

Urban Environmental Equity Project Field Report 1: Issues, Stakeholders, and Equity in Milwaukee's Urban River Management

by R. Wilson¹, B. Cutts¹, E. Lower¹, J. Williams¹, C. Norris¹, K. Lutsch¹, J. Zouras¹, M. O'Loughlin¹, N. Lyu¹, K. Zhu¹, D. Fang¹, A. Greenlee²

¹ Department of Natural Resources and Environmental Sciences, University of Illinois at Urbana Champaign, Urbana, Illinois USA ² Department of Urban and Regional Planning, University of Illinois at Urbana Champaign, Urbana, Illinois USA email: NRES-UrbanEquity@illinois.edu phone: 217-244-1921

Overview

This report aims to characterize stakeholders in urban stream management and understand how groups experience management activities. The report includes opinions and perspectives concerning stakeholders in urban river management in the city of Milwaukee. Data come from 35 semi-structured interviews with Milwaukee residents selected to participate in semi-structured interviews as part of the Urban Environmental Equity Project between February 2014 and February 2015 (to learn more about the overall goals of the project, visit <http://publish.illinois.edu/urbanequity/>). This is part of a series of reports derived from those interviews.

In the sections below, we draw from interviews to describe categories of stakeholder identities, perceptions of inequality related to urban river management, and efforts to support equity. By analyzing these interviews we first learn that some stakeholders associated urban river management with flood management, dredging, remediation, naturalization, decreasing pollution and stream restoration. Second, we learn that interview participants recognize four types of stakeholders: Riparian Residents, Businesses and Investors, NGOs, and Government Organizations. Third, interviewees cite instances of inequality and disconnects among and between stakeholders as forces that may intensify social vulnerability. Lastly, participants identify groups that are working to reduce these power imbalances through community engagement in relation to river management projects. While interview participants are not necessarily representative of the population overall, their perceptions and experiences related to urban river management can be used as a means to facilitate a wider and more inclusive discussion about attitudes towards management activities in Milwaukee. Further, the results may also inspire new opportunities for communication among stakeholder groups.

Understanding how interview respondents define and describe stakeholder groups is an important indicator of the opportunities for environmental, social, and economic goals to become better aligned through environmental management activities and outcomes designed to un-do environmental degradation caused by past land and water uses. In the words of interviewee 24, "Milwaukee is more and more turning to its rivers instead of away from its rivers." While new river management activities are certainly good news for the environment, they may have unforeseen effects on vulnerable populations.

Background

UEEP project

The Urban Environmental Equity Project aims to use social science research to understand two things: 1. *Are the concerns communities have about the Milwaukee Estuary AOC being addressed during clean-up efforts?* 2. *How do different groups decide if clean up is successful?* From this work, we hope to facilitate communication between residents and technical experts managing cleanup to improve the quality of the environment and human health. To accomplish our goals, we study patterns of change using government data sources like the US Census and use interviews and video recordings to collect the stories of residents, community organizers, and other stakeholders who have live near or interact with the waterways. The Urban Environmental Equity Project was developed to understand perceptions of sediment remediation associated with legacy pollution in the Milwaukee Estuary Area of Concern (AOC) to promote environmental justice as well as to improve ecological and economic opportunities.

Mitigation of pollution in the Milwaukee Estuary AOC has been enacted through the Great Lakes Legacy Act (GLLA), which provides federal funding for the removal of contaminated sediments to improve the health of the Great Lakes watershed. (US EPA 2015)

Milwaukee's historical use of waterways as a means to dispose of toxic byproducts from heavy industrial production is the reason that river sediment in the Milwaukee Estuary AOC exhibits high levels of harmful pollutants today. (Wisconsin Department of Natural Resources, 2015). These pollutants have damaged ecosystems and have limited the ecosystem services that the AOC can provide. Funding from the GLLA has enabled the Environmental Protection Agency (EPA), the Wisconsin Department of Natural Resources (WDNR) and other organizations in Milwaukee to rid the Milwaukee Estuary AOC of pollutants that were generated by past industrial activity. This research is focused on the Lincoln Park and Milwaukee River Channel sediment remediation project within the Milwaukee Estuary AOC. This project is a joint partnership between the EPA, the WDNR and Milwaukee County Parks. The project began in 2008 and has completed its second phase (US EPA 2015). 140,000 cubic yards of contaminated sediment were removed in phase I of this project. (US EPA 2015).

