



# WaterMarks Project Evaluation

## *Year 1 Report*

ORIGINALLY DRAFTED: August 31, 2022  
UPDATED VERSION: October 13, 2022

**Prepared by:**  
Donnelley Hayde  
Laura Weiss  
Justin Reeves Meyer

**Prepared for:**  
University of Wisconsin – Milwaukee  
City as Living Laboratory



This report was produced for WaterMarks, a project funded by the National Science Foundation (Grant #DRL - 2115637). The authors are the evaluators for the project.

We would like to thank Ryan Holifield (UWM), Dulmini Jayawardana (UWM), and Mia Rudolph-Schulta (formerly of UWM) for their assistance in assembling and sharing secondary data to support the analyses described below. Beyond the direct contents of this document, we would also like to express appreciation for the vision and labor of the entire WaterMarks NSF project team and the many residents of Milwaukee who have contributed to the success of WaterMarks past and present.

**Recommended citation:** Hayde, D., Weiss, L., & Meyer, J.R. (2022). *WaterMarks Project Evaluation: Year 1 Report*. [Technical report for the University of Wisconsin – Milwaukee and City as Living Laboratory.] COSI's Center for Research and Evaluation.

## Table of Contents

Background.....	1
Outcomes of WaterMarks NSF Year 1 Programming.....	3
Walk Experiences and Immediate Takeaways .....	3
Written responses.....	3
Drawings .....	6
Post-Walk Reflections .....	11
Participating community members .....	11
Walk leaders.....	14
Collaborating with and in Milwaukee.....	16
Reflections from the Community-University Working Group.....	16
Overall Project Progress.....	18
Project Milestones and Emerging Plans .....	18
Toward the Production of a Program Model.....	22
Observations and Recommendations for Year 2 .....	22
Appendix: Logic Model.....	25

## Figures

Figure 1. Word cloud of words to describe the Walk.....	6
Figure 2. Project progress to date and planned actions on key activities.....	20
Figure 3. Participation of project constituencies in key activities .....	21

## Background

*WaterMarks: An art/science framework for community-engaged learning around water and water management in an urban area* (WaterMarks) is a four-year project funded by the National Science Foundation (NSF) and based at the University of Wisconsin-Milwaukee (UWM), in partnership with City as Living Laboratory (CALL) and COSI's Center for Research and Evaluation (CRE). The primary mission of this project, which builds on an existing body of WaterMarks-branded efforts across Milwaukee, is to foster community-engaged learning and environmental stewardship by developing a framework that integrates art with science, technology, engineering, and mathematics (STEM) experiences, along with geography, water management, and social science. Specific goals within the NSF-funded work are as follow:

1. **Establish and activate community-based informal science learning initiatives in six socioculturally and biophysically diverse Milwaukee neighborhoods**, focused on urban water systems and anchored by art installations called WaterMarkers.
2. **Through collaboration between the project team and a Community-University Working Group, develop and disseminate an Adaptable Model Implementation Guide** for establishing a city-scale infrastructure for informal science learning on the urban environment through public art.
3. **Through evaluation and research, build a theoretical model** for the relationships among science learning, engagement with the arts, and the distinctive contexts of different neighborhoods within an urban social-ecological system.

The role of CRE in WaterMarks is to conduct formative, summative, and process evaluation of the project, with the additional goal of producing evaluative research findings that can contribute to the broader field of informal learning. Throughout the funding term, CRE will provide the project team with ongoing feedback and recommendations about process and outcomes. CRE will also serve as a “critical friend” to the program and research teams in support of the project process, as well as monitoring and reporting.

As the project progresses, evaluation will include three strands of investigation:

- Strand 1 concerns **Implementation of the WaterMarks framework** (i.e., the general programmatic approach developed by CALL, as implemented in Milwaukee).
- Strand 2 will explore **WaterMarks as a System of Sites**, with the specific intention of generating knowledge about the differences in implementation and outcomes in each neighborhood in relation to features of human geography.
- Strand 3 will explore **WaterMarks and the Experience of Place**, with particular attention to the degree to which and ways in which the project results are experienced by community members who are not actively connected to WaterMarks programming.

The present document reflects an initial summary of available evidence about the intended outcomes of NSF-funded program activities to date, as well as commentary on how the project is using (or could use) this information moving forward. While we expect that data that can address evaluation Strands 2 and 3 will emerge from our plans (as well as those of the entire project

team) in subsequent project years, the work of the past year provides some insights related to evaluation Strand 1. Our study in this domain focuses on an overarching question: **How does the implementation of the WaterMarks project support positive outcomes for the project's constituent groups and the development of an adaptable model for city-scale informal science learning about urban environments?**

Within this strand, there are three areas of investigation:

#### *Outcomes of Programmatic Activities*

- a. To what extent and in what ways do Walks, Workshops, and Artist Projects appear to support science-related skills, increased knowledge of sustainable urban water resources and the environmental geography of Milwaukee, and/or increased interest in local environmental issues among *participating community residents* and *non-participating community residents*?

#### *Presence in Milwaukee*

- b. How do members of the project's various constituent groups (i.e., *participating community residents*, *WaterMarks personnel*, *new collaborators*, and *non-participating community residents*) perceive the WaterMarks project and its processes of collaboration? What do they see as major challenges and successes, and how do they characterize the project's "goodness of fit" within the Milwaukee context?

#### *Accountability to Progress*

- c. To what extent do the project processes and activities reflect progress toward fulfilling community commitments, accountability to the funder, and the production of a model translatable to other contexts?

It is not possible to answer these questions fully after a single year of project effort; instead, the present document synthesizes what we know to date. Future reports will continue to refine our understanding of these areas of investigation, as well as those represented in evaluation Strands 2 and 3.

Additionally, there are some specific limitations to the scope of what this report describes. First, it only addresses programming funded by the NSF grant, which is far from the entire scope of WaterMarks activities. However, it is important to acknowledge that many choices about implementation in Year 1 of the NSF grant have followed from important contextual considerations related to the existing network of WaterMarks constituencies and plans for site activation supported by other funding sources. While we will not evaluate the outcomes of these activities, they provide critical background and lessons for the NSF project, which we hope to engage more directly in process evaluation as the project matures.

Another limitation of this report is that it does not reflect all of the data our teams have collected to date. As part of the work of evaluation Strands 1 and 2, CRE has designed a questionnaire for participating community members to take sometime after their first interaction with the project (e.g., Walk, Workshop), and again at various intervals over the course of the project. We intend for the questionnaire to capture the extent of a person's involvement in the WaterMarks project, as well as their ongoing feelings and perceptions about art and sustainable water practices in their neighborhoods (broad outcomes expected as a result of ongoing participation in the project programming and events). As of this report, we have launched this data collection effort, but the

data are not yet substantive enough to discuss here in detail. We hope to expand this data set in Year 2 through a combination of efforts, which include the project team's ongoing work to expand outreach and community engagement (with a goal of increasing overall participation), as well as our own efforts to make the questionnaire invitation more timely and accessible.

## Outcomes of WaterMarks NSF Year 1 Programming

The first sub-question for evaluation Strand 1 asks: *To what extent and in what ways do Walks, Workshops, and Artist Projects appear to support science-related skills, increased knowledge of sustainable urban water resources and the environmental geography of Milwaukee, and/or increased interest in local environmental issues among participating community residents and non-participating community residents?*

For Year 1 of the project, activities, and thus evaluation, related to this sub-question have focused on Walks and *participating* community residents. Data sources to answer this question include responses to an embedded measure collected during the Walks, as well as transcripts from discussions with participating residents after the Walks. The target outcomes from the logic model (see Appendix) that these data collection methods helped measure included participants' expressing enjoyment of the Walks, offering more detailed descriptions of neighborhood environments, calling attention to more and/or different elements of neighborhood environments, being able to recall science content from the Walks, and seeing scientific information as a tool for supporting community action.

