



Westmorland Neighborhood Green Infrastructure Survey

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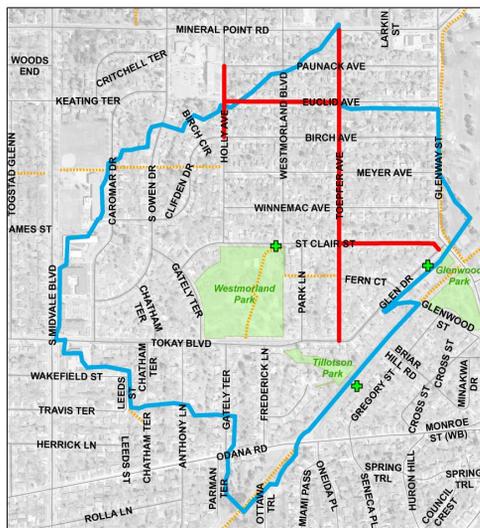
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OVERVIEW OF THE SURVEY

In 2020, the City of Madison kicked off a five-year green infrastructure study within a section of the Westmorland neighborhood to study the benefits of green infrastructure practices (GI) to reduce flooding in the watershed. In 2020, four streets underwent a GI street reconstruction. Homeowners in the study area are also eligible for financial support to implement green infrastructure practices on their property, such as installing rain gardens and rain barrels.



Green Infrastructure Study Area



The Friends of Lake Wingra’s (FOLW) goals for this survey were to learn about Westmorland neighborhood residents’ perceptions of the new green infrastructure installations in their neighborhood, their motivations and barriers to implementing green infrastructure on their properties, and to learn how FOLW can best support and engage residents in stormwater outreach.

KEY TAKEAWAYS

- Survey respondents are already actively implementing GI on their properties, but they may or may not represent the neighborhood as a whole.
- Respondents clearly feel that the spring watershed awareness letter increased their awareness of the benefits of GI to their community.
- Nearly all respondents have noticed the GI installations in the neighborhood and the vast majority feel positively about them.
- Their most important reasons for implementing GI are to clean up Lake Wingra’s water quality, reduce flooding and erosion for neighbors downstream, and protect wildlife habitat.
- While more respondents prefer to get their information or advice about GI practices by reading content or watching videos, younger age groups are relatively more interested than older age groups in hands-on sources, such as workshops, talking to a professional or a neighbor, and having someone visit their property.
- Younger age groups are more ready to install a rain garden or a rain barrel, likely because the older age groups have already done so.
- The largest barriers to implementing GI are not having enough time and not knowing who to contact for advice.
- Respondents provided many suggestions for improving the rain garden street terrace program, including providing post-installation maintenance support, simplifying the city’s reimbursement process, and beautifying the basin plantings. Even those who were critical of the program expressed support for efforts to protect local lakes.
- Respondents eager to do their own projects requested help from contractors and other professionals to install rain gardens, rain barrels and pervious pavements on their properties.

METHODS

An online survey was sent by the Westmorland Neighborhood Association to its email listserv in June 2021, followed by two reminder emails. The listserv included over 1,000 email addresses. Since this was an open survey, we are unable to provide a response rate. Survey respondents and their viewpoints may not reflect the neighborhood as a whole, yet this is still a valuable case study that can provide ideas for further exploration.

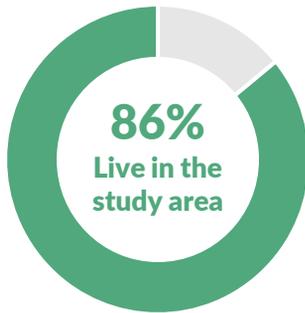
Demographics

SUMMARY OF RESPONDENTS

71 people completed the survey (n = 71). Of these 70 live in single family homes, and 1 respondent lives in an apartment/condo. Some respondents may live in the same household, so a few households are likely to be overrepresented.

