Cultural Narratives on Constraints to Community Engagement in Urban Water Restoration

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Abstract: Natural resource professionals increasingly recognize that water protection and restoration efforts require not only technical solutions, but also the active engagement of stakeholders who live and work in the local community. People of color, and those of lower income brackets, are frequently underrepresented in water-related programming or decision-making, although they are often disproportionately affected by water problems. Effective engagement of diverse community members in water programs and projects requires understanding and addressing constraints to action. We conducted 25 interviews with community members who live or work in a highly urbanized Minnesota watershed to explore perceived obstacles to community engagement in local water resource protection and restoration. Based on self-reported race, ethnicity, and general community engagement level, interviewees were assigned to one of three "stakeholder groups" for comparative analysis: formal decision-makers, active white community members, and active community members of color. Qualitative analysis of responses revealed perceived constraints to engagement common to all three groups: inaccessibility and invisibility of water, lack of local leadership in water issues, and limited community dialogue about water problems and solutions. Additional constraints were perceived uniquely by community members of color: cultural constraints around water uses, recreation, action, and inequities or disenfranchisement in community decision-making processes and water programming. Study findings suggest partnership building is needed for collaboration in designing civic engagement programs and improving water protection and restoration projects.

Keywords: *watershed protection, stakeholder engagement, public participation, social disparities*

Healthy lakes and streams can greatly benefit urban communities by fostering community identity, boosting local economies, and improving residents' quality of life. Urban water resource managers increasingly recognize that protecting and restoring healthy water requires not only careful land and water management, but also the engagement of community stakeholders to support funding and implement plans. Unfortunately, fostering meaningful and inclusive community engagement in planning *processes* has been a challenge for water and land resource managers (National Research Council 2008). Moreover, the populations most vulnerable to environmental risks are also least likely to be engaged and represented in natural resource decision-making processes (Sarokin and Schulkin 1994; Moraes and Perkins 2007; Larson and Lach 2010; Phadke et al. 2015). Not surprisingly, research shows that people within dominant social groups (e.g., men, middle aged, homeowners, and higher income and education levels) are more engaged in water issues than their counterparts (Koehler and Koontz 2008).

Research shows public participation in water resource planning and management can have multiple ecological and cultural benefits. Participatory water resource management

enhances implementation of water plans (Lubell 2005; Sabatier et al. 2005), increases community support for long-term planning (Selfa and Becerra 2011), bolsters public funding for water programs (Larson and Lach 2008), and builds social capital, or networks of community influence (Prokopy and Floress 2011). Public participation in water planning can increase public trust in and perceived legitimacy of planning processes (Trachtenberg and Focht 2005). Participatory processes also have diffused community tensions around environmental problems and policy interventions (Fraser et al. 2006). Questions persist around what communities are *excluded* from or underrepresented in planning processes and why. Planning processes that treat the public as having a singular unified interest fail to recognize different voices, empower diverse leaders, or inspire collective and sustained action (Lane 2005). In the case of urban water planning and management, narratives of the cultural constraints to civic engagement have been largely absent from the literature.

Research shows that communities of color and low-income communities face unique cultural constraints to engagement in environmental issues. The environmental justice literature points to a broader set of socio-political and institutional constraints to racial and ethnic minority community members' engagement in environmental issues, including the separation of "environmental" from "social" issues (Di Chiro 2008). Communities facing pressing social issues (e.g., employment, poverty, housing, immigration) commonly prioritize those issues over environmental problems (e.g., Gibson-Wood and Wakefield 2013), especially if institutions separate environmental and social issues.

The structure and method of a public participation opportunity may constrain diverse community engagement. Conventional methods of public participation (e.g., formal meetings) may exclude marginalized communities. For example, a study of environmental participation among communities of color in the United Kingdom found that the formality of facilitated, local sustainability meetings was a constraint to public involvement. This same study found that people of color were more involved in community-oriented events, rather than environment-oriented events (Clarke

and Agyeman 2011). Another study focused on the engagement of Hispanic communities found that formal approaches to public participation were not accessible to the broader Hispanic community (Gibson-Wood and Wakefield 2013). Participants may also lack the confidence to express themselves in formal settings, and their contributions may be viewed as unrelated and unhelpful (Pothier et al. 2019). Further, participation also involves real costs (e.g., transportation, childcare costs to attend meetings) that may differentially affect lower income community groups (Wakefield and Poland 2005).

Closer to our study area, researchers investigated water-related perceptions and behaviors in Minnesota's Hmong community (MWMO and City of Minneapolis 2007). Findings suggest that the Hmong community faces multiple institutional and communication barriers when it comes to accessing water use information. These barriers inhibit community members' awareness of environmental problems and risks, as well as their causes, consequences, and solutions. Conventional modes of water communication (e.g., print materials, websites) often do not take into account cultural preferences for communication (e.g., oral, inter-personal). Language barriers emerged as a major obstacle for Minnesota's Hmong community members.