### Walk Experiences and Immediate Takeaways

As part of the Walks, we gave participants a postcard to reflect on their experiences in real time. While the postcard was intended as a data collection instrument, we designed it to feel like part of the program experience (i.e., as an embedded measure). The front of the postcard is a space for participants to draw something they learned about or found interesting during the Walk. On the back of the postcard are three short prompts – one participants fill out at the start of the Walk, and two they fill out at the end of the experience.

From the postcards, we sought to capture participant outcomes related to Walk enjoyment, participant outcomes related to descriptions of and attention to different elements of the neighborhood, and general perceptions of the Walks.

From the three Walks which included public participants, we collected a total of 23 postcards. Fourteen postcards were from the Walks in Riverwest/Harambee (eight in May and six in July), and nine were from the Lindsay Heights Walk in May. Not every participant drew or responded to each prompt.

#### Written responses

#### *What do you expect to get out of today's WALK experience? (n=22)*

In general, participants' responses to this question aligned with the general elements of the WaterMarks project – specifically Milwaukee neighborhoods, water systems, and artwork.

When asked about their expectations for the Walk, the majority of participants (n=16) mentioned expecting to hear about or explore the neighborhood the Walk was located in.<sup>1</sup>

- *History – new appreciation of what has been here, what could be* (Riverwest/Harambee, May)
- *Information about the trail* (Riverwest/Harambee, May)
- *More familiarity with the community* (Lindsay Heights, May)
- *A different perspective of the city/neighborhood* (Lindsay Heights, May)

About a third of participants (n=7) specifically mentioned that they expected to learn something during the Walk.

- *Learn more about the history of the area* (Riverwest/Harambee, May)
- *Learn about area and art* (Riverwest/Harambee, May)

Some participants (n=6) expected to hear about water systems during the Walk.

- *Knowledge of the Beer Line, history, and current art. Water problems.* (Riverwest/Harambee, May)
- *Learn more about bioswales and new things in Lindsay Heights* (Lindsay Heights, May)
- *Learn more about the neighborhood’s water story* (Riverwest/Harambee, July)

Some participants (n=5) expected to see or hear about artworks along the Walk.

- *More info about relationship between art, the Beer Line trail, and water.* (Riverwest/Harambee, May)
- *See art, learn about community and what you guys do!* (Lindsay Heights, May)

A few participants (n=4) expected to hear or learn about the WaterMarks project or team.

- *Another look at Lindsay Heights and learn more about WaterMarks* (Lindsay Heights, May)
- *Open to any possible experience. Came to this project cold and I’m a big fan of Mary Miss.* (Riverwest/Harambee, July)

A couple of participants (n=2) shared social expectations for the Walk.

- *Not sure. I learn something new or meet someone new every time I walk.* (Lindsay Heights, May)
- *Knowledge and new friendships.* (Lindsay Heights, May)

### *What’s something new you noticed on today’s WALK? (n=19)*

Project outcomes for the Walks include offering “more detailed descriptions of neighborhood environments” and calling “attention to more and/or different elements of the neighborhood.” Participants reported noticing new elements of the neighborhood related to water, the environment, art, and community members. While responses are brief given the format of this data collection, these themes again seem in line with the larger WaterMarks project.

---

<sup>1</sup> Some respondents mentioned multiple themes in their response.

When asked about something new they noticed on the Walk, over a third (n=7) of participants mentioned something related to water.

- *Water runoff projects – retention ponds.* (Riverwest/Harambee, May)
- *Bioswales* (Lindsay Heights, May)
- *Really enjoyed learning about water system and neighborhood art.* (Lindsay Heights, May)
- *Lush residential neighborhood intertwined with the river and effort to clean our water system and how things have progressed and the importance of the impact on our community in the near future.* (Riverwest/Harambee, July)

Some participants (n=5) mentioned something about the environment unrelated to water. These comments included both the natural environment and the built environment.

- *The mounds of capped soil* (Riverwest/Harambee, May)
- *Everything looks beautiful in the sunlight* (Riverwest/Harambee, May)
- *Cross Lutheran Garden* (Lindsay Heights, May)

Five participants also mentioned noticing art during the Walk. Some commented on art generally, and others about specific artworks.

- *More art! Watershed knowledge.* (Riverwest/Harambee, May)
- *The art at the bus stop.* (Lindsay Heights, May)

A few participants (n=4) noticed something related to people or the community during the walk.

- *Community members care so much about the area of the city as a whole.* (Lindsay Heights, May)
- *There's a lifeguard shortage.* (Riverwest/Harambee, July)

*Now, please share ONE WORD that you would use to describe today's WALK.  
(n=20)*

When asked to share a single word about the Walk, participants were most likely (n=7) to share a word related to learning (e.g., *interesting, educational, informative, enlightening*). A few participants (n=3) shared words describing their enjoyment of the walk (e.g., *enjoyable, welcoming, invigorating*), and a few (n=3) shared a word related to aesthetics (e.g., *beautiful, artful*). Participants (n=3) also shared general, positive words to describe the Walk (e.g., *amazing, awesome*).

The positive nature of almost all of the words (potentially with the exception of “hot”), indicates positive reactions to the Walk. Participants sharing specific words related to enjoyment and general, positive words like “amazing” demonstrates some level of success toward reaching the outcome of participants expressing enjoyment of the Walks. Also, the number of words related to learning, when that is something several participants hoped to get out of the Walk, suggests that participants enjoyed or felt fulfilled by the Walks.





Figure 1. Word cloud of words to describe the Walk

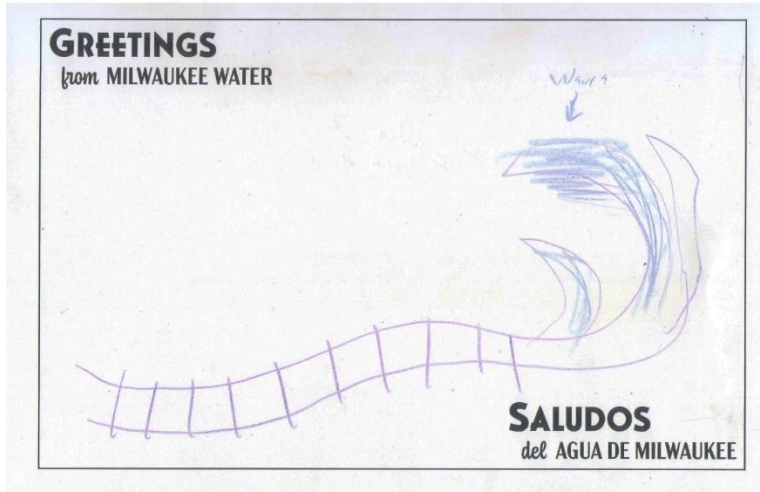
### Drawings

Of the 23 postcards collected, 12 included drawings. One was from the Riverwest/Harambee Walk in May, five were from the Lindsay Heights Walk in May, and six were from the Riverwest/Harambee Walk in July. It is worth noting that during the Lindsay Heights Walk in May, some participants volunteered to take photos in place of drawing.