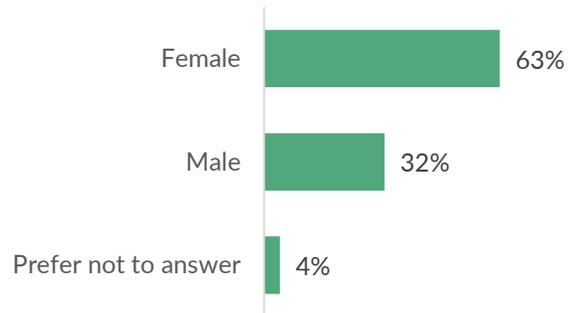
Most respondents live inside the study area.

This combined with our smaller sample size means we can't accurately compare the viewpoints of those who live inside (n = 61) versus outside (n = 10) the GI study area.

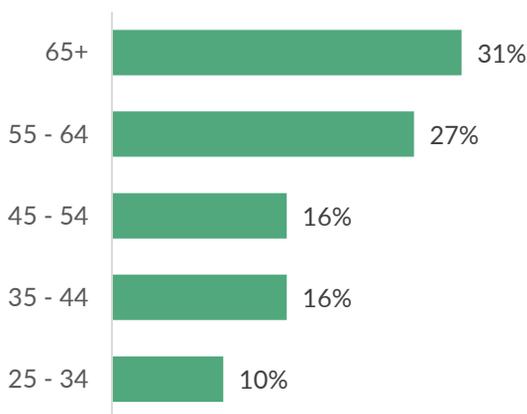


Nearly two-thirds of respondents identify as women, while one-third identify as men.

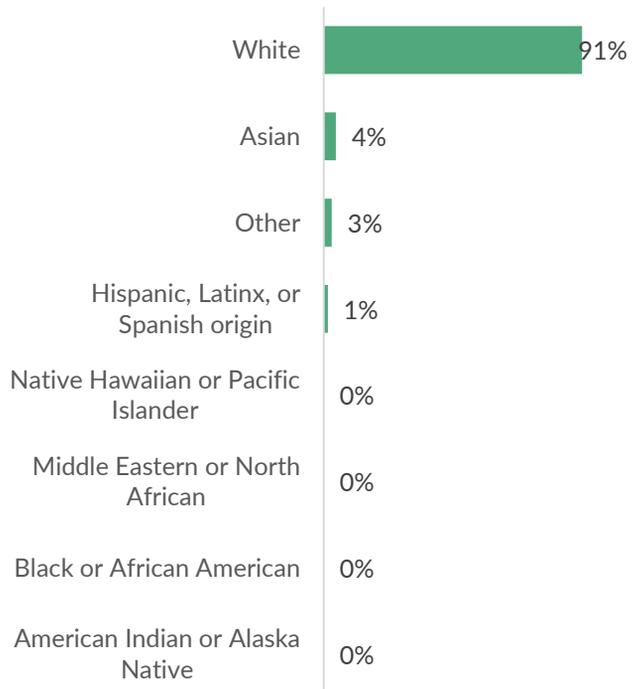
Women's viewpoints will be more represented overall, though we can separate and look at viewpoints by gender for some questions.



While respondents trend older, likely due to homeowners overall trending older, they represent a wide spread of age groups and generations. As a result, we can compare some viewpoints based on age.



Most respondents identify as white. We don't have a large enough sample from people of other races/ethnicities to explore their potential viewpoints on green infrastructure.

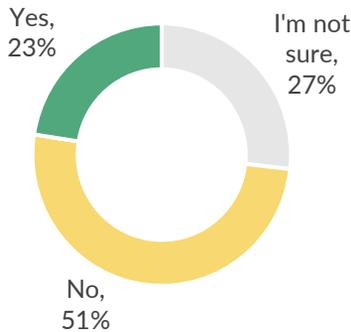


Seasonal watershed awareness letter

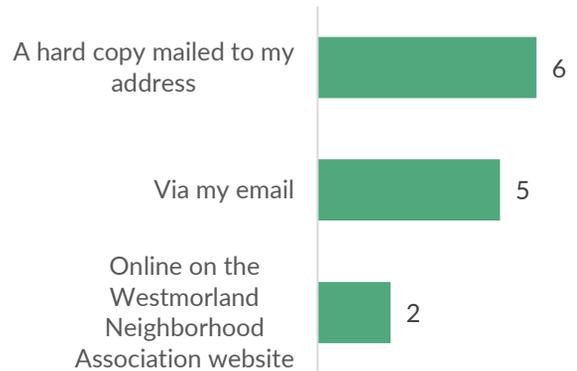
SEASONAL LETTER PREFERENCES

In late May, just before we sent the survey, FOLW mailed a new spring watershed awareness letter to 100 households on the four streets that had undergone GI street reconstruction the year before. We asked respondents a few questions to learn about their experiences with this new seasonal resource.