More recently, the concept of recognition has gained prominence in the environmental justice literature. Recognition of whose experiences and knowledge is included and excluded in the way environmental values and problems are defined or prioritized can also be a constraint to marginalized communities and their engagement in water programs or projects (e.g., Schlosberg 2004, 2007). Lack of recognition denies an equal voice to those who define and experience the environment in ways that are different from the dominant culture (see Gibson-Wood and Wakefield 2013).

Study Context

Multiple waterways in the Minneapolis-St. Paul Metropolitan area (Twin Cities) of Minnesota have been shown to be seriously impaired or at risk (U.S. EPA 2018). The natural hydrology of the area was profoundly altered during the mid-20th

century building boom, resulting in substantially increased vulnerabilities to flooding and pollution (MCWD 2017, 2018). The 22-mile Minnehaha Creek experienced serious impairments stemming from industrial, residential, and transportation development within the watershed. Land use changes, building construction, and increased impervious surfaces within the watershed have led to creek channeling, habitat loss, and decreased base flow, limiting many of the stream's ecosystem services, especially cultural services (e.g., spiritual, aesthetic, recreational, educational, human health, and social cohesion) (MCWD 2018). The creek is listed on the state's Impaired Waters list (U.S. EPA 2018) for excess chloride, fecal coliform, and biotic community impairments.

The Minnehaha Creek Watershed District (MCWD) is a local unit of government with taxing authority. It is charged with the management and protection of water resources within the watershed. The MCWD has made significant investments to protect, enhance, and restore water quality through large-scale capital improvement projects including habitat restoration. Over the last decade, the MCWD has remeandered the mainstem stream channel, restored adjacent wetlands, and constructed new stormwater management facilities (MCWD 2018). Yet the MCWD acknowledges that engineering alone is not sufficient to achieve watershed-scale protection and restoration. Recent comprehensive plans emphasize integrated approaches to management, including the need for "an informed and engaged constituency" to support their water protection strategies (MCWD 2018). Given this prioritization, the MCWD sought insight on how to better engage the diverse community members who live and work in the watershed so as to inform their efforts to achieve implementation goals.

In 2012, the researchers collaborated with the MCWD to assess community capacities for, and constraints to, engagement in watershed protection and restoration projects along the highly urbanized Reach 20 segment of the Minnehaha Creek. Reach 20 spans three municipalities: St. Louis Park, Hopkins, and Edina. Our specific study objective was to explore community member perspectives on constraints to community engagement in water resource protection and restoration.

Methods

Study Area

The Minnehaha Creek watershed encompasses eight major creeks, 129 lakes, and thousands of wetlands; it spans 178 square miles from Lake Minnetonka to downtown Minneapolis. The watershed is divided into 11 subwatersheds, and partially or wholly contains 27 municipalities and two townships. The region includes several water bodies of recreational and cultural significance, including Minnehaha Creek, Lake Minnetonka, the Minneapolis Chain of Lakes, and the iconic Minnehaha Falls, one of the state's most visited attractions (Figure 1) (MCWD 2018), and a sacred site within the ancestral lands of the Ocheti Sakowin (Dakota) People (MPRB 2019). The watershed population is estimated at more than 300,000 with a projected growth of 24% in the next two decades (Metropolitan Council 2012). Population densities are highest in the lower reaches of the watershed, which include Minneapolis's urban core. The lower watershed's population is more racially and ethnically diverse with significant clusters of Hispanic, Hmong, Somali, Ethiopian, and other non-Hispanic ethnic groups (e.g., Asian Indian, Chinese). Municipalities in the upper watershed have higher median household incomes (e.g., Shorewood and Minnetrista exceed $100,000) than municipalities in the urbanized lower watershed (e.g., Hopkins is less than $50,000) (U.S. Census Bureau 2010).