Along with sediment remediation projects occurring in Milwaukee's rivers, other initiatives are occurring to promote healthy aquatic ecosystems in the city. Dams and concrete lining are being removed from waterways. Native plantings are also being added along these waterways to naturalize them and as a way to manage flooding. Urban river management projects such as these have taken place or are currently being completed in the Menominee, Kinnickinnic and Milwaukee Rivers. (Milwaukee Metropolitan Sewerage District, 2015).

Interview methods and questions, coding

In an effort to uncover more about local perceptions of the ongoing remediation process and how environmental changes impact the community, the Urban Environmental Equity Project conducted a series of video interviews from February 2014- February 2015. Potential interviewees, all of whom resided in Milwaukee, were recruited through an initial web crawl of Milwaukee environmental organizations, online contact forms and snowball sampling. The interview process was informed by the Community Voice Method. This method uses semi-structured video interviews to allow interviewees to share their stories and concerns related to a particular topic. This research method emphasizes participatory decision-making and aims to provide a platform for people to voice their opinions who may face barriers in doing so otherwise (Cumming and Norwood, 2012). All interviews were carried out in Milwaukee at the convenience of the interviewee. Interviewee answers determined the length of the interviews, but most lasted from 30-60 minutes. Interview questions focused on what interviewees valued in their community, their opinions of the natural environment in Milwaukee, their perceptions of issues related to equity in the city, and their knowledge of urban river management projects occurring in Milwaukee. Qualitative interviews such as these aim to provide context for discovery. The purpose of these interviews is to collect data from as many participants as possible until researchers reach empirical saturation. Doing so for all emergent themes and sub-themes, however, is not always possible or practical. Therefore, this analysis is meant to highlight diversity and concerns within the community shared across two or more respondents. It is not meant to quantify the frequency of the concern in the population overall.

The video-recorded interviews were transcribed and analyzed for content relating to the topic of this report. Discussion of stakeholder identities and interactions were identified as a distinct point of interest through multiple interviews, with 18 of the 35 participants speaking at length about the types of stakeholders that were important to urban river management in Milwaukee and the interactions among them (Table 1). Urban Environmental Equity researchers developed a collaborative coding protocol that was implemented from February to June of 2015 (MacQueen et al. 1998). Coders used the qualitative data analysis program Atlas.ti to mark quotations about “stakeholders” in all 35 transcribed interviews. From the 853 quotes that were marked in the coding process, we identified themes related to urban river management. To do this, we used a ground-up approach based in the content of the interviews (Ryan and Bernard 2003). Because there were such a large number of codes related to stakeholders, parameters were used for discerning whether a quote included information relevant to this report. To be included in our analysis, interview quotes marked in the coding process had to include perspectives or facts concerning urban river management activities in Milwaukee only. Some quotes were obviously about remediation or river management in Milwaukee. However, some were more ambiguous and required context to determine the point that an interviewee was making. In those cases, the full interview transcript was examined for context clues such as questions asked by the interviewer or previous statements by the interviewee. Analysis of these transcribed interviews revealed three distinct but overlapping contexts in which interview

participants talked about stakeholders: identity, inequality, and opportunities for more inclusive planning. These contexts are discussed in the sections below.

Table 1.

Interviewee list

Stakeholder type	Number of Interviewees	Works in envtl. field	Female	Interviewee IDs
Riparian Resident	19	14	6	1; 5; 10*; 12*; 13; 16; 17; 18; 19*; 20; 21; 22; 28; 29*; 30*; 31; 32*; 34; 35
Government	5	4	2	4*; 9*; 11*; 15*; 25*
NGO	14	7	6	2*; 3*; 6; 7; 8*; 12*; 14; 23; 24*; 26*; 27*; 30*; 31; 33*;
Businesses and investors	0	n/a	n/a	n/a

Note: * - indicates interview including detailed discussion of stakeholders

Findings

Identifying the issue and the stakeholders: Interview participants define both urban river management and stakeholder groups broadly