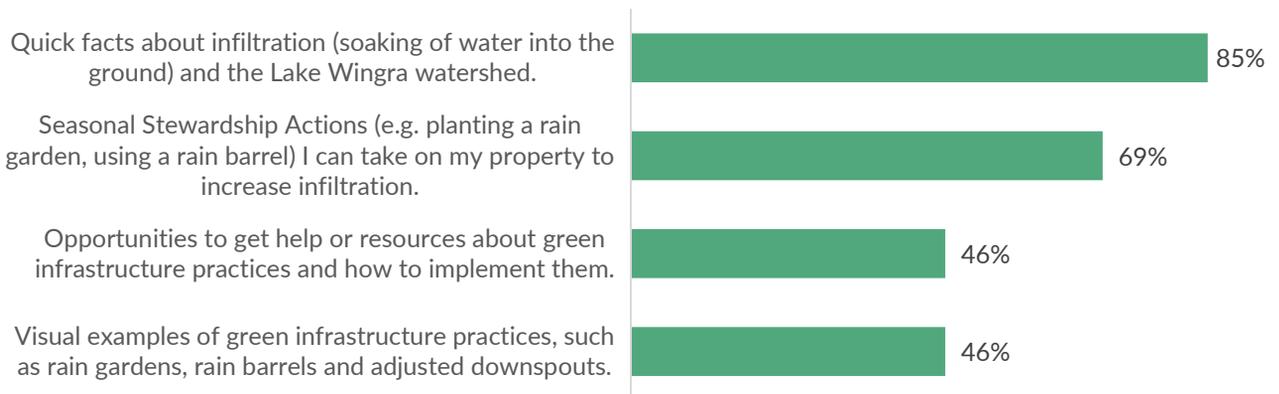
16 respondents (23%) said they recalled receiving the letter in the mail. One of the 16 said they didn't read it.



Respondents prefer to receive a mailed hard copy or an emailed version of the letter. (n = 13)
Number of respondents who ranked each method as their first choice



What content covered in the spring watershed awareness letter are you most interested in? (n = 13)



What other topics are you interested in for future letters? (n = 3)



"We live outside the designated area so were disappointed we could not take advantage of the program. Also want more info on permeable driveways. Also would be good to get info on pesticide runoff effect on aquatic species, other species."

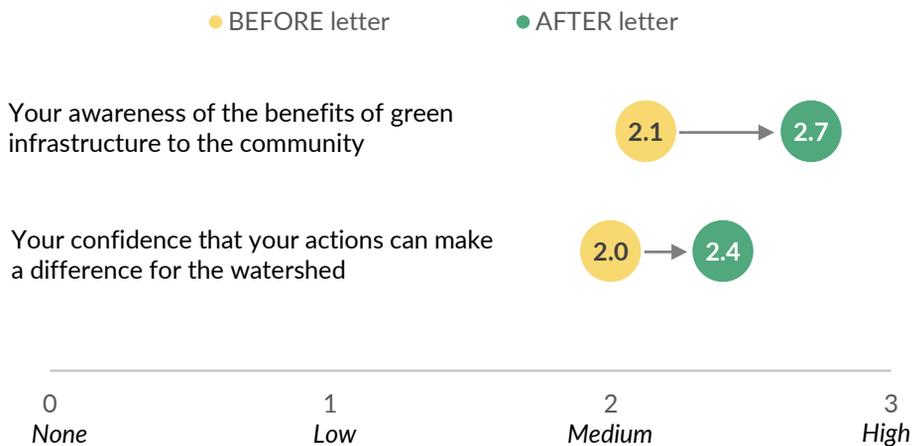
"permeable pavement for driveways and walkways"

"Are there other smaller things we can be doing...if we already have those things?"

