

Assessing a Community's Capacity to Engage with Urban Natural Resources

A Qualitative Study Examining the Kohlman Creek
Subwatershed in North St. Paul, MN

Prepared by: **Mary C Hammes**

2/24/2014

*Acknowledgements: Method is based, in part, on work done by doctoral student Amit Pradhananga and Dr. Mae Davenport of the Forest Resources Department, thanks to them both for advice along the way. Thank you to advisor Dr. Stephan Carlson and the rest of my committee for editing and support. Funding and direction provided by the Resilient Communities Project is the reason this happened—a big thanks to Mike Greco. Thanks to the North St. Paul city staff, especially Jon Fure. Thanks to the Ramsey Washington Metro Watershed District Staff, especially Sage Passi and Carrie Magnuson. This project would not have been possible were it not for those residents who agreed to be interviewed. Thank you for taking the time and thought to participate.

This project was supported by the Resilient Communities Project (RCP), a program at the University of Minnesota that convenes the wide-ranging expertise of U of M faculty and students to address strategic local projects that advance community resilience and sustainability. RCP is a program of the Center for Urban and Regional Affairs (CURA) and the Institute on the Environment.



This work is licensed under the Creative Commons Attribution-NonCommercial 3.0 Unported License. To view a copy of this license, visit

<http://creativecommons.org/licenses/by-nc/3.0/> or send a

letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA. Any reproduction, distribution, or derivative use of this work under this license must be accompanied by the following attribution: “Produced by the Resilient Communities Project at the University of Minnesota, 2014. Reproduced under a Creative Commons Attribution-NonCommercial 3.0 Unported License.”

This publication may be available in alternate formats upon request.

Resilient Communities Project

University of Minnesota

330 HHHSPA

301—19th Avenue South

Minneapolis, Minnesota 55455

Phone: (612) 625-7501

E-mail: rcp@umn.edu

Web site: <http://www.rcp.umn.edu>

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

TABLE OF CONTENTS

Executive Summary	3
Background	3
Partners.....	5
Site	10
Literature Review.....	10
Urban Natural Areas.....	10
Community Capacity.....	11
Methods.....	15
Data Collection.....	15
Data Analysis	17
Limitations	18
Findings.....	18
Community Challenges	19
Natural Resource Management	19
Maintaining Quality of Life	21
Ensuring Safety	23
Engaging Youth	24
Capacities for Responding to Community Challenges	25
Individual Level Capacities.....	25
Relational Level Capacities.....	26
Organizational Level Capacities.....	27
Programmatic Level Capacities.....	28
Constraints to Building Capacity.....	31
Community Identity	32
Changing Identity	32

Park Identity	34
Neighborhood Identity	35
Discussion and Recommendations	36
Capacity to Respond to Challenges	37
Community Identity	41
Confirmation of City Survey Findings	41
Future Research.....	41
Recommendations	42
Reference	44
Appendices.....	47
Appendix a: Consent Form.....	47
Appendix b: Recruitment Script for phone.....	49
Appendix c: Recruitment Script for email.....	51
Appendix d: Interview Guide A	52
Appendix e: Interview Guide B.....	54
Appendix f: Demographics Form.....	56

EXECUTIVE SUMMARY

The City of North St. Paul was chosen by the Resilient Communities Project at the University of Minnesota to partner with students on a range of sustainable initiatives. The city identified improving environmental education for its residents as one such initiative. Research has shown that education initiatives work best when informed by community networks and social factors (Dewulf, Craps, Bouwen, Taillieu, & Pahl-Wostl, 2005). Ramsey Washington Metro Watershed District has similar goals of reaching out to residents to help them better understand stormwater processes, specifically. To this end, the current study seeks to illuminate the community capacity of the Kohlman Creek Subwatershed—an area surrounding Casey Lake Park (Casey).

Community capacity is a measure of a community's ability to engage with a collective problem. Capacity involves accessibility of resources, formal and informal networks between people, and the role of organizations in addressing collective problems. Typical assessments of capacity are qualitative in nature, involving ten to twenty participants in focus groups or individual interviews. This study was similar: twelve community members participated in in-depth, semi-structured interviews between October 2013 and January 2014.

Study findings illuminate the capacity for engagement in natural resources issues by providing insight on what the community views as challenges, capacities and constraints, and perceptions of collective identity. Participants identified a range of challenges they saw facing the community relating to: stewardship of natural resources, threats to quality of life, ensuring safety, and engaging youth. They also identified capacities for responding to challenges at the individual, relational, organizational, and programmatic levels. Participants described the community's identity as recently changing and shaped by aspects of the park and neighborhood residents. Descriptions of identity revealed a community that values different aspects of: the park, relationships between neighbors, and homeownership.

