey question;

*Other includes: reverse osmosis system, iron filter, large culligan jugs

Table 35. Respondents' wastewater treatment method

	N	Percent^a
I am connected to a municipal sanitary sewer line	387	62.2
I have a private septic system onsite	87	14.0
I am on a community septic system	30	4.8
I don't know / not sure	94	15.1

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Do you happen to know how your household wastewater is treated?

^aPercentages based on number of respondents that responded to the survey question (n=600)

Table 36. Respondents' concern about drinking water from home tap

N	Mean*	SD^a	Not at all^b	Only a little	A fair amount	A great deal
618	2.03	1.22	33.3	40.9	17.2	8.3

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents
Survey question: How much do you worry about the safety of drinking water from your tap at home?

*Responses based on a 4-point scale from not at all (1) to a great deal (4)

^a SD=Standard deviation

^b Percent

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Table 37. Respondents' perceptions of drinking water

	N	Mean*	SD ^a	Strongly disagree ^b	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I have reliable access to my drinking water (i.e., water always flows when I turn on my tap.)	604	4.76	0.65	1.5	0.7	1.2	13.9	82.8
I trust that my drinking water is safe.	607	3.95	1.09	4.6	7.6	11.5	40.9	35.4
I like the way my drinking water tastes.	607	3.80	1.28	8.9	9.2	12.2	32.3	37.4
I am concerned about contaminants in my drinking water.	607	3.21	1.29	15.0	14.2	21.4	34.1	15.3
My drinking water has a smell I don't like.	602	1.94	1.27	55.5	15.1	13.6	10.5	5.1

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: To what extent do you agree or disagree with the following?

*Responses based on a 5-point scale from strongly disagree (1) to strongly agree (5)

^a SD=Standard deviation

^b Percent

Table 38. Respondents' receipt of a water utility bill

N	Yes^a	No	I don't know / not sure
615	73.3	24.9	1.6

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Does your household receive a water utility bill?

^a Percent

Table 39. Respondents' reported importance of understanding their water utility bill

N	Mean*	SD^a	Not at all important^b	Slightly important	Moderately important	Very important	Extremely important
469	3.39	1.00	3.6	13.9	33.7	36.5	12.2

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents
Survey question: How important is it to you to understand your household water utility bill rates and charges?

*Responses based on a 5-point scale from not at all important (1) to extremely important (5)

^a SD=Standard deviation

^b Percent

Table 40. Respondents' perceptions of water utility bill cost

	N	Mean*	SD^a	Very expensive^b	Somewhat expensive	Neither affordable nor expensive	Somewhat affordable	Very affordable	I don't know
My regular water usage rate	465	3.17	1.26	8.8	22.6	22.4	20.4	17.6	8.2
Wastewater service charges	462	3.11	1.22	8.0	19.5	23.6	18.2	13.2	17.5
Stormwater service charges	460	3.14	1.19	6.3	17.4	22.2	16.5	12.0	25.7

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: In your opinion, how affordable or expensive are the following aspects of your household utility bill?

*Responses based on a 5-point scale from very expensive (1) to very affordable (5)