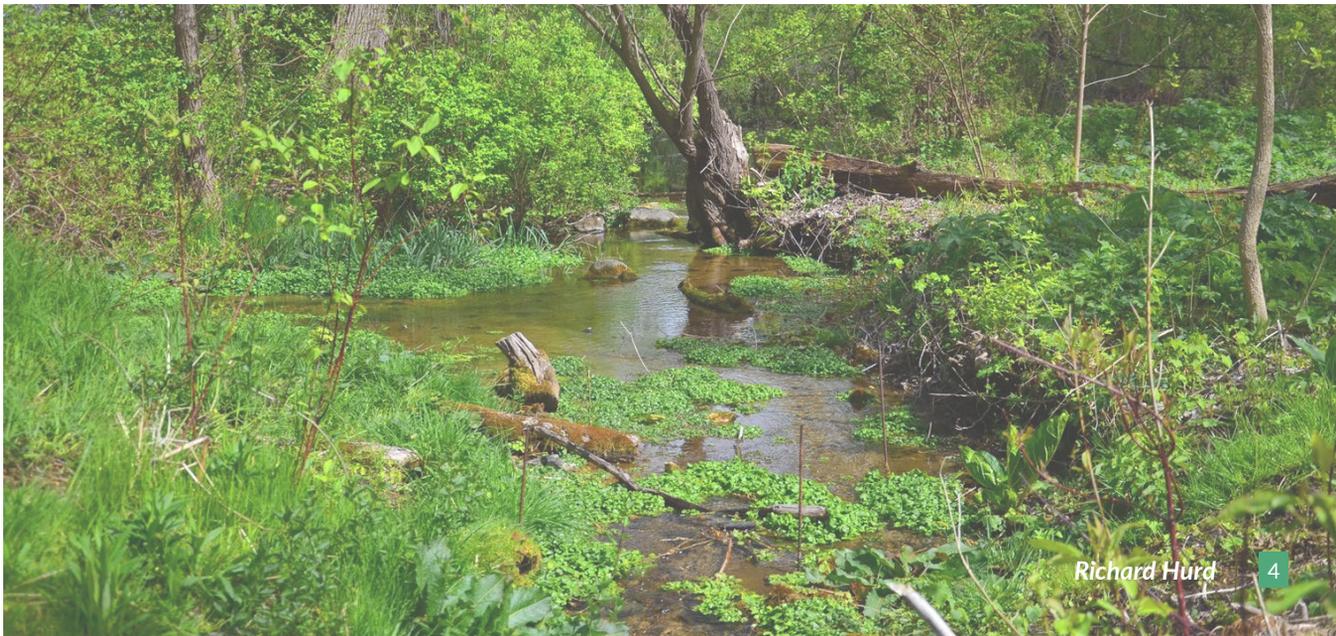
CHANGES IN AWARENESS AND CONFIDENCE

For the 15 respondents who received and read the letter, they report their mean level of awareness of the benefits of green infrastructure increased from medium (2.1 out of 3) to medium-high (2.7 out of 3). It appears that the letter is providing residents with increased awareness about the benefits of green infrastructure.

An important predictor of whether an individual will change their behavior is whether they feel their action will lead to the outcome they expect – this is known in social science as *outcome expectancy*. In our survey, respondents on average reported that before receiving the letter, they already had a *medium level (2.0) of confidence that their actions can make a difference for the watershed*. This indicates that the respondents who completed the survey may already be open to taking action because they believe they can make an impact. There is of course still room for their level of confidence to grow, and not everyone feels the same level of confidence.



After receiving the letter, there were no respondents who rated themselves below a medium level of awareness. Similarly, after receiving the letter, there was only one respondent who rated themselves below a medium level of confidence that their actions can make a difference.



Perceptions of green infrastructure

GREEN INFRASTRUCTURE IN THE NEIGHBORHOOD

Since 2020, the city has been installing new green infrastructure in the neighborhood as part of a street reconstruction. Newly installed green infrastructure includes three different levels of street terrace rain basins/gardens and pervious pavement and sidewalks. The FOLW was curious about what Westmorland residents think about these changes.