Our first finding was that many interview subjects defined urban river management much more broadly than the Lincoln Park/Milwaukee River channel sediment cleanup efforts within the Milwaukee Estuary AOC, the primary focus of the Urban Environmental Equity Project¹. Interviewees described additional remediation projects in the Kinnickinnic and Menominee Rivers as well as river management activities including flood management in Lincoln Creek and the Kinnickinnic River, naturalization of the Menominee and Kinnickinnic River, dam removal, decreasing pollution and stream restoration. We initially sought to focus only on issues surrounding sediment remediation in the AOC, but we received many perspectives concerning river management activities that fall outside of the technical definition of remediation. We have chosen to include these perspectives in order to provide context for the trend of increased attention to river quality that is occurring throughout Milwaukee.

Thus, for the purpose of this report we have chosen to identify “stakeholders in urban river management” as organizations or groups of individuals who are identified *by interview participants* as either affected by these projects or those who are directly or indirectly involved with planning and implementing them. Interview analysis identified four broad categories of stakeholders based on actions taken or effects felt in relation to river management projects. These stakeholder groups are: riparian residents, businesses/developers/investors, NGOs and

government organizations. The section that follows characterizes each of the four emerging stakeholder identities. Specific organizations mentioned by interviewees are listed in Table 2.

Riparian residents

Interviewees considered riparian residents stakeholders because they live or recreate in proximity to the river management activities occurring in Milwaukee's waterways. In interviewee descriptions, this group of stakeholders is comprised of a lower-income group directly west of Lincoln Creek and higher-income groups living directly adjacent to the river. According to interviewees, this category also includes residents in neighborhoods surrounding river management projects, the Lincoln Park Community Center, African American communities, and recreationalists.

Businesses, investors and developers

Many of our interviewees perceived a link between river management and economic revitalization. Specific developers, investments and businesses that have been identified as stakeholders by interviewees are developers of housing and the Milwaukee Riverwalk, as well as Manpower, a multinational human resources consulting firm. In general, interviewees did not provide much specific information about what developers, businesses, and investors are involved in reinvestment of remediated areas. This indicates that these entities as a stakeholder group may not be as visible as other groups. This group is also more removed from Milwaukee's urban river management activities as compared to other groups, because they are involved in areas that have already undergone the process. While many opinions pertaining to this stakeholder group were shared, we have not yet spoken with anyone who represents this group.

Non-governmental organizations (NGOs)

In the research process, we interviewed representatives of nongovernmental and grassroots organizations that work in Milwaukee and have a stake in the city's river management activities. Although they may not have the capacity or funding to implement large management projects, the stewardship, advocacy, and community-building actions taken by these NGOs in relation to river management demonstrate their influence over Milwaukee's waterways. Specific NGOs included in this stakeholder group are the Harambee Great Neighborhood Initiative, Milwaukee Riverkeeper, 16th Street Community Health Center, the River Revitalization Foundation, and Groundwork Milwaukee. Interviewees indicated that groups such as the River Revitalization Foundation and Milwaukee Riverkeeper seem to be central to smaller-scale river restoration activities. The River Revitalization Foundation buys land on the Milwaukee River in order to preserve and naturalize it. Milwaukee Riverkeeper performs water quality testing and plants native vegetation along river ways. The Harambee Great Neighborhood Initiative, Groundwork Milwaukee, the 16th Street Community Health Organization and Milwaukee Riverkeeper have a role in community engagement related to urban river management (Table 2).

Government Organizations

Interviewees have identified various local, state, and national government agencies as stakeholders in urban river management, as they fund and execute large-scale management plans. Specific entities included in this stakeholder group are the Milwaukee Metropolitan Sewage District (MMSD), the Environmental Protection Agency (EPA), the Wisconsin Department of Natural Resources (WDNR), Illinois-Indiana Sea Grant, and the Wisconsin state government. Through the Great Lakes Legacy Act, the Wisconsin Department of Natural Resources, Milwaukee County Parks, and the U.S. EPA Great Lakes National Program Office are collaborating on the Lincoln Park and Milwaukee River Channels sediment project (Wisconsin DNR, 2015), while MMSD is central to flood management projects. The EPA, WDNR and MMSD have a stake in community engagement because they have made efforts to include community input in their projects.