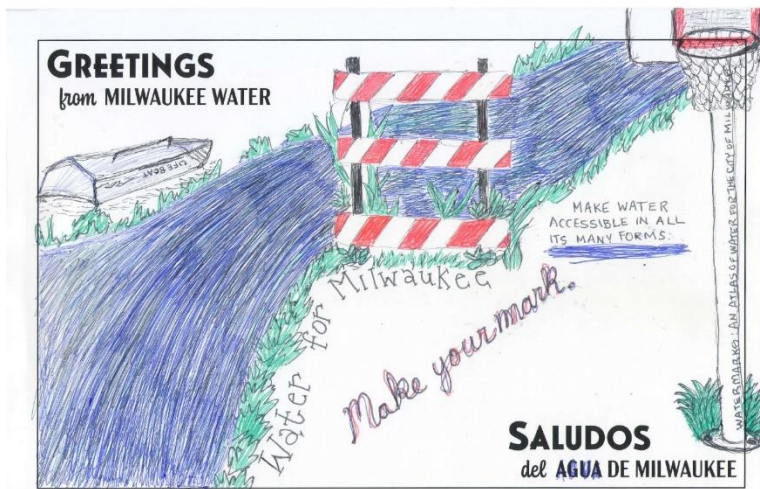
Again, the main themes seen in the drawings align with the main elements of the WaterMarks project – water, art, and neighborhood connections.

### *Water*

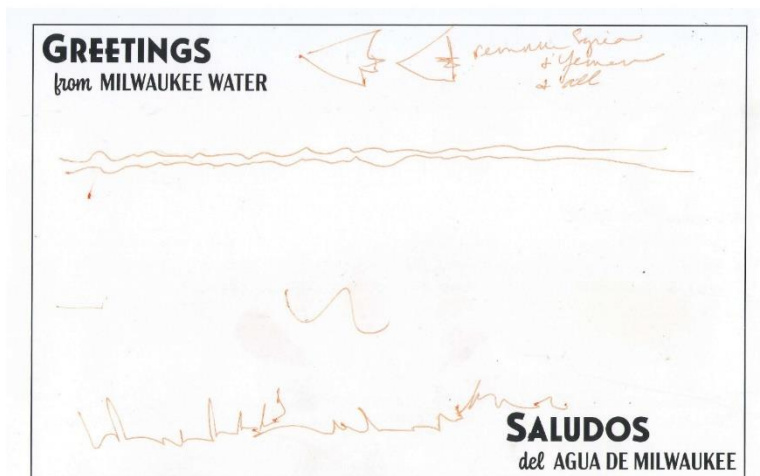
Half of the postcard drawings appear to include water. This theme was especially prevalent for the Riverwest/Harambee Walk in July, where five of the six postcard drawings included water. These drawings included water on its own, water alongside other natural elements, and water alongside non-natural objects and buildings. A couple included slogans such as “Water for Milwaukee” and “Water is life.”



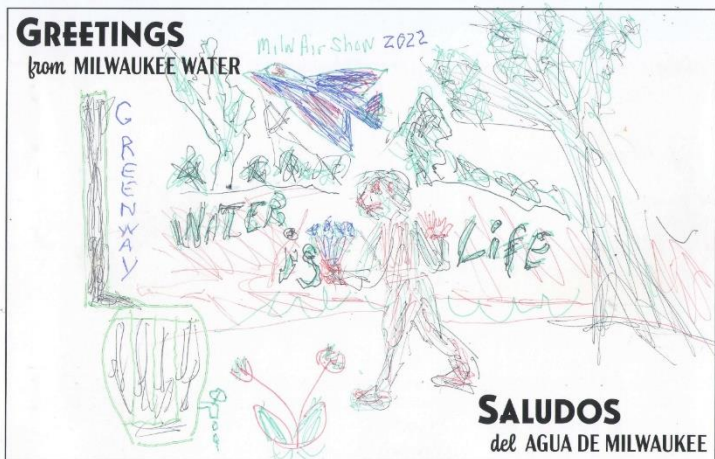
Postcard drawing, Riverwest/Harambee, May



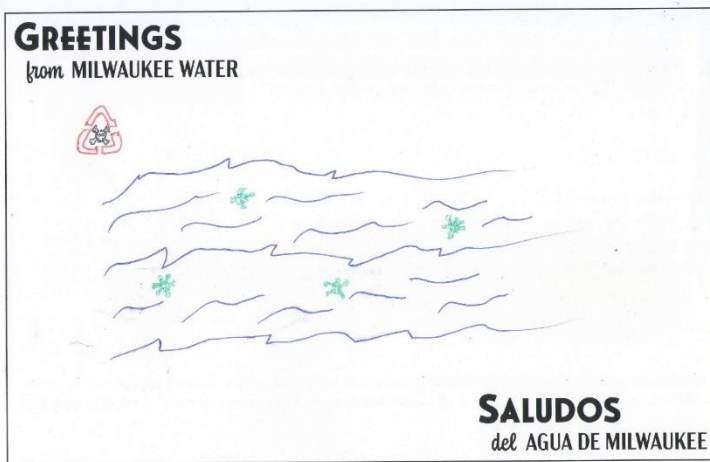
Postcard drawing, Riverwest/Harambee, July



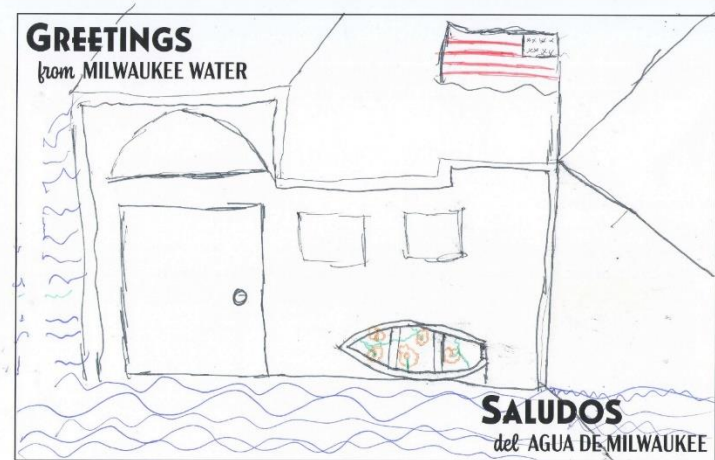
Postcard drawing, Riverwest/Harambee, July



Postcard drawing, Riverwest/Harambee, July



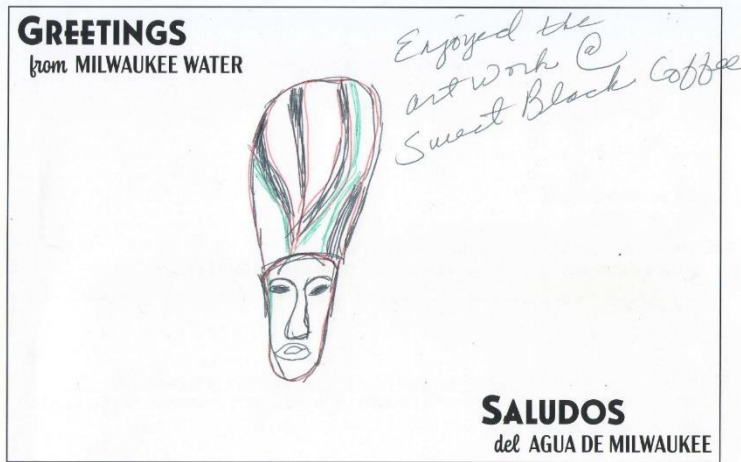
Postcard drawing, Riverwest/Harambee, July



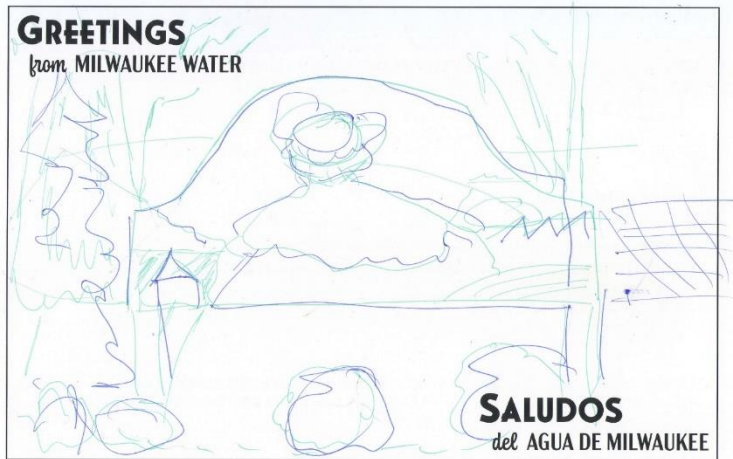
Postcard drawing, Riverwest/Harambee, July