^a SD=Standard deviation

^b Percent

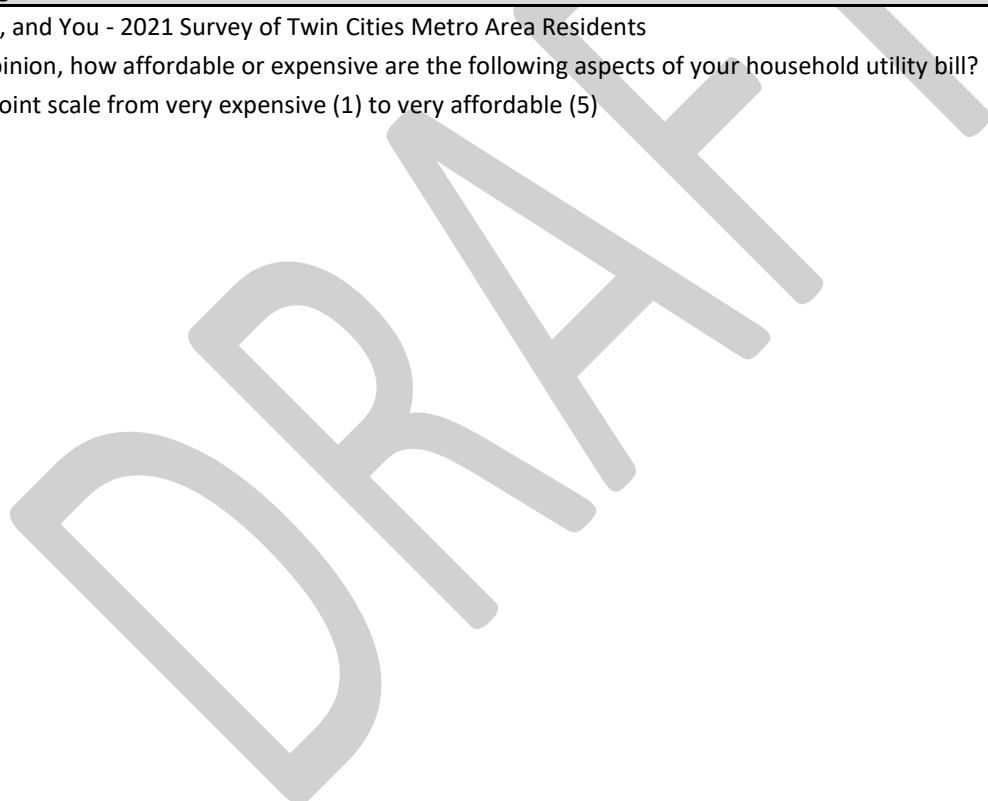


Table 41. Respondents' reported trust of level water information sources

	N	Mean*	SD^a	Strongly distrust^b	Somewhat distrust	Neither trust nor distrust	Somewhat trust	Strongly trust
My family	612	3.99	0.91	1.0	1.4	31.4	28.8	35.9
Universities and other academic institutions	609	3.91	0.97	2.6	4.9	21.7	40.6	30.2
My local water and soil agencies (e.g. conservation districts and watershed management organizations)	615	3.80	0.93	1.5	7.0	25.4	42.8	23.4
Minnesota state agencies (e.g. Pollution Control Agency, Dept of Natural Resources, Dept of Health)	614	3.70	1.05	3.6	9.4	24.8	37.8	24.4
People in my community	610	3.56	0.78	1.5	5.1	38.5	46.1	8.9
My local or city government	613	3.53	0.99	4.1	11.3	25.3	46.0	13.4
Environmental organizations	609	3.52	1.00	3.9	9.7	32.5	38.1	15.8
My county government	611	3.48	1.03	5.1	11.8	25.9	44.2	13.1
Tribal government agencies	600	3.22	0.90	4.7	6.8	59.2	20.8	8.3
Federal government agencies	613	3.20	1.15	9.8	15.7	31.0	32.6	10.8
Metropolitan Council	611	3.17	1.02	7.9	13.6	40.1	31.1	7.4
Sportsperson's clubs	610	3.09	0.84	4.3	13.3	56.9	20.5	5.1
Media (e.g., newspaper, tv, internet, and social media)	616	2.65	1.05	17.5	23.4	38.0	18.5	2.6

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: When it comes to water, to what extent do you trust or distrust the following sources of information?

*Responses based on a 5-point scale from strongly distrust (1) to strongly trust (5)

^a SD=Standard deviation

^b Percent

Table 42. Respondents' reported water protection values and uses

	N	Mean*	SD ^a	Not at all important ^b	Slightly important	Moderately important	Very important	Extremely important
Drinking water that is safe and clean	619	4.76	0.60	0.2	0.3	2.1	16.5	80.6
Equitable access to clean drinking water	618	4.67	0.67	0.8	0.8	3.7	20.2	74.4
Future generations	616	4.63	0.68	0.5	1.0	4.1	23.2	71.1
Habitat for native fish and wildlife to survive	612	4.57	0.73	0.8	0.7	5.9	25.7	66.8
Beaches, rivers, and lakes that are safe for swimming and recreation	618	4.56	0.69	0.5	0.6	5.2	29.4	64.1
Protection of the scenic beauty	614	4.42	0.79	1.0	1.5	8.6	32.9	56.0
Natural systems and processes are sustained	614	4.36	0.80	0.3	1.8	11.4	34.2	52.1
Minnesota does not send water pollution downstream to other states or nations	611	4.36	0.87	1.3	1.3	12.8	32.9	51.6
Equitable access to public waters for all Minnesotans	617	4.23	0.93	1.8	2.6	14.3	33.1	48.1
High quality recreation opportunities for my or my family's use	617	4.10	1.52	1.1	4.5	22.5	30.6	40.8
Avoid costly water treatment expenses	617	3.77	1.01	1.9	8.8	27.6	33.9	27.9
Consistent water supply for watering vegetable gardens	616	3.69	1.00	2.3	8.9	30.0	35.6	23.2
Anglers to be able to fish for preferred species	616	3.61	1.20	7.3	8.9	27.3	28.1	28.2
Lakeshore landowners to maintain their property values	614	3.17	1.33	13.7	18.6	24.3	23.0	20.4
Consistent water supply for watering lawns and landscaping around my neighborhood	618	3.15	1.23	10.0	21.2	30.4	20.6	17.8
For cultural or religious practices	615	2.90	1.28	16.7	19.8	33.2	15.8	14.3

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: How important is it to protect and restore Minnesota waters (lakes, streams, rivers, and groundwater) for the following values and uses?

*Responses based on a 5-point scale from not at all important (1) to extremely important (5)

^a SD=Standard deviation

^b Percent

Table 43. Respondents' familiarity with local water issues

N	Mean*	SD^a	Not familiar at all^b	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar
618	2.38	0.97	21.5	30.1	37.9	8.9	1.5

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: How familiar are you with water issues in or near your community?