Table 2.

List of stakeholders referenced in interviews

Stakeholder group	Specific identifiers used in interviews
Riparian Resident	African American communities Higher income groups living right on the river Lincoln Park Community Center Lower income group directly west of Lincoln Creek Recreationalists Residents in surrounding neighborhoods Residents living between north side of Hampton & turn in Lincoln Creek Residents living west of Lincoln Creek
Businesses and Investors	Developers of Milwaukee Riverwalk Housing developers Manpower
Non-governmental organization	16th Street Community Health Center Groundwork Milwaukee Harambee Great Neighborhood Initiative Milwaukee Riverkeeper River Revitalization Foundation
Government	Environmental Protection Agency (EPA) Illinois-Indiana Sea Grant Milwaukee Metropolitan Sewage District (MMSD) Wisconsin Department of Natural Resources (WDNR) Wisconsin state government

Diverse Perceptions of Urban River Management

The diverse group of interview subjects provided a multitude of opinions related to urban river management, many of which contrasted. Our findings in this section demonstrate many positive feelings about urban river management projects in Milwaukee. However, there are riparian stakeholders whose needs and concerns may not currently be understood by agencies carrying out these river management projects. These perceptions may indicate inequality or

power imbalances between stakeholders, but they also present an opportunity for increased communication and incorporation of community needs into urban river management projects.

Perceptions of inequality within the riparian resident stakeholder group: distribution of information about the Lincoln Park and Milwaukee River Channels Sediment Projects

Perceptions shared by two interviewees indicate that low-income riparian stakeholders may experience an increase in vulnerability due to a lack of information. Interviewee 3 perceived a disparity in access to information about the remediation between low and high-income riparian residents. She characterized populations living on the river as wealthy and populations living directly west of Lincoln Park as low-income. She described that the wealthier residents living near the Lincoln Park remediation site were well informed about the sediment project. However, she believed that the people living in the lower-income area were not made aware of the remediation activities until they were underway. Similar information was provided by Interviewee 19. Interviewee 19 identified as middle income and was engaged and aware that the remediation process was occurring. She perceived that people living a few blocks over were not interested, engaged, or aware of the cleanup. However, unlike Interviewee 3, Interviewee 19 framed this disparity as a proximity issue and did not share any thoughts about the implications for equality. Ideally, we hope to hear perspectives directly from riparian residents who may have experienced a lack of information about the Lincoln Park remediation.

Riparian perceptions of urban river management: praise for cleanup projects

Many interviewees had positive feelings surrounding urban river management projects in Milwaukee. Interviewee 10 lives near the Lincoln Creek and expressed that he had encountered mostly positive feelings about the remediation. He stated, “Everybody wants it cleaned up.” Interviewee 3 also expressed that she did not think there was anyone who didn’t want the sediments to come out, and that people were excited for the sediment removal. Interviewee 19 lives on the Milwaukee River near Lincoln Creek and expressed positive feelings about the cleanup. She was pleased that the hazardous materials were being removed for the health and safety of people who may come into contact with the river. Interviewee 27, who grew up near Lincoln Creek, recalls that the creek used to be very polluted before remediation, and that his community was unaware of this. He credited government agencies that have funded remediation with improving the waterway, but emphasized that there are still areas in need of cleanup. Interviewee 26 praised the remediation activities occurring throughout the city. He explained that he used to avoid the Menominee River, but now that it has been remediated he spends time there often. In his words, river cleanups are “probably the thing I’m most impressed with about Milwaukee.” Interviewee 30 perceived a dramatic improvement in the quality of the Milwaukee River over time. He has lived on the river since 1977 and cited dam removal as well as a decrease in pollution as major benefits to the river’s health. In his words, the Milwaukee River is “now a place for fishermen to come and a lot more people enjoy the outdoors along the river banks on either side today than they did ten, twenty, thirty years ago.”

Interviewee 29, also believed that the quality Milwaukee River has improved over time due to a decrease in industrial pollution and described the Lincoln Park sediment project as a “commendable endeavor.”