Data Collection and Analysis

We gathered data through 24 key informant interviews with 25 community stakeholders. An initial list of stakeholders, including water resource professionals, government officials, and community actors (i.e., people with leadership roles in community organizations or businesses) within the communities of St. Louis Park, Hopkins, and Edina, was developed through internet searches and discussions with MCWD staff. We then used a chain referral sampling technique (Miles and Huberman 1994) to expand and diversify the sampling frame. Participants were contacted by phone or email and were offered a $50 cash incentive for participation. First, we recruited formal decision-makers (FD) (e.g., government
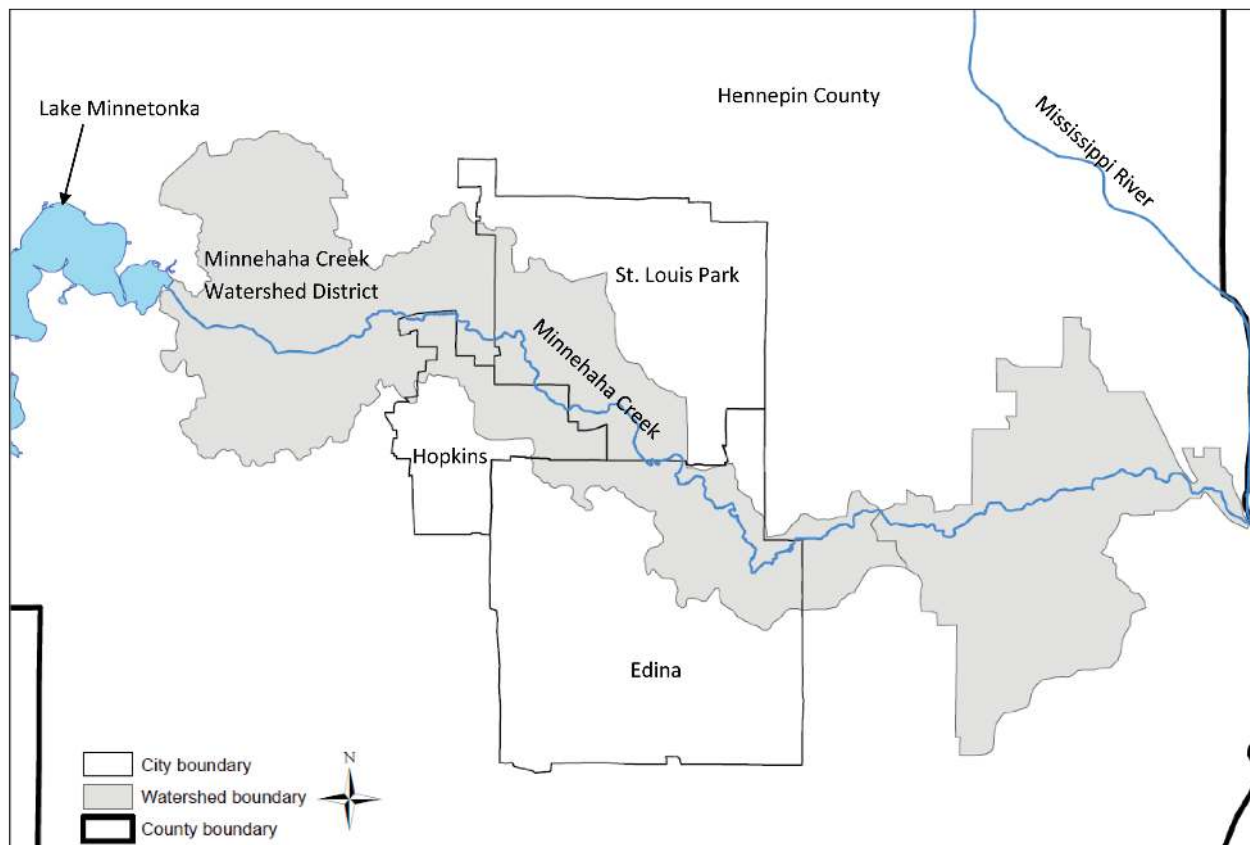
Figure 1. Study sites.

officials) engaged in (or responsible for) water resource protection and restoration activities in the study area and community members active in water resource and other community issues, often from local organizations and businesses. After preliminary analysis, it was clear that the sample underrepresented community members of color (CMC), a population that had been historically excluded from watershed planning. Thus, we intentionally recruited CMC who were active in community organizations or participated in community meetings and events.

Interviews were conducted at participants' homes, places of work, and in public spaces (e.g., coffee shops, libraries) and ranged from 45 minutes to two hours. Standard procedures of informed and voluntary consent were used to protect participants (University of Minnesota IRB #0609E92806). Interviews were audio-recorded and transcribed verbatim. Interviews were semi-structured (Brinkman and Kvale 2015) with the interviewer following scripted questions,

including 21 primary questions (Appendix 1), but also allowing unscripted probing for clarity and meaning. Participants also were asked to complete a short background survey consisting of basic sociodemographic questions (e.g., age, gender, occupation, race, education, organizational membership). Sampling was limited by funding resources, though it continued until we reached what we believed was sufficient theoretical saturation (Charmaz 2006; Corbin and Strauss 2008) around our research questions. While new theoretical insights may have been gained from further data collection, we determined the richness of our existing data and diversity of narratives captured would offer water managers and community actors with important insights.

Data were analyzed using an adapted grounded theory approach consistent with Charmaz (2006). First, we assigned labels or codes to all meaning units including words, sentences, or paragraphs that represent a distinct idea or belief. Next, we organized the codes into broader themes or

categories (Saldana 2009). The themes were used to develop sets of participant narratives. Analysis was performed using QSR International's Nvivo 10 software. Constant comparison was conducted between stakeholder groups to identify common and unique perspectives on community engagement in water resource protection. Theme and stakeholder group attribution were tracked throughout analysis.