## Art

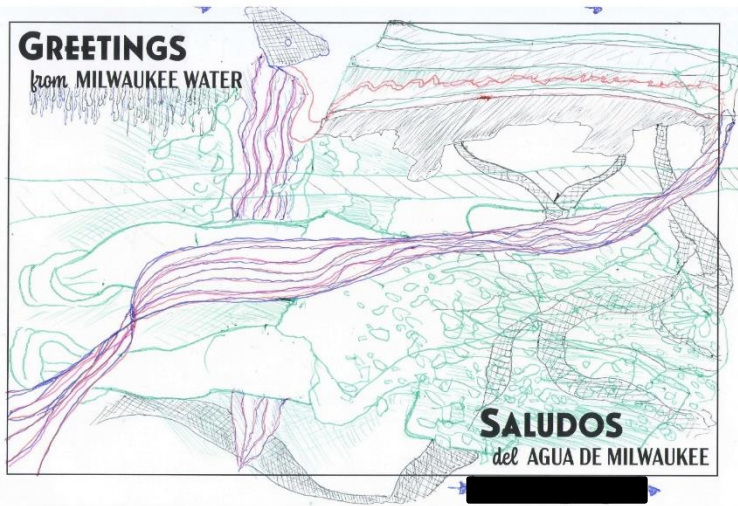
Three of the postcards show artworks. Two appear to be drawings of artworks visited on the Lindsay Heights Walk in May. The third postcard, signed by a local artist (whose name is redacted for anonymity in this report), appears to be original art inspired by the Riverwest/Harambee Walk in July, which focused on issues related to water safety.



Postcard Drawing, Lindsay Heights, May



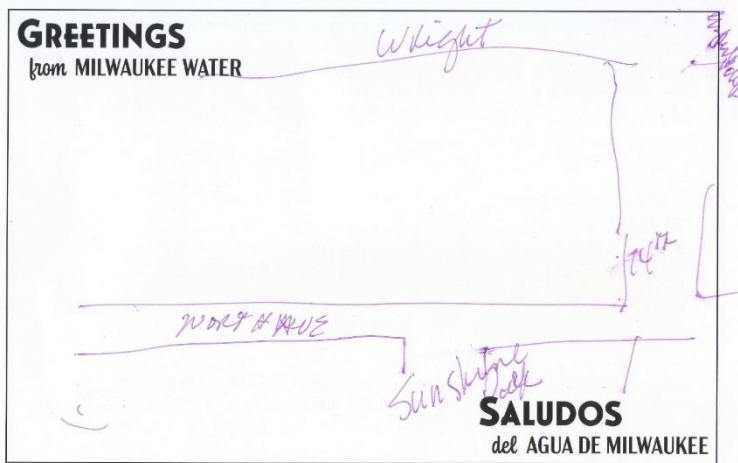
Postcard Drawing, Lindsay Heights, May



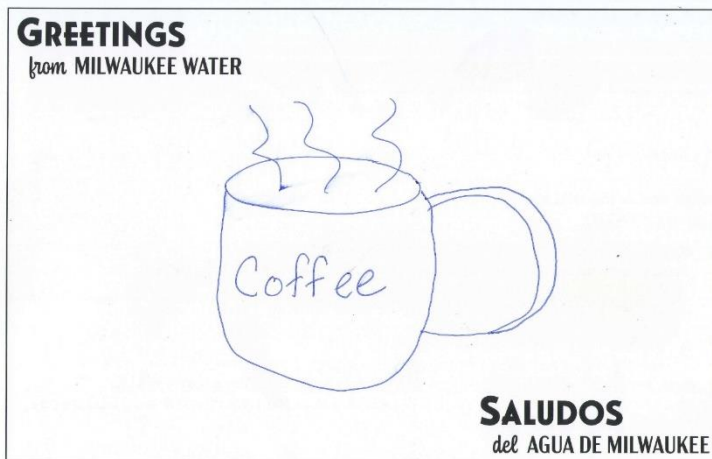
Postcard Drawing, Riverwest/Harambee, July

### Neighborhood

Three of the postcards appear to include references to the neighborhood where the Walk took place. All three of the postcards were from the Lindsay Heights Walk in May. The drawings include cross streets; a coffee cup, likely in reference to the stop at the Sweet Black Coffee shop; and a house that could be the Walnut Way headquarters.



Postcard drawing, Lindsay Heights, May



Postcard drawing, Lindsay Heights, May



Postcard drawing, Lindsay Heights, May

## Post-Walk Reflections

We are engaging two sources of secondary data related to post-Walk reflections. The first are discussions the research team conducted with Walk participants. The data from these discussions helped us explore participant outcomes related to Walk enjoyment, participant outcomes related to descriptions of and attention to different elements of the neighborhood, and participant recall of (and, where appropriate, applications for) relevant science content. The second source of reflection data was debriefs with the Walk leaders. These debriefs helped identify areas of improvement for the Walks from the perspectives of planning and leading them.

### Participating community members

In Year 1 of the project, the WaterMarks research team's data collection strategy has included follow-up discussions with participants in Walks, generally conceived of and framed as an opportunity to participate in a focus group. In order to limit the number of data-related asks made of participants, the evaluation team included several questions in this effort, with a goal of

leveraging these discussions as secondary data. Members of the UWM research team recorded and transcribed each discussion, then shared the transcriptions with the CRE evaluation team in a secure digital repository. Within the context of evaluation, these discussions have been particularly helpful for documenting certain forms of outcome achievement, as well as for establishing and triangulating some details about neighborhood contexts.

The data described below reflect the responses of three individuals; two attended a Walk in Lindsay Heights on May 15, 2022 (Lindsay Heights), and one attended a walk in Riverwest and Harambee along the Beerline on July 24, 2022 (Riverwest/Harambee). Of the remaining Walks, one had a very limited response rate to invitations to participate in a focus group, and the other had very limited attendance at the Walk itself, which did not include anyone who qualified to participate as a research respondent. While the data are specific to these Walks and these individuals (and, accordingly, limited by their number), they do suggest that Walks hold promise as a programmatic intervention for supporting the project's intended participant outcomes.

**All three respondents reported specific examples that suggested they were able to call attention to more and/or different elements of neighborhood environments.** The most prominent environmental features discussed by the Lindsay Heights respondents were bioswales, which were previously unknown to them. One Lindsay Heights respondent described this learning as follows:

*"I can't say it enough. I was really surprised at the bioswales and at what they do and provide.....and again, knowing that I walked [past] it all the time, or I have seen this and never given thought to even ask what it is it.... like you know this hole ....you know...you see a little greenery and plants. But it's like it's there. And now I know what it is, and its purpose. It made it great to me."*

In the Lindsay Heights discussion, respondents also identified landmarks from the Walk that they said did not typically consider prior to the Walk (a church and an example of public art by one of the Walk leaders near it, as well as Fondy Market and a community garden), as well as nearby landmarks like Carver Park. In the interview about the Riverwest/Harambee Walk, the respondent explained that the Walk encouraged them to more carefully consider the art along the route they took.