Opportunity for communication between MMSD and a riparian resident: perceptions of river quality

Our interview process revealed a disconnect in perceptions of river quality between a riparian resident and MMSD. Interviewee 12, a riparian resident, perceived inequality in sites chosen for urban river management. This interview subject was a veteran community activist and was involved with the Lincoln Park Community Center. Her perception regarding river management projects is epitomized in her statement; “Why are certain portions of the Milwaukee River allowed to be dysfunctional when others are made to be economically sound for the area that it runs through?” To emphasize this point, she drew attention to areas of the Lincoln Creek just north and west of the current sediment project. She perceived this area to have been overlooked by environmental management agencies and allowed to grow over, inviting crime. She emphasized that elderly black communities who had previously used this area for recreation could no longer enjoy this part of the river. Her concerns were echoed in the remarks of Interviewee 10, who speculated that if the pollution in Lincoln Creek were farther upstream in low-income areas, there would not have been as much of an effort to remediate.

It should be noted that the area of Lincoln Creek perceived as degraded by Interviewee 12 underwent a flood management/sediment removal project spearheaded by MMSD about 10 years ago. The project reduced flood risk for approximately 2000 homes in the area and removed contaminated sediment from that section of the Lincoln Creek. (MMSD, 2015) The fact that Interviewee 12 perceived this area as inaccessible and degraded even after an urban river management process indicates a disconnect between environmental agencies and riparian community members that could be mitigated with increased communication between the two groups. These groups define the quality and functionality of the same part of the Lincoln Creek very differently, but both definitions are valid. As far as MMSD is concerned, the river in that area is functional and clean because it has gone through a management process. However, Interviewee 12 perceived that this part of the Lincoln Creek does not meet the recreational needs of her community.

Diverse Perceptions of increased economic attention among government stakeholders and riparian residents

While the primary goal of agencies that perform urban river management is to improve the environment, economies of the areas that have undergone management can experience economic and social changes following urban river management. Many of our interviewees showed positive perceptions about economic growth catalyzed by river management. For example, Interviewee 15 depicted Milwaukee as a post-industrial city that is using innovation and businesses built around waterways to fill in the economic gap left by the decrease in industrial production. She recounted that a sediment cleanup project in the Kinnickinnic River

led to the revitalization of local businesses and an “amazing” uplift in the economy. Additionally, Interviewee 26 portrayed the investments in Milwaukee’s waterways as a step towards realizing the city’s goal of becoming a “fresh coast capital.” Interviewee 11, a government official, explained that 1000 employees have been attracted to downtown Milwaukee because of a cleaner river and emphasized important businesses located along the river such as Manpower. Interviewee 9 also discussed the economic benefits that have come from river management, stating that he thinks “Lincoln Creek and all the other work that we’re doing here in Milwaukee really points back to the fact that you can have a clean environment and a strong economy and they can co-exist. It’s not one versus the other.” He linked a higher quality environment to the number of young educated people that choose to stay in Milwaukee after graduation.

While many of the interviewees identified businesses, investors and developers as an important group that shapes areas that have undergone urban river management, their actions are further removed from urban river management and were more vaguely understood by our interviewees than the actions of other stakeholder groups. This vague understanding indicates a lack of direct engagement with riparian communities by businesses, investors and developers and points to possible conflicts of interest between these groups. For example, Interviewee 15 perceived that the interests of investors in newly remediated waterways and those of people “trying to survive day-to day” may not align. Her statement implies that some populations may not have access to the economic benefits that come with river management or may experience increased vulnerability due to decisions made through economic interests.

Interviewee 27 also highlighted the theme of inequity between those who benefit from economic revitalization and those who may be at risk of increased vulnerability from it. He shared concerns about the possibility of high-end housing developments along the remediated Milwaukee River displacing lower-income residents, and explained that this has occurred before.