94% Said they've noticed green infrastructure installations in the neighborhood (n = 69)

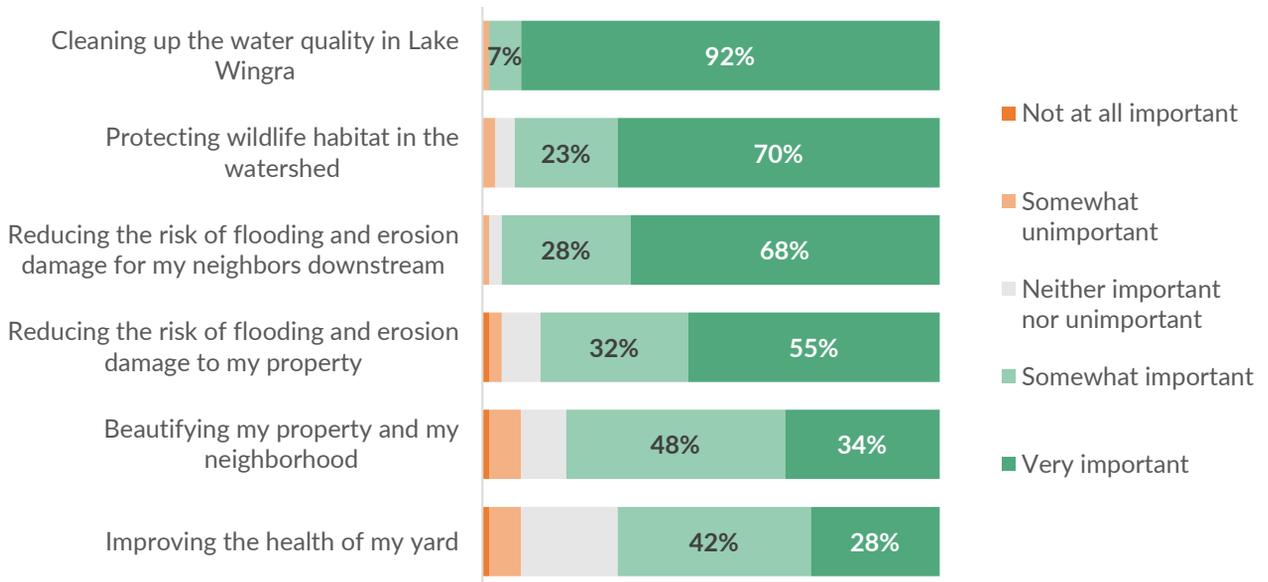
89% Said they feel somewhat or very positive about these installations (n = 67).

No respondents felt negatively about the installations, which indicates that people may be broadly supportive of green infrastructure when they are aware of it.

MOTIVATIONS AND BENEFITS

Understanding what motivates Westmorland residents to implement or support green infrastructure practices helps to inform the design of more relevant outreach messages that resonate with local residents. While respondents may list these factors as their most important motivations, it will be important for the FOLW test these different messages to confirm which benefits residents respond to in the moment.

On average, respondents feel that the most important reasons to implement green infrastructure (the benefits they receive), are **cleaning up the water quality in Lake Wingra** (mean of 1.9, on a -2 to +2 scale), **reducing the risk of flooding and erosion damage for my neighbors downstream** (mean of 1.6), and **protecting wildlife habitat in the watershed** (mean of 1.6).