Overall, respondents did not provide comments that specifically confirmed more detailed understandings of neighborhood environments, although their descriptions of what they saw and learned on the Walks were generally fairly thorough. Meanwhile, one respondent in the Lindsay Heights discussion did comment that the Walk deepened their understanding of homelessness in the area, noting that incidentally meeting and speaking with unhoused individuals during the Walk made their experiences and challenges seem more concrete and immediate. While this was not a planned part of the Walk program experience, the fact of Walks taking place in visible, shared community spaces is an intentional strategy for encouraging participants to consider these spaces differently; this comment suggests there is some opportunity in this approach that could be leveraged more directly.

**All three respondents volunteered comments that included recall of content from their Walk.** Notably, because the Lindsay Heights discussion was very difficult to schedule, it happened nearly a month after the Walk, which suggests respondents' content recall was fairly durable. In that conversation, respondents were able to define and describe the purpose of bioswales, as well as how bioswales can mitigate flooding. Both respondents also commented on becoming more aware of the purpose of WaterMarkers that they have seen around town. In one

respondent's words, *"For the WaterMarkers I have seen those in other places. But didn't...I was like oh, look at that.... Why is it there? Didn't know why. So now I know why."* Meanwhile, the respondent who was interviewed about the Riverwest/Harambee Walk commented on learning about the community's lack of lifeguards, and felt that the Walk *"gave a clear example of how art inspires conversation and inspires information. Because now when we walk [past] that boat, she probably wouldn't have thought...okay, let's stop and let's talk about this...I didn't know that."*

**All three respondents also commented on the relevance of scientific information to community action.** In the Lindsay Heights discussion, both respondents connected information about improving environmental resilience to community life. More specifically, one respondent talked about the importance of communicating within communities about strategies for protecting the environment:

*"Hopefully ...I will be able to get a house in the area, so that's another reason why I like to participate in what's going on, so I can kind of figure out when I purchase a home, where do I really want that to be and where there is community, and understanding more about the environment, so if I can't like do things that I am doing now, at least I have the knowledge that I can give...people need to be able to get the word out so other people know how they can help and protect the environment."*

This respondent also made reference to seeking out more information about environmental action online. The other respondent in the Lindsay Heights discussion commented on the helpfulness of seeing flood mitigation techniques to community understanding of hazards:

*"It was really interesting to know that they were doing this to help my community to prevent the floods. That's something that we fear all the time, and to know that, that it was there...I think I took some pictures of the plants they put in front of the houses that help us to redirect the drain so it would not go into the basement. And I thought, first I thought that was kind of ugly and was looking like wild, you know, like wild grass and everything. But as time went on, it is beautiful. It looks really nice. And then to find out that the bioswales was there to provide that same type of treatment but a little different, but still, you know they help with the flooding. I think that was the biggest thing for me, because of my experience with the floods."*

Finally, the respondent who was interviewed about Riverwest/Harambee leveraged the artmaking component of the Walk (in their case, drawing on a postcard) to bring attention to community issues that were not addressed on the Walk, but were relevant to the topic of water contamination in the neighborhood:

*"I drew...kind of like...representation of toxicity in the water...I drew that because you know the water is just not safe...I live in Harambee, where I don't want to speak about things that I am not entirely sure of. But I know there is a lot of old homes in Harambee that had lead paint, and I am sure lead-based water, like there's lead in the water. So, um...that is not healthy, it is not safe...and obviously we understand that things aren't good when we have lead in water. As [residents in Riverwest] are getting their lead laterals replaced, at the moment, so we all want the same thing."*



In particular, this respondent also described environmental toxins as an issue that was not peculiar to Harambee, but reflected disparities in resources and action when compared to Riverwest. As they stated in another part of the interview, *“I am pretty sure [residents in Riverwest] are getting their lead laterals replaced on the streets but hasn’t happened in Harambee...And that for me is just showing which neighborhood gets more attention and which neighborhood doesn’t.”* This idea was also reflected in feedback the respondent gave about the Walk, in which they suggested that future WaterMarks Walks in the Riverwest/Harambee area should consider ways to more fully engage the art, history, and issues of concern in Harambee, as an area that often receives considerably less focus in general.

**Overall, respondents expressed appreciation for and enjoyment of the Walk experience, and they seemed to find particular value in information that was new to them and the opportunity for conversation.** In addition to the feedback about the geographic focus of Walks, the respondent from the Riverwest/Harambee Walk suggested providing more opportunities within the Walk to brainstorm and discuss potential solutions to environmental issues. For their part, the respondents from the Lindsay Heights Walk, who had participated in research and evaluation activities along with a neighborhood cleanup, noted that they at times felt overwhelmed by attempting to do multiple activities at once and managing a variety of materials.

In addition to the data described above, the evaluation team has systematically coded respondents’ answers to the following three questions:

- *What names do people use when referring to the neighborhood?*
- *How would you describe the boundaries of the neighborhood?*
- *What would you say makes the neighborhood unique to other neighborhoods in Milwaukee?*

Our initial analysis of these responses suggests that while respondents felt able to answer these questions straightforwardly and with general agreement among those present, their comments reflect rich, embodied perceptions of the neighborhoods involved that differ somewhat from other ways of describing these spaces. For example, the boundaries named by respondents occasionally differ from those represented in Google Maps, those usually attributed to John Gurda’s *Milwaukee: City of Neighborhoods*,<sup>2</sup> and various representations of the neighborhoods developed in partnership with the WaterMarks project (e.g., a UWM class project in which students created GIS layers to represent geographic features of WaterMarks sites). Although these responses do not directly speak to the outcomes-based evaluation of the project, we expect that over time, they will provide important context for our findings across evaluation strands 1, 2, and 3; accordingly, the evaluation team intends to begin experimenting with strategies for describing community and project understandings of the areas WaterMarks reaches in project Year 2.

### Walk leaders

In Year 1 of the project, members of the CALL team have organized follow-up discussions with Walk leaders after each of the four Walks. These conversations are generally held at the convenience of the Walk leaders, so attendees vary depending on team availability. However, attendance typically includes at least one representative from CALL, the Walk leaders themselves (typically, an artist and one or two other people who bring scientific and/or community expertise),

---

<sup>2</sup> <https://historicmilwaukee.org/shop/milwaukee-city-of-neighborhoods-book/>

and a member of the evaluation team. As the project has emerged, these meetings have also begun to include a member of the research team who has acted as a liaison between the research team and the Walk leaders, as well as key players from community organizations involved in the development of Walks. While not led by the evaluation team, the general purpose of these conversations is evaluative, in that the intention is to provide timely space for Walk leaders to provide formative feedback; accordingly, the role of the evaluation team in these discussions is to document major areas of feedback as secondary data that can inform and document changes to program development moving forward. These conversations are informal by design; however, Walk leaders are typically asked for their general impressions about the Walk experience, what worked well and what they would do differently, what kinds of planning support they feel would be helpful for future Walk leaders, and how they might engage with the project team and their content partners (i.e. scientific and/or community experts) moving forward. To prevent specific feedback from identifying individuals, these data are reported in aggregate in the present document. However, for the purposes of program improvement, the team is also working to standardize internal documentation of each discussion.

**Key themes that have emerged in feedback from Walk leaders to date have included general appreciation for the experience, but also a need to clarify the process and goals for developing WaterMarks programming, a need for content support, and a need for more lead time.** For the most part, Walk leaders have reported that they enjoyed interacting with each other and with community members, as well as that they generally appreciated the opportunity to bring environmental content and art content together. At the same time, several Walk leaders have indicated that while they appreciated the idea of bringing artists and scientists and/or other content experts together, in practice they would appreciate more direction from the program team about the intention to bring perspectives together, and more time to think and collaborate with their co-leader(s). For artists in particular, content support from their co-leaders and/or the CALL team about environmental science seems to be especially salient; Walk leaders in general tended to express concern that the timeline for development felt compressed with respect to planning for facilitation and logistics for the Walks themselves. In general, Walk leaders expressed interest in continuing to engage with their co-leaders and with the WaterMarks project team in the development of future programming and deliverables, which included planned activities such as Artist Projects, but also emergent opportunities to continue engaging with the community in relation to art and water issues (e.g. a picnic featuring spoken word performances in between Walks). Some Walk leaders also made suggestions for content additions to consider for future Walks; these included demonstrations of strategies for mitigation of environmental hazards (e.g., permeable surfaces), opportunities for extension (e.g., where to find more information about environmental issues and online content from WaterMarks), and more opportunities for interactivity among participating community members.