Results

Participants' age, years of residence in the watershed, formal education, and occupation varied. Participants' roles in the community included government officials or employees, business owners/operators, community organization leaders, civically active residents, and educators. Nineteen of the 25 interviewees were residents of St. Louis Park, Hopkins, or Edina (Table 1). For comparative analysis of water narratives, participants were assigned to one of three "stakeholder groups" based on reported race and ethnicity, and engagement in water or community issues: 1) FD (n=7), 2) active white community members (WCM) (n=11), or 3) active CMC (n=7) (Table 2). Participants in the FD group described their connection to the community through their professional roles in local government (e.g., city manager, planner). FD participants generally described a high level of engagement in water resource protection and restoration activities. Active WCMs described being connected to the community through the work they do in community organizations, neighborhood associations, (e.g., block leader, school board member), or local businesses. WCMs were engaged in water resource protection and restoration through local organizations and neighborhood associations. Active CMCs described their connection to the community as associated with their ethnic group, the work they do in the area through organizations, and as residents participating in local events or meetings (e.g., community organization leaders, educators). Although involved in other community activities, CMC participants had limited engagement in water resource protection and restoration activities.

We present study findings on constraints to community engagement in water resource protection along five predominating narratives

(Table 3). Narratives 1 and 2 were conveyed by all stakeholder groups, narrative 4 by FDs and active WCMs only, and narratives 3 and 5 were unique to CMCs.

Narrative 1: The Community Lacks Awareness about Local Water Issues

Participants from all stakeholder groups spoke about a perceived widespread lack of awareness of water problems and limited connections to local water resources as key constraints to community engagement; some also referenced this as a personal challenge. Several opined that local water issues receive little attention because there is no perceived connection or threat to drinking water supply. A CMC explained, "I cannot tell whether [the community is] really facing water problems here, because as long as [drinking water is fine], no one will know."

A FD suggested that many community members have little awareness of the "impact of water quality on their lives." Several participants contemplated why awareness is low. One FD asserted that the "ways in which water quality affects people is often invisible." Another FD communicated their sense of the broader community's oblivion to serious local water quality impairments: "the actual levels of the chlorides in the creeks and the ponds, if they understand how bad it is getting, it's getting to the point where it's killing fish and making water stagnant." Meanwhile, a WCM admitted that water quality is a personally "very intimidating subject," suggesting that the complexity of the topic may hinder interest and awareness.

Some participants bemoaned water inaccessibility in their communities. Though the Minnehaha Falls are a locally prominent and beloved water feature, the creek is not a perceptible landscape feature in the Reach 20 area. A FD conceded, "Right now in this area, you don't even know where Minnehaha Creek is. You can't see it from any of the roads. It's back behind a lot of industrial-commercial businesses." Similarly, several participants described the creek as "covered up." Participants also agreed that despite being a water-rich region, water is not "central to the community identity" in the Reach 20 corridor. A FD added, "Besides a couple small lakes, water doesn't make up as big of a proportion, as visible of

Table 1. Study participant profile.

Sociodemographic characteristic		
Gender	Male	13
	Female	12
Race	White	18
	African American	1
	Somali	3
	Ethiopian	1
	Indian	1
	Chinese	1
Age	Minimum	26
	Maximum	61
Years of local residence	Minimum	Non-resident
	Maximum	52
Formal education	Completed high school	1
	Associate degree or vocational degree	1
	College bachelor's degree	6
	Completed graduate degree (Masters or Ph.D.)	10
	JD	1
Occupation	Government	7
	Business	3
	Organization/Association	5
	Resident- apartment	7
	School/Education	3
City/County	St. Louis Park	11
	Hopkins	9
	Edina	2
	Others	3

Table 2. Stakeholder group characteristics.

	Formal decision-makers	White community members	Community members of color
No. of participants	7	11	7
Ethnicity	White	White	Somali, African American, Chinese, Ethiopian, Indian
Primary connection to community	Professional	Organizations and associations	Participation in community events
Role/Position	Water resource professionals, government officials	Resident, business owner, leadership positions in organizations	Community advocate, resident
Engagement in water resource issues	Engaged in professional capacity	Engaged through organization activities	Limited engagement

Table 3. Constraints to community engagement in water resource protection. FD = formal decision-makers. WCM = white community members. CMC = community members of color.