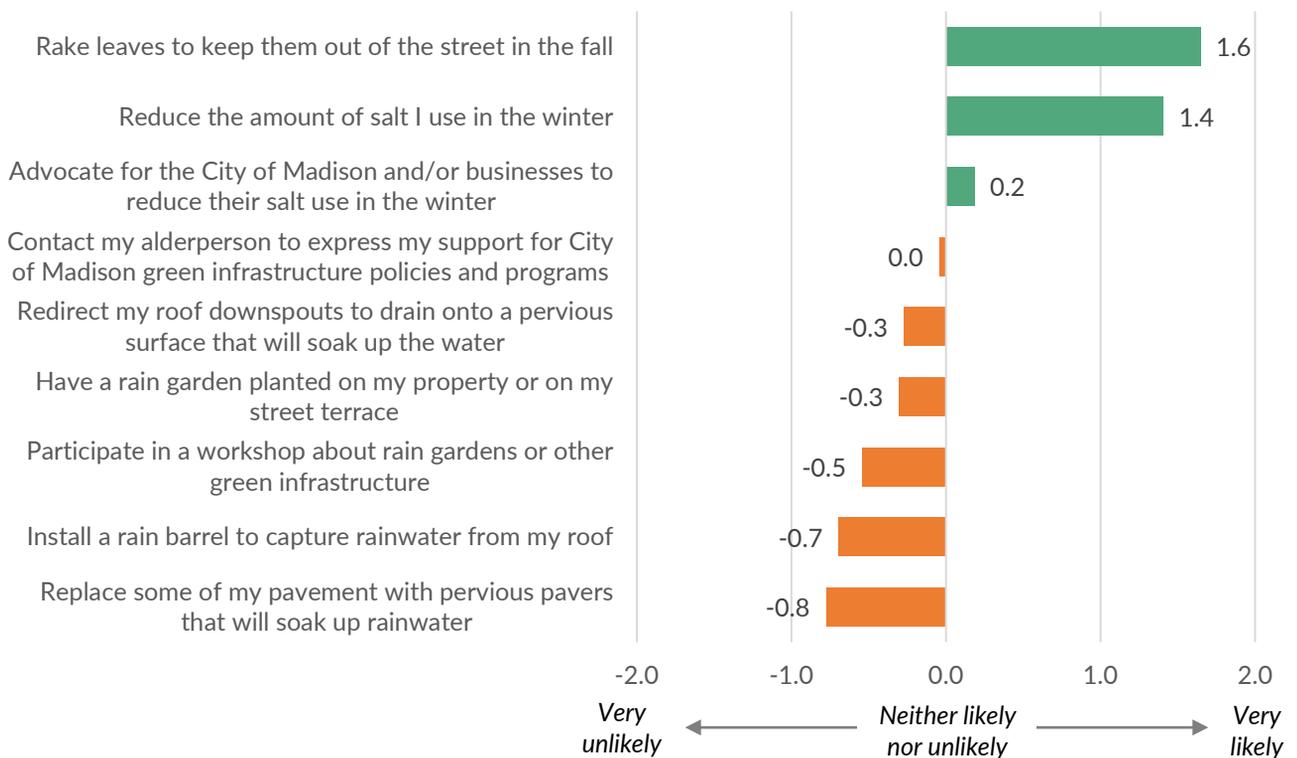
Note: There were no clear differences in responses based on the age or gender of the respondents.

Implementing green infrastructure

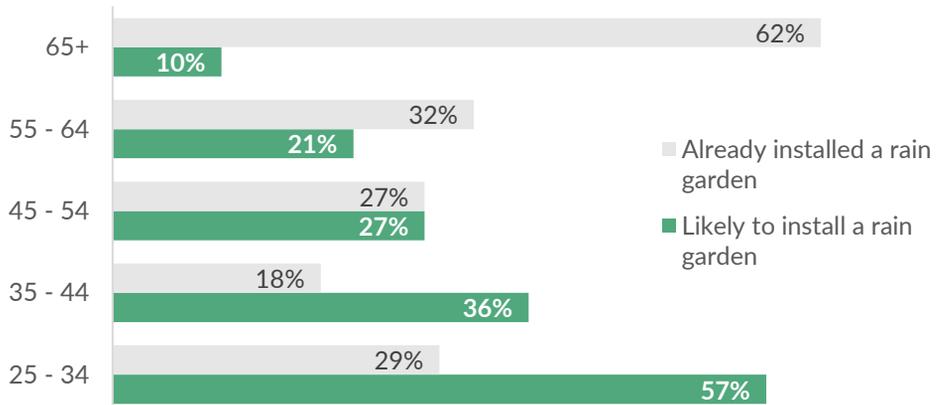
LIKELIHOOD TO TAKE ACTION

The residents who responded to the survey are already active in implementing green infrastructure practices. A majority of respondents already reduce the amount of salt they use in winter (61%); rake leaves out of the street in the fall (51%); and redirect their roof downspouts to drain onto a pervious surface (51%). More than a third of respondents say they already have a rain garden (38%) and/or a rain barrel (30%). (n = 70 - 71)

For those respondents who haven't already implemented these practices, they are most likely to rake leaves out of the street in fall and reduce their salt use in winter. Conversely, these respondents are least likely to participate in a green infrastructure workshop, install a rain barrel or install pervious pavement. (n = 27 - 70)



The younger the respondent, the more likely they are to be ready to install a rain garden (shown below) and/or a rain barrel.