Looking ahead, the project team plans to continue debriefing with Walk leaders after each Walk and to apply feedback from Walk leaders in concrete ways. Ways that the team intends to respond to Walk leaders' feedback are as follow:

- **Providing documentation of expectations and goals for Walks**, in the form of a 1) a statement describing the purpose and method for Walks and 2) a pamphlet for artists that tracks their participation through Walks, Workshops, and Artist Projects and provides specific examples of what is possible. These deliverables are being developed by the CALL team, with support from the evaluation and research teams, for use with new Walk leaders in Spring 2023 (when Year 2 Walks will begin). The intention of these items is to provide stable, asynchronous resources that Walk leaders can return to as they plan their programs. Ideally, making these products available can reinforce a key element of success to date, which has been initial onboarding and content support from CALL team

members – particularly the WaterMarks Community Engagement Manager and the WaterMarks Project Director.

- **Providing support in the form of guidance on facilitation and logistics**, in the form of both written documentation (e.g., a Walk checklist maintained by CALL and UWM team members, and emerging documentation of questions for Walk leaders to consider) and verbal support (e.g., via planning meetings attended by CALL team members and a member of the UWM research team).
- **Beginning the process of engaging Walk leaders and choosing dates as soon as possible.** This strategy has emerged as a necessary one in response to both Walk leaders' need for lead time in scheduling and preparation, as well as community partners' and CALL's own identified goals for getting the word out about Walks and other events to improve attendance at Walks. Connected to this is the idea of engaging with neighborhoods in general as soon as possible, so that there is time to build stronger support and investment within the spaces where Walks will be held.

## Collaborating with and in Milwaukee

The second sub-question for evaluation Strand 1 is as follows: *How do members of the project's various constituent groups (i.e., participating community residents, WaterMarks personnel, new collaborators, and non-participating community residents) perceive the WaterMarks project and its processes of collaboration? What do they see as major challenges and successes, and how do they characterize the project's "goodness of fit" within the Milwaukee context?* Thus far, the primary form of collaboration with Milwaukee community members has been through the Community-University Working Group (CUWG).

### Reflections from the Community-University Working Group

After the first meeting of the CUWG, the WaterMarks Outreach Program Coordinator conducted 20-30 minute interviews with participants to collect feedback. A total of 12 CUWG members participated in these voluntary interviews. The data were collected to inform the development of the next event, gather participants' perspectives of the CUWG and WaterMarks project, and identify facilitators and barriers to success. The interview questions were written to gather general feedback, as well as feedback on the dynamics of the group conversations, logistics, and community engagement.

Responses were coded thematically by the Outreach Program Coordinator to be shared back with CUWG members. She organized results by highlights, areas to improve, lingering questions, how we are connecting, primary concerns and priorities, and next steps. The next steps she identified were as follow: providing more time for discussion at future events; frequent communication between meetings and/or greater frequency of meetings to foster greater connection amongst CUWG; establishing meetings as a safe, inclusive space that encourage respectful, open listening as much as sharing; ensuring project team members model communication expectations for the group; recruiting more diverse participants; creating greater community connection to WaterMarks; and exploring how the project is and continues to be useful to Milwaukee.

The questions most relevant to the larger evaluation were the ones to measure outcomes. The outcomes for the CUWG as defined in the project logic model (see Appendix) are for CUWG members to feel supported by the activities of the CUWG; feel prepared to engage with other project stakeholders; understand structure, process, and goals of WaterMarks; understand stakeholders' concerns and priorities; and express a sense of ownership of the project.

*After the meeting you attended, how would you describe your role as a member of the Community-University Working Group?*

There was not a single, common way that participants described their role in the CUWG. Only one participant mentioned the adaptable guide, which is the group's main output of the project. Instead, participants generally described what they can contribute to the group as an individual. One way several participants described their roles in the CUWG was through particular perspectives, backgrounds, or expertise they bring to the group. This included a younger perspective, a strong science background, knowledge on the history of local environmental issues, community outreach, and water advocacy. A few participants also talked about their role in terms of sharing the project with others, specifically through their particular Milwaukee networks and in a way where others can "see the vision." In addition to bringing the project to others, a couple of participants talked about their role in terms of making connections and bringing others into the project. One specifically questioned if they were right for the group, but noted that in recognizing there were people "missing from this circle," instead of leaving, they could try to recruit those that were missing. Others talked about their role as being part of the group and conversations, with one of these participants specifically taking on the roles of observer and listener. While most of the participants saw some role for themselves in the CUWG, a few noted that they were still feeling like a beginner, a bit lost, or that their role was unclear.

*If you had to describe WaterMarks to a friend or colleague, what would you tell them?*

Most of the participants' descriptions included references to water, art, and community. A couple mentioned science or the environment more generally, and a couple others left out one of the three. Participants also mentioned the project's focus on the importance of water and in building connections to water, appreciation of water, and understanding of water. More specifically around water, they also mentioned water issues, water systems, water usage, storm water issues, and sewer systems. While some of the participants mentioned art and its role in the project generally, the specific artworks referenced the most were the WaterMarkers. Even if participants did not always call them WaterMarkers, they mentioned the sign posts, letters, and changing lights/colors. One participant specifically called out the Wi-Fi hotspots. In terms of community, participants emphasized that the project is working *with* communities and different community groups, with one participant explaining that it is "not just *for* the community, but *from* the community," and another mentioning co-creation and co-education. One participant even highlighted that the letter for the WaterMaker is determined by the community. Participants also described the project as being "throughout the city," connecting neighborhoods with one another, but also unifying and celebrating individual communities.

*How did you feel connected to WaterMarks? To the working group? What would you need to feel more of a connection?*

Overall, participants indicated that they feel connected to WaterMarks. Some participants mentioned feeling connected because the project was of interest or importance to them or because they felt connected to the work being done (e.g., conservation, public art). Participants

also mentioned being connected to the people involved in the project (e.g., through their job or work with a community organization), and by participating in the project events (e.g., Walks).

Participants are not yet feeling as connected to the CUWG. Those who felt connected mentioned that they were already familiar with some of the other group members. Others mentioned that the group is still very new, and they are just starting to meet people. That said, there was optimism that the sense of connection to the working group will build as the project emerges. When asked what they needed to feel more connected to the group, participants most frequently mentioned communication or opportunities to connect with other members. Suggestions included newsletters, a communication portal to be used between meetings, more frequent meetings, and chances to interact more directly. Other needs included time and “seeing progress.”