“We’re on the east side here, we’re close to the river and to the lake, and I remember a time when all these neighborhoods weren’t wealthy neighborhoods. And now with the close proximity to downtown, to the lake, and to the river, these neighborhoods are all becoming very sought after by high-end developers. Not far from here, we’ve got multiple condo developments that are going on.” (Interviewee 27)

Interviewee 27 further explained that these private developments restrict public access to the river. He stated, “if you want to enjoy the river, you gotta have a pretty nice boat to go up and down the river. Whereas before, when you had access and there was no privately owned, you could walk along the river.” These statements contrast with the positive reactions toward new housing developments shared by Interviewees 4 and 11. Interviewee 4 described how businesses, investors and developers are in the process of embracing the Milwaukee River as an asset to the community. He lauded projects such as the Riverwalk and new housing developments along the river. Interviewee 11 perceived that 700 new apartments being built along the river signified an improving economy. These contrasting perceptions surrounding gentrification point to a disconnect between those in favor of increased development and riparian residents at risk of displacement.

Disconnect between smaller organizations and large government stakeholders

In our interview process, we heard opinions from two stakeholders that demonstrate their lack of certainty in continued state and federal government support for river management projects. Interviewee 3 was involved with Milwaukee Riverkeeper and perceived that water management was not a priority for the current Wisconsin state governor. She recalled that prior to the current administration; water management was an issue that received bipartisan support because of the lucrative water tourism industry in Wisconsin. In her words, “I think most of the state-level changes in the past few years have not been good for water, or good for the environment.” Furthermore, Interviewee 25 expressed concern that river management might not be a priority for the federal government once the current funding ran out. These perceptions indicate a possible disconnect between larger government bodies and smaller organizations. This has negative implications for future river management, which may be less successful without cooperation and trust between large government bodies and smaller organizations.

Opportunity for exchange between a government stakeholder and the public: knowledge gap concerning the EPA’s involvement in river management projects

A few interview subjects demonstrated a lack of knowledge regarding the EPA’s involvement in river management activities. Interviewee 3 recounted that the EPA and the Wisconsin DNR have facilitated meetings to educate residents about the Lincoln Park and Milwaukee River Channels remediation, but she also believed that the general public was not aware of the funding provided by the federal government for remediation projects. Interviewee 32 was unsure about how the EPA is involved in river management activities, and Interviewee 30 was unaware of any EPA projects in Milwaukee. Depending on their objective, this knowledge gap could be either positive or negative for the EPA and other agencies that conduct cleanup projects. If these agencies wish to frame cleanups as a local initiative, this could be beneficial because it leaves room for local groups to take credit for them. If management agencies want to be credited for the projects, they may consider expanding their efforts in community outreach to educate the public about the various projects that they fund.

Communications between government stakeholders and riparian residents: Public meetings for the Lincoln Park and Milwaukee River Channels Sediment Project

Two of our interviewees shared their perspectives about public meetings conducted by the Wisconsin DNR and the EPA. These meetings were meant to provide a platform for community members to share concerns and ideas surrounding the Lincoln Park and Milwaukee River Channels Sediment remediation project, and they demonstrate efforts made by the agencies carrying out the project to include and engage the surrounding community. Statements provided by Interviewees 3 and 19 expose areas of disconnect between the government-level stakeholders and riparian residents as well as successful communication between the two groups in these meetings. Although these interviewees did not mention Milwaukee County

Parks, it should be noted that the Lincoln Park and Milwaukee River Channels sediment cleanup was carried out through a partnership between the EPA, the WDNR, and Milwaukee County Parks. According to Interviewee 3, riparian attendees of the meetings showed support for the cleanup and understood that the contaminated sediment was a public health risk. This interviewee also highlighted that attendees were able to share their concerns about risks associated with remediation including changes in property values, truck traffic, and the possibility of inhaling pollution from the dredging process itself. However, the interviewee did not specify if any people from lower income groups who she identified as having less access to information about the project attended the meetings.

Interviewee 19 was very active in the public meetings surrounding the Lincoln Park and Milwaukee River Channels sediment remediation but had mixed opinions about their success. In her words:

“It seems like so much is decided and determined and nailed down and locked in before the public meetings happen, that it’s really hard to break through the crust of what – it feels like the public meetings are a necessary box that need to be checked off on the project to get things rolling. But it doesn’t feel like that’s really meaningful engagements.” (Interviewee 19)

Interviewee 19 perceived that some questions about the use of community input and for the remediation were not answered in a helpful way during follow-up meetings. However, Interviewee 19 also explained that some community recommendations about how the river should be constructed after sediment removal were used in the final remediation project. These perceptions concerning public meetings show that the EPA and WDNR listened to recommendations from meeting attendees, but their communication with the riparian community could be improved and possibly expanded to more vulnerable riparian residents.