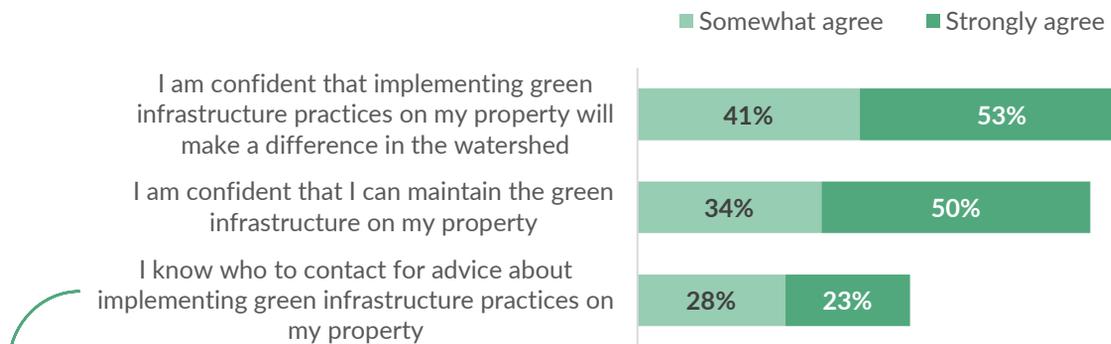
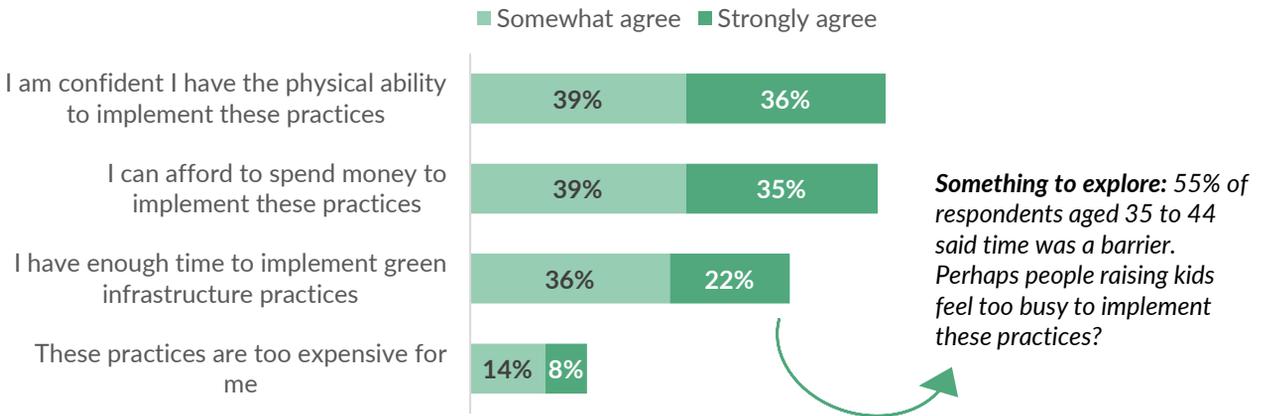


Implementing green infrastructure

SELF-EFFICACY AND BARRIERS TO ACTION

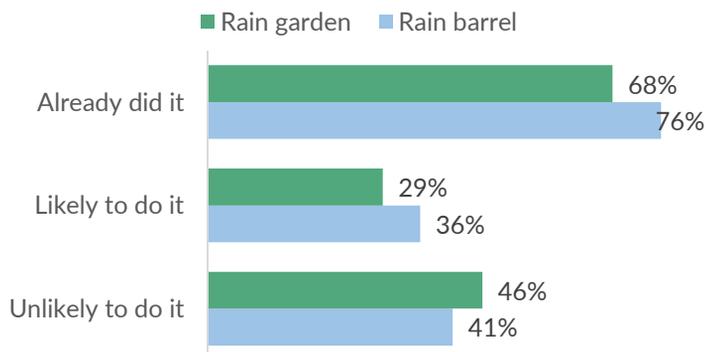
Confidence in one's ability to do certain tasks, known as *self-efficacy*, is a strong predictor of a person's likelihood to take action. Knowing what barriers are preventing residents from implementing green infrastructure on their properties can help the FOLW focus on the resources or information residents need to take action.