## Overall Project Progress

In addition to measuring how successfully the WaterMarks project meets its intended outcomes, CRE’s role on the project also involves monitoring and reporting through annual (formative) and cumulative (summative) summaries of project activities and results. This work is best summarized by the last sub-question to be addressed in evaluation Strand 1: *To what extent do the project processes and activities reflect progress toward fulfilling community commitments, accountability to the funder, and the production of a model translatable to other contexts?*

### Project Milestones and Emerging Plans

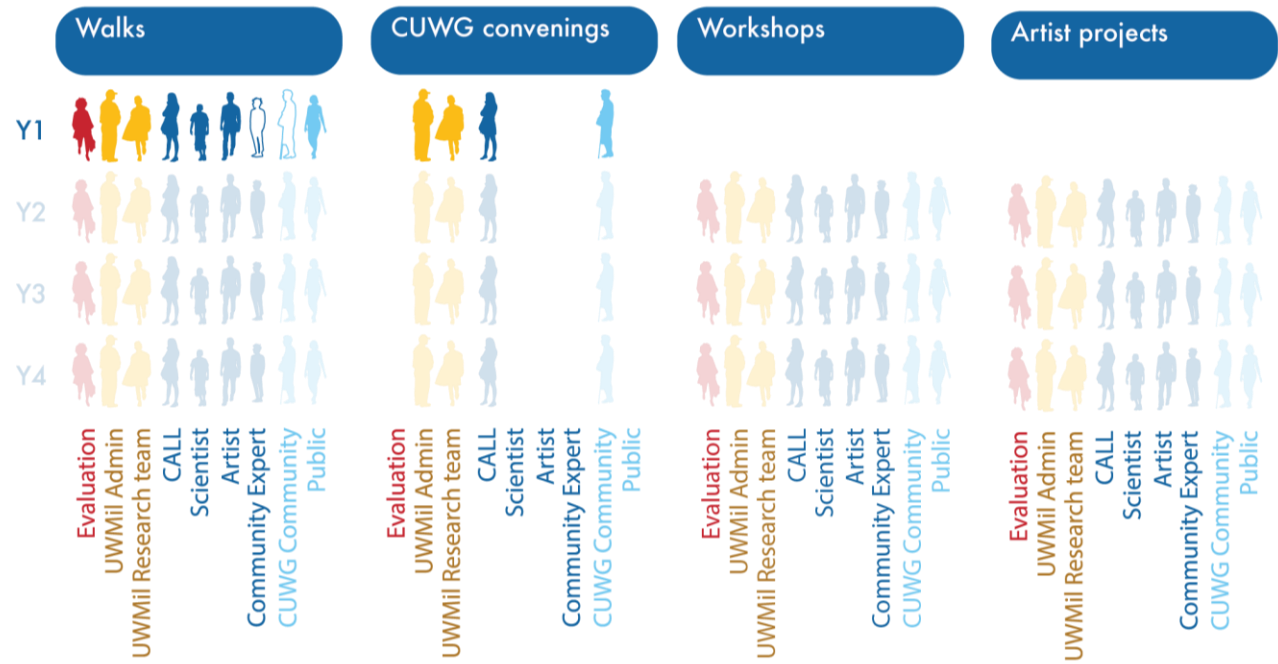
As with many AISL projects, the first year of WaterMarks as an NSF-funded undertaking has focused on building relationships, creating administrative infrastructure, and staffing key roles, in addition to development, testing, and course-correcting on key programmatic elements. CRE has used a combination of team observations and documentation (e.g., our project’s annual report to NSF, work products assembled by other team members, etc.) to document both where the project is right now and the project team’s plans for the future. The figures in this section are intended to change with the project and map its trajectory over time; as the project work progresses, we will use the rows for project years 2, 3, and 4 to show our growth and identify potential areas that need attention in real time.

As shown in Figure 2, some elements of the project (the installation of WaterMarkers, along with Workshops and Artist Projects that are connected to this process) have been intentionally postponed until project Year 2. Although evaluation of WaterMarks activities not funded by NSF is outside of the scope of this evaluation, these activities do provide important context for the planning decisions made within the NSF project. As discussed in our annual report to NSF, five WaterMarker installations were planned prior to the NSF grant being awarded; these are funded by a combination of sources (City of Milwaukee Department of City Development, The Milwaukee Metropolitan Sewerage District, the National Endowment for the Arts, and the Greater Milwaukee Committee). The first five markers will be installed next to the Kinnickinnic River on the south side of Milwaukee, at GreenTech Station on the north side, and along Greenfield Avenue in the Harbor District (at Rockwell, School of Freshwater Sciences, and Harborview Plaza). As part of this work, CALL has spent the last year in negotiations with the Milwaukee Metropolitan Sewerage District to provide long-term care for these externally funded installations, which will provide a pathway for the sustainability of the NSF WaterMarkers, as well. Following deliberative Workshops in Riverwest/Harambee and in the Lindsay Heights, the first two markers funded by this NSF grant are planned for installation in Winter 2023.

Meanwhile, Neighborhood Project Teams (NPTs) have been convened in Riverwest/Harambee and in Lindsay Heights, and examining their role in community deliberations related to environmental issues has become an emerging area of inquiry for the research team. With input from NPTs and Walk leaders, the team has held four Walk events (one in each neighborhood in May, and one in each neighborhood in July), and feedback from Walk leaders will inform a new resources for developing Walks in Year 2. CALL and the UWM team have collaborated to host an initial listening session for bringing together the Community-University Working Group (CUWG), to recruit participants to serve in this group, and to host the group's first official gathering in June 2022. At the end of Year 1, the team is positioned to continue hosting regular gatherings, with the next scheduled CUWG meeting planned for September 2022.

Figure 3 maps the ways that different constituencies and groups of people connected to the WaterMarks project have interacted with the activities to date, as well as team goals for engagement moving forward. At this moment in the project, building up participation in public-facing Walks is currently a particularly high priority for nearly every aspect of the project. Increasing public attendance will support positive outcomes among more residents of WaterMarks neighborhoods (thereby improving the reach of WaterMarks programming). It also serves the important purposes of providing early forms of community feedback to Walk leaders, bolstering interest in the public Workshops and Artist Projects that will follow in each neighborhood, and providing data to advance the project research and more robust possibilities for evaluation. Another goal for Walks (and WaterMarks programming in general) in Year 2 and beyond is to encourage attendance and involvement among members of the CUWG community, as well as among committee members who serve in the broader planning context for WaterMarks (i.e. those who provide input on Activation, Content, and Expansion, all of which are functions and roles that were in place prior to NSF funding). Finally, the CALL team, in conversation with other team members, has articulated a goal of intentionally involving more community experts as Walk leaders.





### Participation by NSF-funded project activity

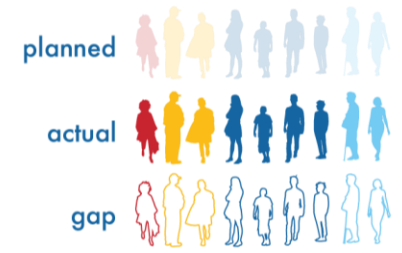


Figure 3. Participation of project constituencies in key activities



## Toward the Production of a Program Model

In addition to the implementation of WaterMarks programming in Milwaukee, part of the work of this project is creating an Adaptable Guide that articulates the key “ingredients” and approaches for developing likeminded community efforts in other contexts, as well as for grounding the existing work in Milwaukee in processes that reflect improved equity and authentic co-production. The initial gatherings of the CUWG have set WaterMarks on a pathway to achieving this goal, and meanwhile the broader project team is working through core questions of how to respectfully and effectively integrate the new, NSF-funded work with existing WaterMarks efforts in Milwaukee. As these discussions continue, the evaluation team intends to collaborate with other teams to begin mapping out in diagrams how project team members conceive of the current “lay of the land,” particularly in terms of how activities and groups relate conceptually to one another. The purpose of this work will be to consider both what is and what could be, with a goal of moving toward processes and structures that accurately and supportively reflect the contributions of all parties. A potential strategy for moving this forward could involve some discussion at the NSF project team’s next in-person planning meeting, which is scheduled for November 2022.