Discussion and recommendations relate findings of community capacity at the resident scale and the organizational scale:

1. Open up the shoreline for more human access in order to draw more youth into the park and to the neighborhood. This could take the form of bird nesting boxes or a wildlife blind, which is typically a wooden structure that blocks human viewers from detection by wildlife.
2. Promote initiatives in the park and roles of organizations through interpretive signage or other public relations campaigns. For example, signage along the well-travelled walking paths that explains shoreline restoration project.
3. There is a potential for a partnership between the District and the NGOs that manage the recreational programming. Is there a common interest in finding ways to create additional infiltration in the sports fields or in minimizing fertilizer? Partnerships between baseball fields and water management are not unprecedented (eg. (Minnesota Twins, 2014).

4. Create opportunities for connection between entities with common interests. For example, the needs and ideas of various current user groups overlap and they may work better together to improve the park. For example, the NGOs who manage recreation programming and the school district both care about engaging youth.
5. Reframe the issues for stakeholders that view natural resource issues differently in order to create the shared understanding necessary to take collaborative action (Dewulf, Craps, Bouwen, Taillieu, & Pahl-Wostl, 2005).
6. Raingardens and other methods to improve water resources and the park may be portrayed as a way to attract homebuyers, which would preserve an aspect of the area's identity that residents clearly value.
7. It is indicative of high capacity that there were twelve people willing to spend an hour talking about it. Decision makers may leverage existing leaders by empowering them with more information about the state of the park and the water area.
8. Clarify roles and responsibilities at all scales in outreach and educational materials.
9. Find spaces for long-term residents tell their stories about the growth and changes in the area over the past few decades. This could occur at an event to bring new and old residents together.

BACKGROUND

The natural features of the City of North St. Paul offer unique opportunities to engage residents in the issues facing local ecosystems. Research has shown that residents throughout the Twin Cities Metro area have gaps in their knowledge of the connections between private land and local ecological resources (Dahmus & Nelson, 2013; Davenport & Blooms, 2013). Building these connections is key, however, to preserving the vitality and function of such resources (Bonney et al., 2009). For example, lawn care practices—the responsibility of private landowners—have significant impacts on the ecology of adjacent resources, such as parks (Dahmus & Nelson, 2013). An understanding of the ways people connect to urban ecosystems may lead to improved education and outreach efforts. In fact, urban parks and natural areas may be the best place to teach a high number of non-students about ecology, since such parks are the only way many city-dwellers experience nature (Grimm et al., 2008).

Small parks, such as Casey Lake Park (Casey) of North St. Paul, are valuable assets to the community but may not receive as much attention from regional or state funding sources because of their size (Forsyth & Musacchio, 2005). Parks like Casey offer significant ecosystem services like ambient cooling, aesthetics, wind protection, more livable neighborhoods and higher quality of life for residents. However, managers of small parks may find it difficult to balance the needs of the local community with the vision of potential funders—whether they are a local municipality, watershed district, or a private investor. An understanding of residents' perceptions

and values should inform both park planning and ecological management (Forsyth & Musacchio, 2005).

One way of understanding residents' perceptions of natural areas is through an assessment of community capacity, which is defined as “the interaction of human capital, organizational resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the well-being of a given community. It may operate through informal social processes and/or organized effort” (Chaskin, 2001, p. 295).

The current study is part of this year's Resilient Communities Project. Project partners also include the Ramsey Washington Metro Watershed District and the City of North St. Paul. The goal for this project is to help the city and watershed district reach a better understanding of their residents' capacity for solving problems with and connecting to natural resources in Casey.

PARTNERS

The City of North St. Paul (NSP) is located just north east of the Twin Cities metro area in Minnesota. In 2012, NSP had a population of 11,618 people, all of whom have access to 12 city parks in the 3.1 square mile city perimeter (Metropolitan Council, 2012). NSP recognizes these parks as essential contributions to a high quality of life, economic development, and maintaining property values (City of North St. Paul, 2013). NSP is striving to engage residents in urban natural areas and local ecosystems to encourage learning about the environment. Inspiring residents to get involved with and learn about natural resources, particularly stormwater processes, would help NSP meet requirements for their stormwater discharge permit from the Pollution Control Agency (Minnesota Pollution Control Agency, 2014). Learning about resident perceptions of the park would also help inform implementation of a recently developed parks improvement plan (City of North St. Paul, 2013).