*Responses based on a 5-point scale from not familiar at all (1) to extremely familiar (5)

^a SD=Standard deviation

^b Percent

Table 44. Respondents' rating of local surface water quality

N	Mean*	SD^a	Very poor^b	Poor	Fair	Good	Very good	I don't know / not sure
617	3.55	1.18	5.5	5.7	20.9	41.7	16.0	8.1

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: Overall, how would you rate the quality of the streams, lakes, or rivers in or near your community?

*Responses based on a 5-point scale from very poor (1) to very good (5); Mean excludes I don't know/not sure

^a SD=Standard deviation

^b Percent

Table 45. Respondents' concern for local water issues

	N	Mean*	SD^a	Not at all concerned^b	Slightly concerned	Moderately concerned	Very concerned	Extremely concerned
Aquatic invasive species	599	3.74	1.16	5.8	9.5	19.5	35.2	29.9
Proper disposal of pharmaceuticals	600	3.52	1.32	10.3	13.3	20.7	25.0	30.7
Water that is not healthy for fish	596	3.51	1.26	8.9	13.8	21.3	29.4	26.7
Climate change impacts to water	599	3.50	1.37	11.2	13.7	20.4	22.2	32.4
Changing lake water levels	601	3.42	1.17	6.7	14.1	30.3	27.3	21.5
Lead pipes or lead exposure in drinking water	600	3.35	1.44	15.0	15.8	18.8	19.5	30.8
Loss of scenic water views	597	3.34	1.20	8.4	14.6	30.5	27.3	19.1
Sanitary sewer problems	598	3.18	1.39	16.4	16.7	21.4	22.7	22.6
Water bodies that are not safe for swimming	601	3.14	1.27	11.5	21.3	26.0	23.6	17.5
Stormwater runoff	599	3.09	1.22	13.0	17.0	31.4	24.7	13.7
Water that is not safe for drinking	599	3.09	1.39	17.5	18.9	20.7	22.5	20.4
Adequate water supply at home (e.g., drinking, watering plants)	601	2.89	1.44	24.3	18.5	18.5	21.3	17.5
Taste and/or odor problems in water	600	2.84	1.44	24.3	21.7	16.8	19.7	17.3
Flooding in my community	603	2.01	1.10	42.5	27.2	20.2	6.6	3.3

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: How concerned are you about the following water issues in your community?

*Responses based on a 5-point scale from not at all concerned (1) to extremely concerned (5)

^a SD=Standard deviation

^b Percent

Table 46. Respondents' beliefs of local water resource protection

	N	Mean*	SD^a	Strongly disagree^b	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Water pollution can affect human health.	603	4.78	0.54	0.3	0.5	2.3	14.6	82.3
Water in Minnesota needs better protection.	601	3.93	0.93	1.7	4.0	24.6	39.1	30.6
Water in my community is adequately protected.	604	3.65	0.92	2.2	7.9	29.3	43.9	16.7
Water resources in Minnesota are at risk.	601	3.55	0.97	2.7	9.2	35.3	35.9	17.0
Residents in my community have the ability to work together to protect water resources.	603	3.40	0.88	2.0	10.6	42.3	35.5	9.6
My community has the leadership it needs to protect water resources.	604	3.03	0.83	4.8	13.6	60.3	16.7	4.6
Protecting water in my community is a lost cause.	603	2.04	1.05	38.6	26.9	26.7	5.8	1.8

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: To what extent do you agree or disagree with the following?

*Responses based on a 5-point scale from strongly disagree (1) to strongly agree (5)

^a SD=Standard deviation

^b Percent

Table 47. Respondents' reported likelihood of civic actions

	N	Mean*	SD ^a	Most certainly not ^b	Probably not	Not sure / uncertain	Probably will	Most certainly will
Reduce the amount of water my household uses.	597	3.43	1.08	3.4	18.9	22.3	43.4	11.9
Take actions to protect water resources.	593	3.08	1.00	3.2	26.8	38.6	21.4	9.9
Take actions to stop the loss of fish and wildlife habitat.	592	3.04	1.02	4.2	27.5	38.3	19.9	10.0
Donate money to an environmental group.	597	2.81	1.15	12.9	28.6	30.7	20.4	7.2
Work with other community members to protect the environment.	596	2.77	0.94	7.0	33.4	39.3	16.4	3.9
Talk to others in my community about water quality issues.	595	2.70	0.99	8.2	39.7	29.4	19.0	3.7
Take actions to support environmental justice.	594	2.66	1.06	12.1	35.2	32.0	16.2	4.4
Attend meetings or public hearings about water.	596	2.61	1.01	11.9	37.8	31.5	15.9	2.7
Join or be a member of any group whose main aim to protect the environment.	596	2.56	0.97	10.4	43.0	31.9	9.9	4.9
Volunteer for an environmental protection event.	597	2.54	0.94	10.4	43.0	32.2	11.1	3.4
Write or call a government official to support strong environmental protection.	597	2.51	1.00	14.7	39.5	29.6	12.6	3.5

Source: Water, Community, and You - 2021 Survey of Twin Cities Metro Area Residents

Survey question: How likely are you to take the following water protection actions in the next 12 months?

*Responses based on a 5-point scale from most certainly not (1) to most certainly will (5)

^a SD=Standard deviation

^b Percent

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