Theme *Descriptors*	Stakeholder Group		
	FD	**WCM**	**CMC**
Narrative 1: Water is an invisible and inaccessible community resource			
Lack of awareness of water issues *Community members lack awareness of water resource problems, impacts of water pollution, consequences of their actions on local water resources, and their own connections to water.*	x	x	x
Complexity of water resource problems *Water quality is difficult to define and can be an "intimidating subject."*	x	x	
Limited visibility and accessibility of water resources *Water resources are not a visible and central part of the community's landscape; Negative perceptions of the creek (i.e., as "a swamp").*	x	x	
Narrative 2: Water discourse lacks community relevance			
Ineffective communication about water issues *Water resource issues are not discussed in the community; community leaders do not address water resource issues; water resource issues are not linked to other community issues.*	x	x	x
Language barriers *Language barriers exist in communicating issues with the community.*		x	x
Narrative 3: Culture shapes water uses, values, and civic engagement			
Recreation styles *Recreational use of water resources varies across cultural groups. Boating, swimming, or fishing for recreation (e.g., non-subsistence fishing) may not be common practices in certain ethnic groups.*			x
Communication styles *Some community members of color are not outspoken because of cultural differences in communication styles or language barriers.*			x
Cultural integration *Adapting to new cultural norms around water takes time. Perceptions of water and water issues vary based on cultural uses, water conditions in country of origin.*			x
Strained intercultural relationships *Lack of understanding and trust between community members of different racial/ethnic identities affects engagement.*			x
Narrative 4: Water management is complex and uncoordinated			
Multiple authorities/property owners *There are too many organizations and too many rules around water resources; lack of clarity exists in property ownership along the creek.*	x	x	
Lack of coordination *Lack of coordination between multiple jurisdictions in addressing water resource issues.*	x		
Narrative 5: Community members of color are disempowered in decision-making			
Civic engagement not inclusive *Water plans, projects, and programs are not inclusive of community members of color.*			x
Community needs not addressed *Needs of communities of color (e.g., transportation, child care, basic cultural differences) are not addressed in civic engagement efforts.*			x
Lack of decision-making power *Community members of color are underrepresented in organizations with decision-making authority or with influence on decision-making.*			x

a proportion, of the [geographic] community. And, [it's] just not as central to the community identity as some of the lakeside communities [nearby]." Several participants linked the physical and visual inaccessibility of water to reduced awareness of water problems. A FD participant reflected:

> If you're not an outdoors person and you don't live on the creek in St. Louis Park, a lot of people might not even know it's there. They don't really see it on a day-to-day basis. So that's probably the biggest issue, awareness of what types of runoff impact the quality of water and how that filters into the system. I think that's better than it was 20 years ago, but I'm sure there's a lot of people that don't get that connection between fertilizer running into the storm sewers and that ultimately getting to the creek.

Narrative 2: Water Discourse Lacks Community and/or Personal Relevance and Investment by Local Leaders

Participants in each of the stakeholder groups characterized communication about water resource issues by local leaders as ineffective and a constraint to community engagement. When asked about community engagement in water resource protection, several participants expressed concern about the lack of community leaders who are engaged in water issues. A WCM believed community leaders should play a more active role in guiding community dialogue:

> I think we need to engage our leaders to be addressing [local water quality goals] more. I don't think that it's talked about much. I think it should be something that we can have upfront like at community gatherings, such as the Raspberry Days, things like that…have booths or something where you're interacting with the public.

CMCs expressed similar concerns about a lack of community discussions around water. One CMC stated, "I never see [community leaders] talk about water. They never talk about water." To illustrate how important local leaders are in guiding community member engagement, a CMC used an analogy of a school principal's role in setting the tone of a school's environment: "It's

kind of from-up-to-down thing. So if the [school] principal doesn't care, we don't care as well."

The way in which water issues are framed also appears to influence community engagement. One WCM stressed that when "the issue of water resource or pollution… is presented in a way that doesn't connect with [community members'] lives, it will be hard to make progress on that issue." Similarly, other participants emphasized the need to make water communications personally relevant to people. A FD elaborated:

> What isn't helpful is when we hear about a certain species that no one's ever engaged with. Trout, that would be a species that we could all get behind, but if it's a slimy mud flea or whatever, and we just don't have enough of them, the biotic integrity just isn't there, that's hard for people to understand. It might be the right move. It might be a natural resource service and the habitat side that we want to get…but man, when you come at them with the chemistry equations, and you come at them with the scientific names of the little bugs that you don't see in the stream because it's not a healthy one, I think people just kind of glaze over.

Beyond message framing, language barriers were a distinct and significant challenge in water communication for several CMC participants. A CMC participant offered an example of typical communications they receive about upcoming meetings: "If you knock the door and say 'Hey, this is a letter, it's a project, you need to come attend this meeting,' maybe I don't understand English and I don't understand you, I just took the letter and say 'oh, thank you.'"

Narrative 3: Culture Shapes Water Uses, Values, and Civic Engagement for Community Members of Color

CMCs explicitly identified cultural factors as constraints to their own engagement in water resource protection. For many of their community members, cultural heritage and experiences shape their interactions within their communities and their connections to water. CMC participants identified their primary use of water is for household purposes, including drinking, cooking,

and washing. Several CMC participants stressed that water-related recreation is not consistent with their cultural traditions, practices, or lifestyles. When asked about use of the creek, a CMC said succinctly, "No, I don't go down the creek in a canoe. It's not part of my culture." Another CMC suggested that her upbringing has influenced her use of the creek. She explained, "If you didn't have water around you growing up maybe, you haven't developed that culture." Similarly, adjusting to new cultural norms in water recreation can be particularly difficult for women and for older generations. A CMC explained,

> You wouldn't see a Somali person diving in, especially women because we have not learned to swim into lakes. You don't have that training as a kid, and back home you may take a chance to swim [in an area that has rainfall], but you're not going to drown. ...But here because everything has to be structured, you have to learn how to swim, wear the better dress, better swimming suits. Somalis will not, most of them, my generation will not wear a swimming suit and go into the lake.