## Observations and Recommendations for Year 2

In our evaluative function, another of CRE’s project accountabilities is serving as a “critical friend” to the program and research teams in support of the project process. Concretely, this means offering real-time feedback, but also synthesizing key areas of challenge and opportunity that can help move the project forward. At the end of project Year 1, the team has raised a number of key takeaways from the project’s initial efforts:

- **A major area of focus for the team right now is community engagement, both in terms of overarching strategy and in terms of active, durable presence in WaterMarks neighborhoods.**
  - Team members in general have observed that the nature of processes for implementing a federal grant are inherently different from what has been successful for WaterMarks in the past (e.g., longer time intervals are possible for relationship-building when the project is less bounded by project years). Furthermore, the team has articulated a desire and need to be responsive to community priorities and to communicate clear and tangible examples of the project’s value, as well as more pathways for reciprocal benefit.
  - Among members of the team involved directly in outreach, significant effort is already being given to individual relationship-building, as well as identifying thresholds for trust and buy-in that should precede specific project actions in any given neighborhood. These team members have also identified a need for increased and dedicated resources related to marketing and communicating clearly about the project broadly, as well as specific program opportunities.
  - Increasing public participation in WaterMarks programming is a general goal for the project moving into Year 2, and the team generally understands this as connected to fostering deeper forms of community engagement and buy-in. Meanwhile, progress on this goal will support greater opportunities to move more

substantially forward on the elements of the project that rely on interacting with participating community members, such as research and evaluation. Meanwhile, the research and evaluation teams have discussed ways to minimize the possibility for “research fatigue,” particularly given that we are working in areas vulnerable to environmental threats due to systemic inequality. To support broader team efforts to bolster participation, both the research and evaluation teams will continue to streamline their collaborative efforts and iterate on ways to make data collection accessible and welcoming, as well as to consider how best to leverage data sources that are already available.

- **Year 1 programming has provided some important insights about how to improve support for artists, content experts (i.e., scientists and/or community representatives), and other programmatic partners moving forward.**
  - Those working directly on the development of Walks have recognized that Walk leaders need some specific forms of support, such as intentional introduction and onboarding to the project, along with level-setting about what Walks are intended to be and accomplish. Walk leaders and organizational partners have also articulated a general need for lead time, which seems to dovetail with the needs for the project team and community partners. In some cases, Walk leaders have also expressed a desire for more support in understanding basic content and getting collaborations with co-leaders off the ground. The project team plans to develop resources to help address this need in project Year 2. Meanwhile, members of the programming team recognize that person-to-person support for Walk leaders has also been an essential and highly-valued element of successful planning.
  - The program team has articulated the critical importance of acknowledging and respecting existing community expertise and effort. In some cases, this has led to discussion of selection criteria for Walk leaders, which have emerged to be more inclusive of community leaders and organizations. This is likely to remain an important area of deliberation moving into Year 2. Similarly, the program team has also described the importance of WaterMarks representatives showing up to community events and where possible, making WaterMarks more accessible or clearly connected to community issues at such events.
- **As the Community-University Working Group begins to coalesce, it is becoming more important to articulate for others its unique goals and purpose, as well as how it interacts with other parts of WaterMarks.**
  - A goal for Year 2 seems to be considering the ways that the CUWG (as a group focused on big-picture questions related to the project model and ways it might be refined and made transferable) should interact with existing players in WaterMarks. In particular, consideration for how CUWG relates to the Activation-Content-Expansion (ACE) committee (which focuses on more concrete, operational questions about programming and specific neighborhoods) will be important as the CUWG emerges.
  - Another area of consideration has been identifying ways to activate the CUWG for its members. Those participating in the CUWG have generally expressed openness and enthusiasm for deliberative dialogue, as well as opportunities to

engage more directly with the project. Accordingly, the project team is working to develop strategies for encouraging CUWG members to attend WaterMarks programming (e.g., Walks, Workshops, etc.), as well as to provide opportunities to get to know each other and the work both during and between formal gatherings.

- **The project team is currently experiencing some substantial personnel transitions and managing change within the project itself more broadly. While this can be a disruptive experience for large projects like WaterMarks, it also provides creative space and a timely opportunity to refine processes and team norms.**
  - In light of lessons learned from Project Year 1, all team members are working to rearticulate and affirm their roles and responsibilities within their sub-teams and on the larger project. This work is intended to directly inform project decision-making in Year 2, as well as opportunities to collaborate more effectively and efficiently across the team, particularly as new team members join the project. While relationships across the team are generally collegial, we recognize the need to understand each other's work better, as well as to ensure our work is appropriately inclusive and respectful of everyone's expertise. As one team member put it, we acknowledge that the success of working relationships within our team will support success in our work together.
  - We are also reassessing our approach to whole-project team meetings, which we have agreed to make more frequent, as well as more focused on high-level deliberations. In comparison to our previous model of holding weekly leadership-only team meetings and monthly whole-project team meetings, we anticipate that holding whole-team meetings biweekly will allow for more inclusive discussions of project strategy, as well as more efficient communication across the team.

## Appendix: Logic Model

In January 2022, the evaluation team facilitated a session in which the entire NSF project team contributed to revisit and refresh the project logic model. The updated logic model reflects a more recent understanding of how project components will come together, as well as outcomes that are more inclusive of perspectives from the whole team (some of whom had not been hired when the original proposal was submitted).

We will continue to revisit the logic model over the course of the project; however, for the purposes of the present document, the outcomes reflected here function as the core ideas being measured by participant- and team-level evaluation.

## Activities

## Outputs

## Constituent Groups

## Outcomes

### WALKS

- # of participants
- Community expertise to inform **WORKSHOPS**
- Videos for website

### WORKSHOPS

- # of participants
- Community priorities
- Marker sites
- Topics for **ARTIST PROJECTS**
- Stories for website

Participating  
community  
residents

- Express enjoyment of **WALKS** and/or **WORKSHOPS**
- Offer more detailed descriptions of neighborhood environments
- Call attention to more and/or different elements of neighborhood environments
- Can recall relevant science content from **WALKS** and/or **WORKSHOPS**
- See scientific information as a tool for supporting community action
- Express a sense of connection to sites for Markers
- Feel involved and invested in the process and goals of WaterMarks
- Feel that **ARTIST PROJECTS** reflect their knowledge/priorities

### ARTIST PROJECTS

- # of projects
- Associations to sites and community priorities

Participating  
community  
residents

Non-  
participating  
community  
residents

Artists

- Express enjoyment of **ARTIST PROJECTS**
- Express positive feelings about changes to physical sites for Markers
- Can recall relevant science content from **ARTIST PROJECTS**
- See science as relevant to their lives
- Can identify ways that people interact with their local water systems
- Can identify human actions that support resilience
- Express awareness of and interest in engaging with local environmental issues
- Express a sense of connection to local water systems
- Feel that **ARTIST PROJECTS** reflect their knowledge/priorities
- Understand structure, process, and goals of WaterMarks
- Express a sense of pride in the **ARTIST PROJECTS**

### COMMUNITY- UNIVERSITY WORKING GROUP

- Mentorship and onboarding strategies
- Draft adaptable guide for implementing the framework

WaterMarks  
personnel

Community-  
University  
Working  
Group  
Members

- Feel supported by the activities of the **COMMUNITY-UNIVERSITY WORKING GROUP**
- Understand stakeholders' concerns and priorities
- Express consensus about project successes/challenges
- Can identify applications for research and evaluation findings
- Feel prepared to support members of the **COMMUNITY-UNIVERSITY WORKING GROUP**
- Feel prepared to share framework with other professionals
- Feel supported by the activities of the **COMMUNITY-UNIVERSITY WORKING GROUP**
- Feel prepared to engage with other project stakeholders
- Understand structure, process, and goals of WaterMarks
- Understand stakeholders' concerns and priorities
- Express a sense of ownership of the project



## WaterMarks Goals Not Being Measured as Part of the NSF-Funded Project

- Grow an active, vital, and relevant community/culture of practice that helps WaterMarks evolve and become ever more connected to Milwaukee
- Create more environmental stewards/ambassadors in communities of color
- Develop a process to create opportunities for blue/green jobs
- Increase equitable democratic community engagement