Perceptions of WDNR

When asked about government agencies that have a stake in urban river management, many interviewees mentioned the Wisconsin Department of Natural Resources (WDNR). Most interviewees expressed positive sentiments about their involvement in management processes. Interviewee 3 believed that the WDNR is trying its best in the face of challenges presented by the state government. In her words, “clearly, the people at WDNR, there’s a lot of really great people that are working very hard and trying to do the best they can.” Interviewee 2 also expressed a positive view of the WDNR. According to him, “The...Wisconsin Department of Natural Resources has been a really strong partner to get work done.” Interviewee 26 identified the WDNR as a major source of funding for river management projects.

While many stakeholders held positive opinions about the WDNR and the projects that it is involved in, Interviewees 10 and 19 expressed discontent concerning the first project for the Lincoln Park and Milwaukee River Channels sediment cleanup carried out by the WDNR and Milwaukee County Parks under a different authority than the Great Lakes Legacy Act. According to Interviewee 10, the basin in front of the Blatz Pavilion was cleaned out in order to provide a fishing area, but it has since grown over with weeds, which make fishing impossible. This opinion was also held by Interviewee 19, who explained that at the end of the Blatz Pavilion

project, the WDNR ordered the river in that area to be drawn down, allowing invasive plants to take over. This created what she viewed as an eyesore. In this case, a project carried out by a government stakeholder did not meet the needs of some riparian stakeholders. The fact that a few interviewees had a negative opinion of this project can be useful for informing future projects. However, it is rare that an urban river management project will ever completely satisfy everyone, as previous statements have proved. Ideally, additional perspectives concerning the Blatz Pavilion project should be collected to see if this discontent is more widespread.

Opportunities for inclusion: NGO stakeholder actions to reduce inequity through community engagement

The perceptions of inequality and disconnects among and between stakeholders discussed in the previous section present significant challenges to achieving truly equitable river management processes. During our interview process, interviewees have identified organizations that are working to expand equity in urban river management by connecting impacted communities to rivers and clean-up activities. Much of this work is done by NGOs. However, the EPA, WDNR and MMSD have also been identified as having a role in connecting affected communities to river management.

NGO stakeholders: fostering connections between communities and river management

In the research process, representatives of NGOs that use various community engagement strategies to connect and inform people about urban river management were interviewed. Interviewee 33 represented the 16th Street Community Health Center, an organization that focuses on fostering equity for populations impacted by proximity to remediation of the Kinnickinnic River. Interviewee 33 explained that the community living near the Kinnickinnic River is composed of middle to low-income residents whose day-to-day concerns take priority over concerns about the river. 16th Street Community Health Center facilitates connections between the river and the community in the form of quarterly newsletters, door-to-door contact, and river cleanups. Efforts to connect residents to the benefits of remediation were also described by Interviewee 8, who represented the Harambee Great Neighborhood Initiative, a community development organization in the Harambee neighborhood. He explained that the organization aims to inform Harambee residents about environmental remediation and to connect them to the economic development that can be had as a result. Community engagement is also a priority for Milwaukee Riverkeeper. Through canoe trips and clean up days, this organization facilitates connections between the river and the community. Groundwork Milwaukee has implemented the River Ambassadors program in which Groundwork representatives travel to Milwaukee parks and provide information about the clean-up projects occurring in Lincoln Park, the Kinnickinnic River, and the Estabrook Dam.

MMSD projects and riparian community involvement

Interviewee 9, who was involved with MMSD, detailed a now-complete flood management project that took place in Lincoln Creek. Concrete liners were removed and the waterway was naturalized. The interview subject believed that the completed Lincoln Creek flood management project was a success and has led to further “green investments” in the area including a housing authority complex that incorporates green infrastructure. This interviewee also believed that the project has led to a better quality of life for residents near Lincoln Creek. He characterized the residents near Lincoln Creek as low-income and believed that the flood management project was a collaborative effort with the community. He recounted that at the time of the Lincoln Creek flood management project, stakeholder groups such as schools, housing authorities, and neighborhoods were involved in the project. Interviewee 9 presented MMSD as a government organization that is dedicated to involving community members in its process.