CMC participants also referenced cultural factors as constraining their participation in public water protection dialogue. CMC participants characterized their communities as not "vocal" about water issues. A CMC member attributed limited engagement in water issues to her "cultural upbringing":

> Ethiopians in general… our culture, I believe hinders us. If you take the Somali culture, they're more [out]spoken, they're more visible. Whereas Ethiopians are more subdued and kind of in the background. And, I attribute that to our cultural upbringing. So maybe that has to do with that, of us not standing up and facing those issues and resolving it, maybe.

A lack of engagement is further fueled by strained intercultural relationships. Participants portrayed community members' distrust in the dominant culture as a result of the dominant culture's limited intercultural understanding and history of oppression. A CMC participant explained:

> It's trust, and that trust comes in with… "You hear what my needs are, and I want you to help me get there," or "Let's partner." "Don't

just use me to get your agenda across." So then there is that kind of suspicious thing in our area, which is, I think, something normal. When you're a minority of the area and people don't understand who you are, they have their own little bias, so we have ours as well.

Narrative 4: Water Management is Complex and Uncoordinated

Participants from the FD and active WCM stakeholder groups believed that a lack of clarity around water management in the watershed is a constraint to community engagement. WCM participants noted that they felt put off by the complexity of management and strategies, as multiple agencies, organizations, and businesses appear to have varying responsibilities, goals, and interests in water. In addition, the Minnehaha Creek flows through several municipalities and several participants expressed uncertainty about "who owns the land" and "who has jurisdiction." Balancing the interests of multiple agencies and organizations is a clear challenge. A WCM participant described this in the context of a nearby lake (outside of study area) and that lake's management:

> The most challenging aspects are just the sheer number of agencies and organizations that have their fingers in the lake. Lake Minnetonka is probably the most highly managed or highly…regulated lake in the state of Minnesota. It's got several state agencies like all lakes do- Minnesota Pollution Control Agency, Department of Natural Resources, Department of [Agriculture], and probably a few others that I'm not thinking of…whose programs and regulations affect the lake. There are 14 cities around the lake, a couple of park districts and many businesses and non-profits all with similar interests most of the time, but many with competing or opposing interests as well. And balancing all that to get things done is challenging.

Some FD participants recognized that the state of Minnesota has an "organizational infrastructure" in place through city, county, and watershed-wide plans. However, they also lamented the lack of cross-jurisdictional coordination and collaboration to address water resource issues. A

FD questioned the value of having multiple plans and organizations in addressing problems in an expansive geographical area:

> We have 11 organizations in Hennepin County, and they don't talk to each other very much, and we have cities, they're in four different watershed organizations… We have a system where everybody's generating plans. We've got 11 watershed management plans, we have all these local water plans, and still we're not addressing the fact, well how do you? Over a larger geographical area, how do you set priorities? How do you implement? How do you allocate resources?

Narrative 5: Community Members of Color are Disempowered in Decision-making

According to CMC participants, lack of representation in community decision-making processes generally, is a significant constraint to their water engagement. Participants emphasized that a strong motivation to be engaged in community issues exists in communities of color. A CMC participant noted her community's strong desire to be engaged while acknowledging feeling outside the decision-making "circle":

> We actually know what we want to do. We actually know where our needs are. I want to be able to be in the circle where decisions are made, and I will help you make the decision… ones best for us… I think some people call it discrimination, but I call it…a challenge. But one of these days we'll get through it. Somebody has to do it, right?

Several CMC participants expressed ongoing frustration that their communities are not taking part in the water dialogue. A CMC observed, "We get water, we drink it…it's not been part of our dialogue, it's never been. But I think it should be." Another CMC participant stressed the importance of engaging CMCs as program planners and designers rather than simply end users:

> People get used to telling us what to do, or bring in programs into our doorstep, but we're never are part of the planning. So then if you're not part of the planning, nobody knows how you… your feedback's not there. Your ideas [are] not there. Then if you don't have the conversation …we're not part of the dialogue. So that's the biggest barrier.

According to CMC participants, not being meaningfully engaged in dialogue has led to weak programs or disparities in resource distribution. For example, a CMC noted that multiple requests from the Somali community for a community center have been ignored:

> We ask a lot of times, many times to have a center for the community, Somali community… to learn the culture or whatever, teach kids language. They don't answer. So that's why everybody say "Oh no, they're same thing." So last five years …they ask us something, used to ask us, then when they say "What do you want as a community, what do you need?" and then we never see something.

Fueled by frustrations over historic oppression, many CMCs may reject any new programming that is not designed specifically for their community:

> [Agency or organization leaders] start the intervention, and the intervention does not fit us because we're not the community that that program was developed [for]. Then immediately the rejection happens, and that's why everything that's happening is ineffective because the program is not catered to us. It was not for us, it was for the general population, and we don't fit that category.