The largest barriers to action are not having enough time and not knowing who to contact for advice.
(n = 69)



Respondents who are YOUNGER and those who have NOT ALREADY INSTALLED a rain barrel or rain garden are more likely to say they don't know who to contact for advice about green infrastructure practices.

% of respondents who say they know who to contact for advice



Implementing green infrastructure

PREFERRED SOURCES OF INFORMATION

While more respondents prefer to get their information or advice about green infrastructure practices by independently reading content or watching videos, this appears to vary by age. (n = 70)



In comparison to older respondents, a higher percentage of younger respondents said they would feel more confident about implementing green infrastructure if they received information and advice by attending a workshop, talking to a professional, having someone visit their property, or talking to a neighbor.

Preference for hands-on sources of information about green infrastructure decreases with age.

% of respondents who prefer to receive information by:



FINAL THOUGHTS



Please share any final comments about how Friends of Lake Wingra can help improve your experience with green infrastructure practices and outreach activities. (n = 24)

8 people expressed thanks and support for FOLW's efforts and the rain gardens installed on their terraces, including 1 person who lives outside the study area. 1 person expressed no need for support.

I love the new rain garden that was installed. I also bought a rain barrel and wanted to get reimbursed for it, but I have yet to attach it to the down spout. It is installed otherwise, but I do think that the installation of something like this is a barrier and if someone could help, more people would do it. It is not that easy to assemble the barrel that we got and now we still need to saw through the downspout.

I believe that nothing more can be done on my property, in addition to the efforts I have already made. I am strongly supportive of and excited by this wonderful project by the Friends of Lake Wingra and the City of Madison!!

Appreciate this effort! I have been wondering how much effect household practices have vs street runoff which we cannot control.

4 people requested help from an expert to implement GI on their properties.

I think offering consultation/personal guidance would be very helpful. We are capable of implementing ourselves but would appreciate guidance on the best way to apply GI to our individual property.

I attended workshops on rain garden. I felt I needed a contractor to install on in my backyard. I contacted a contractor, but the contractor did not respond after a visit to my place. It would be better if the city provides a contractor to install a rain garden instead of leaving it to individuals. I want to install a rain garden in my backyard, but it's very hard to actually do it when I can't find a contractor who is interested in it.

3 people were critical of the rain basins/gardens installed on street terraces, including 2 who lived outside the study area.

I got some kind of ugly rain trench with little grass in it. I sent an email to try to understand but was not impressed with response. I think this effort is important for the lake but was not good for me or my property.

Although I realize the benefit of the new raingardens installed along the reconstructed streets of Tokay and Holly--they are ugly and dangerous when kept at the simplest level. People could easily turn an ankle if not watching where they are walking. I would hate to be a property owner trying to mow/maintain a decent looking terrace with the indent area. These rain gardens should all have plantings in them to bring awareness to their presence. The permeated sidewalks aren't attractive either and would appear to make shoveling a pain. I understand their purpose, but don't like the look. I do appreciate your efforts to help protect lakes, etc.

5 people provided recommendations to improve the city/FOLW green infrastructure programs.

Helping folks AFTER city installed rain gardens. I have had to pull much grass city planted prior to rain garden plants going in. Other rain gardens same issue.

The current program of reimbursement for rain garden installation required too many hoops for small return. The requirement of 600 sq ft of capture area was hard to meet on one downspout. I have added a small area with minimal labor and only the cost of plants. About 400 sq ft of capture area. \$100 to Plant Dane. And rabbits well fed!

2 people also requested more from the city and private entities to increase awareness about pervious pavements, and 1 person requested a rain garden sign.



Extension

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