Conclusions

The perspectives that have been presented in the report are helping to create a preliminary narrative about a diverse group of stakeholders in urban river management in the city of Milwaukee. This report has shown that government organizations such as the EPA, DNR, and MMSD play a major role in funding and executing large-scale remediation and river management projects, while NGOs such as the River Revitalization Foundation and Milwaukee Riverkeeper are stakeholders in river management on a smaller scale. Milwaukee Riverkeeper, Harambee Great Neighborhoods Initiative, Groundwork Milwaukee, and 16th Street Community Health Center seem to have a central role in reaching out to populations that may be at risk of increased social vulnerability due to river management.

Many interviewees demonstrated positive perceptions concerning urban river management projects in Milwaukee. However, because this project is focused on equity in relation to urban river management, perceptions of inequality and disconnects among and within stakeholder groups have been detailed. Perceptions of unequal access to information about the Milwaukee Estuary AOC cleanup, neglected natural areas in an African American community, and the risk of displacement due to gentrification have been presented. Possible disconnects among stakeholders including a lack of trust in large government bodies, a knowledge gap surrounding the EPA’s role in river management projects, mixed satisfaction with public meetings surrounding the Lincoln Park and Milwaukee River Channels cleanup, and dissatisfaction with the Blatz Pavilion project have also been detailed. These instances of perceived inequity and lack of connection demonstrate needs and concerns of stakeholders that may not currently be understood by agencies carrying out river management activities. However, this report has also highlighted efforts by NGOs and government organizations to inform and connect communities to river management.

We present this research as a starting point to facilitate continued community involvement in river management activities occurring throughout Milwaukee. Gathering more perspectives from the community is an essential next step in this research process. In the words of Interviewee 26, “groups like the EPA should cherish the opinion and input of the community

because they will be your best asset.” This preliminary research may be a useful tool for outreach concerning urban river management projects, and could be shared in community spaces across the city to bridge the gaps in communication described previously. This report has only touched the surface of presenting attitudes concerning urban river management in Milwaukee. Hopefully, presenting this information will inspire further discussion and action related to equity in these processes.

Acknowledgments

We gratefully acknowledge funding from Illinois-Indiana Sea Grant, grant no. NA14OAR4170095 "Mapping Social Vulnerability in EPA-designated Areas of Concern" and the University of Illinois Urbana-Champaign Graduate College Focal Point Initiative "Urban Environmental Equity". The opinions and findings presented here as well as any omissions are those of the authors alone.

References

- Cumming, G., & Norwood, C. (2012). The Community Voice Method: Using participatory research and filmmaking to foster dialog about changing landscapes. *Landscape and Urban Planning*, 105(4), 434-444. doi: 10.1016/j.landurbplan.2012.01.018
- MacQueen, K. M., McLellan, E., Kay, K., & Milstein, B. (1998). Codebook Development for Team-Based Qualitative Analysis. *Field Methods*, 10(2), 31-36. doi:10.1177/1525822X980100020301
- Milwaukee Metropolitan Sewerage District (MMSD). (2015). Flood Management. <http://www.mmsd.com/floodmanagement/lincoln-creek>. Accessed 11 December 2015.
- Ryan, G. W., & Bernard, H. R. (2003). Techniques to Identify Themes. *Field Methods*, 15(1), 85–109. doi:10.1177/1525822X02239569
- US EPA. (2015). Milwaukee Estuary Area of Concern. <http://www2.epa.gov/milwaukee-estuary-aoc> Last Updated 17 Sep. 2015. Accessed 25 September 2015.
- Wisconsin Department of Natural Resources (DNR). (2015). Lincoln Park and Milwaukee River Channels Sediment Projects. <http://dnr.wi.gov/topic/greatlakes/lincolnpark.html>. Last updated 15 May 2015. Accessed 21 October 2015.