Discussion

In this study, we interviewed 25 community members in the MCWD regarding their views on water engagement and we documented five key narratives on engagement constraints. Narratives 1 and 2 were conveyed by participants from all stakeholder groups, narrative 4 by FDs and active WCMs only, and narratives 3 and 5 were conveyed uniquely by CMCs:

1. The community lacks awareness about local water issues.

2. Water discourse lacks community and/or personal relevance and investment by local leaders.

3. Culture shapes water uses, values, and civic engagement for community members of color.

4. Water management is complex and uncoordinated.
5. Community members of color are disempowered in decision-making.

These narratives are significant because they serve not only as cultural stories, but also as cultural worldviews that frame and impede water action. They reflect varying water beliefs, social and cultural norms, attitudes, and behaviors. Comparative analysis of comments by participants from all three stakeholder groups (FDs, active WCMs, and active CMCs) identified areas of convergence as well as areas of clear divergence in perceptions and lived experiences associated with water and community engagement.

Common ground emerged around water communication and community awareness of water issues. Specifically, lack of awareness about local water resource problems and ineffective communication about water by local leaders were common themes across the three stakeholder groups. According to participants from all stakeholder groups, there is a need for local leaders to put greater focus on water issues. Respected leaders in the community have the ability to stimulate community member engagement and activate a currently absent dialogue about water issues among community members. Participants also stressed the need to focus water discourse on dimensions that connect to the real issues and values of community members, such as drinking water. FD and WCM participants also perceived that community members are not motivated to engage in water protection because local water is largely unseen and inaccessible. FD and WCM participants believe that the complexity of water management, including roles and jurisdictions, has stymied public participation in water planning and priorities.

In our view, the emergent FD narratives reflect the archetypal "urban water manager" or synoptic planner who frames public participation as a matter of raising awareness and educating citizens about expert-driven water goals. Lane (2005) characterizes this approach to public participation as tokenistic and a product of assumptions that the public interests are homogenous. In our study, FDs located constraints to community engagement as being 1) within the community:

the community is physically and intellectually disengaged from water, or 2) within the nature of water management: water management is too complex and confusing for the community to be engaged. Though participants from all three stakeholder groups stressed that the community lacks awareness of water issues, CMC participants were forthcoming about institutional barriers in water communication, cultural insensitivity of participation opportunities, and historic oppression of people of color in decision-making. CMC narratives were tied to broader socio-economic and cultural context and programmatic inequities.

Two emergent narratives were unique to CMCs: the role of culture in shaping community-water interactions, and inequities in decision-making that specifically disadvantage or disempower CMCs. Culture was central to CMC participants' discussion of community engagement constraints including cultural differences in water-based recreation, heterogeneity within and across ethnic groups, the challenge of adapting to new cultural norms for recent immigrants, and limited cross-cultural understanding and competencies of the dominant culture. Similar work in Minnesota has shown that language barriers, limited access to culturally relevant water recreation, and cultural differences in water recreation are barriers to engaging some communities of color in water management (e.g., MWMO and City of Minneapolis 2007; Davenport et al. 2016). Research has shown high levels of engagement in social issues such as housing, employment, health, and immigration among CMCs (e.g., Mohai and Bryant 1998; Clarke and Agyeman 2011) and lower levels of engagement in environmental issues. This trend was echoed in narratives captured in this study. Water management efforts that lack cultural or social relevance are less likely to be successful (Di Chiro 2008).

Finally, CMC participants referenced the lack of representation in community decision-making or leadership as a significant constraint to their community's engagement in water issues. Participants spoke candidly about the exclusion of their communities in programmatic design or project planning, limiting their sense of ownership in water programs and projects, and fueling frustration and detachment from water issues. While CMCs acknowledged community

willingness to engage in issues, they also want to be part of the decision-making process, and not mere recipients of programs. In watershed planning, perceived fairness in the decision-making process enhances trust among stakeholders (Leach and Sabatier 2005), increases perceived legitimacy of planning processes (Trachtenberg and Focht 2005), and leads to greater satisfaction with and acceptance of decisions and confidence in decision-makers (Lind and Tyler 1988). Study findings suggest that lack of representation and decision-making power is a significant constraint to the engagement of diverse, underrepresented groups in water resource protection. As one CMC participant in this study explained, the lack of representation and decision-making power can lead communities of color to become disengaged and to reject community programs.

In addition to issues of procedural fairness, this study also shows that the lack of recognition (Schlosberg 2004) of the experiences, values, and voices of marginalized communities can be significant constraints to their engagement. Lack of recognition denies an equal voice to communities of color in community planning and decision-making, and can fuel their frustration with the planning process. This "frustration effect" (Lawrence et al. 1997) among CMC participants stems from past experiences with attempting engagement in community events and meetings in which their needs and concerns were not taken seriously.

While this study documents important constraints to community engagement for communities of color, it is important to note here that "communities of color" are not a homogenous group. There could be critical differences among ethnic groups that this study does not capture. While examining interethnic differences in water engagement is beyond the scope of this study, it is an important area for future research.

Conclusion

We believe several important recommendations can be drawn from the narratives that could improve water protection. Chief among them is to re-envision the approach to community engagement, from a top-down, agency-driven approach to a community-driven approach. Active

forms of public participation create community partnerships, and allow for greater levels of community involvement in decision-making (Arnstein 1969). This is particularly important when engaging traditionally underrepresented communities. CMCs expressed a willingness to engage in water issues. However, they also want their voices represented in community decision-making. Thus, the community should drive engagement process design and definitions of success. Of utmost importance is to listen carefully to CMC concerns, and to take active steps to address those concerns, even if those concerns are not perceived to be "environmental" or "water-related" by resource managers.

CMCs should be included early on in the engagement process in defining local community problems, rather than being informed about and asked to participate in community interventions that do not represent their perspectives and concerns. As one CMC participant explained, negative experiences with agency-driven community interventions can lead to rejection of community programming and a general distrust of agencies. There is a need to build and regain trust. An important step in a new community engagement approach will be to build trusting relationships with communities of color through trusted and respected minority group leaders and existing community institutions such as community centers and places of worship.

While CMCs were not highly engaged in water issues, they were engaged in other community issues (e.g., health, education). Water managers should reflect on the linkages between water and expressed community needs around housing, transportation, immigration, workforce development, youth mentoring, or parks and trails access. Which community-based organizations are having success in these areas and how might water managers best partner with these organizations to build mutual capacity? As past research suggests, the segregation of environmental from social issues (e.g., Di Chiro 2008) can be a barrier for community engagement among CMCs. Strategies that connect water issues with broader community issues are more likely to resonate with local communities, particularly CMCs. In a community-driven approach, rather than defining and leading

engagement efforts, managers could play the role of supporting culturally inspired and community-led public events to help build collaborative relationships and trust. Building trust is a long-term commitment. Managers should prioritize and incentivize relationship building within their institutions, and commit to relationship building beyond specific project timelines.

Finally, findings suggest the need to increase the visibility and accessibility of water resources in the urban corridor. Water managers may want to consider daylighting streams and creating more community-water access points, but above all proactively engaging community members in dialogues on community values and needs related to water access.

Acknowledgments

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Appendix 1. Minnehaha Creek Assessment Interview Guide

First, I have some questions about you and your connection to this community.

1. How would you define community?
2. How would you describe your connection to this community?
3. What has been your role as [position] in this community?
4. What would you say are the best things about the work you do in this community?
5. What have been some of the most challenging things about the work you do in this community?

Next, I have some general questions about community assets and needs.

6. What would you say are the biggest assets of the community?
   a. What makes these assets important?
7. What do you believe are the most pressing needs in the community?
   a. What makes these needs important?
8. In the past 5 years, what would you say have been the most significant problems the community has faced?
9. How effective has the community been at responding to or managing these problems?
   a. What made it effective/ineffective? Can you provide examples?

Now, I have some specific questions about community planning and water resources in the [X] watershed, which intersects the community [Map: point to watershed boundaries on map].

10. How important are water resources such as local streams and lakes to quality of life for residents in this community?
11. Is the community actively engaged in land use planning in this watershed?
    a. What success has it experienced? Please explain.
    b. What challenges or setbacks has it experienced? Please explain.
12. Is the community actively engaged in water resource protection and restoration in this watershed?
13. What success has the community had related to water resource protection? Please explain.
    a. What has contributed to these successes? (e.g., leadership, funding, citizen groups, etc.)
14. What challenges or setbacks has the community had related to water resource protection? Please explain.
    a. What has contributed to these challenges?
15. As you may know, certain streams and lakes in the area have been identified as polluted or impaired with respect to water quality and aquatic habitat. How concerned are you about the quality of water resources in the community? Please explain.
    a. Are there any issues that you are most concerned about?
16. If the community was going to be more effective at addressing these types of water resource problems…
    a. What would it need to do?
    b. How would it do this?
    c. What resources would it need to accomplish this?
17. What do you see as the 3 biggest barriers to better engage this community in water resource protection and restoration?
18. What do you see as the 3 most promising opportunities to better engage this community in water resource protection and restoration?
19. Is there anything else you would like to share with me about the community or water resources in this area?

Finally, I would like to get some recommendations from you as we proceed with this project.

20. What other community representatives (e.g., from government, organizations or interest groups) could give us an important perspective on community assets and needs on water resources in this area? (Those with similar or very different perspectives than you.)
    a. What makes them a key representative (organizations they are involved in, how are they involved in watershed management in this area)?
    b. May we tell them you recommended them?
21. We would like to identify representatives willing to provide input, receive information and serve as community liaisons for the duration of this project. Would you be interested? ___Yes ___No