The Ramsey Washington Watershed District (the District) is concerned with addressing water quality issues by: confronting water quality impairments, improving outreach to residents interested in a raingarden retrofit, and providing community education on urban hydrology and ecosystems. The District has been involved in managing Casey for the past few years through a partnership with the University of Minnesota and the Minnesota Department of Natural Resources to eradicate invasive common carp. The District has worked with NSP to address issues in Casey ranging from geese overabundance to shoreline erosion. In the past year, reports indicated that the lake had visibly clearer water than previous years—likely due, in part, to the eradication of the carp population (Roby, 2013). The District seeks additional information about the community to help maintain positive changes in Casey's water body and to advise other educational initiatives in the subwatershed.

The Resilient Communities Project (RCP) is a partnership between the University of Minnesota's Center for Urban and Regional Affairs, the Institute on the Environment and a community chosen through a competitive process. The RCP matches sustainable initiatives identified by the chosen community with students and courses at the U of M, who obtain real-world experience by applying academic work on the project and giving the community access to the expertise and resources available in academia. RCP connected the current study with the city's environmental education initiative (Resilient Communities Project, 2013). This year's resilient community is NSP.

Figure 1. Location of Kohlman Creek Subwatershed in the Ramsey Washington Metro Watershed District

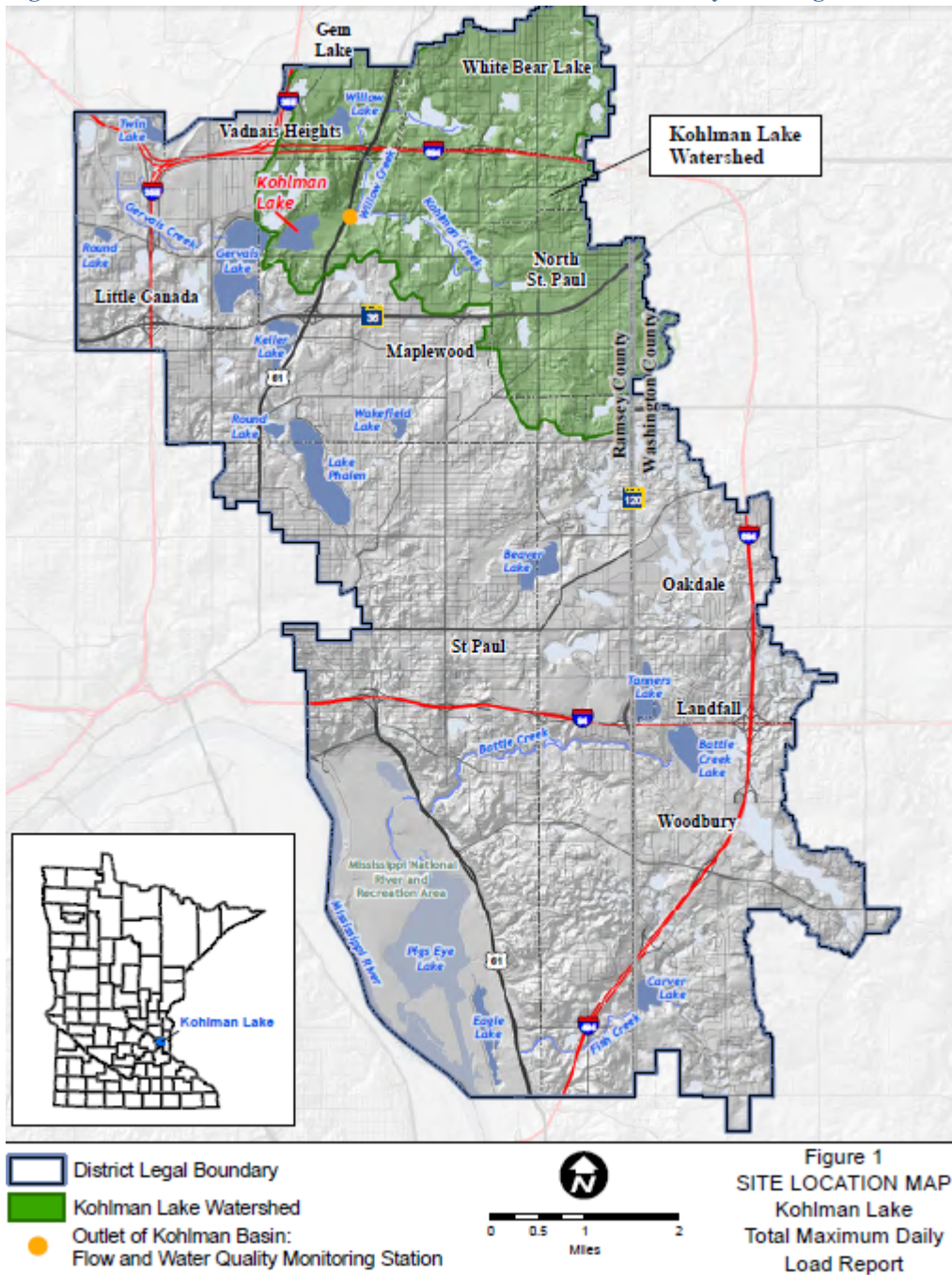


Figure 2. Location of North St. Paul

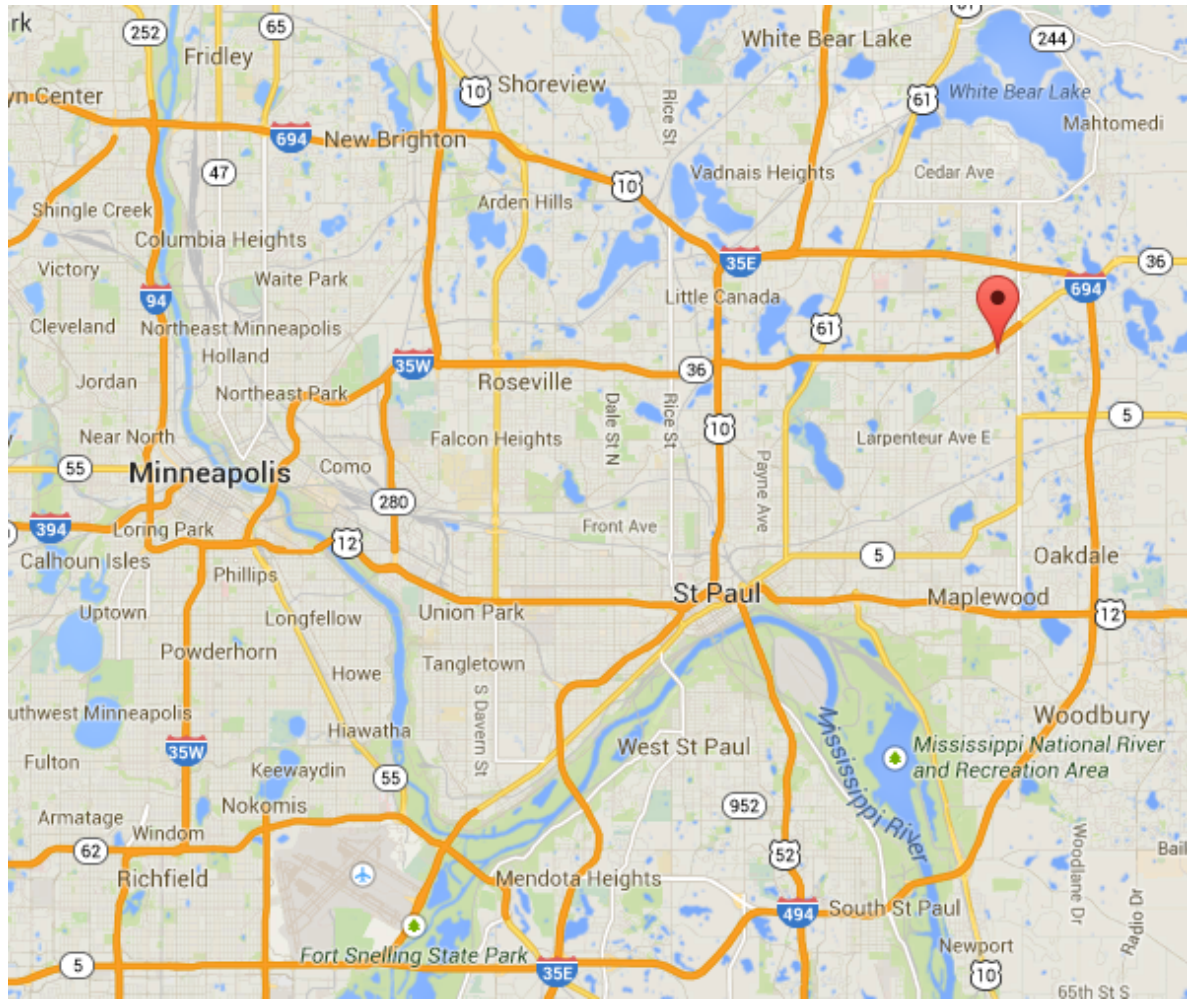
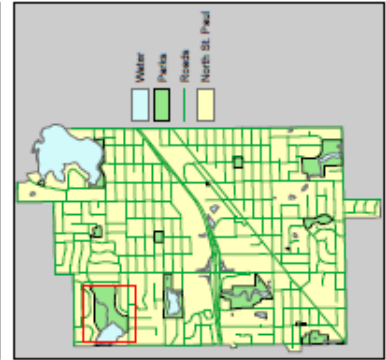
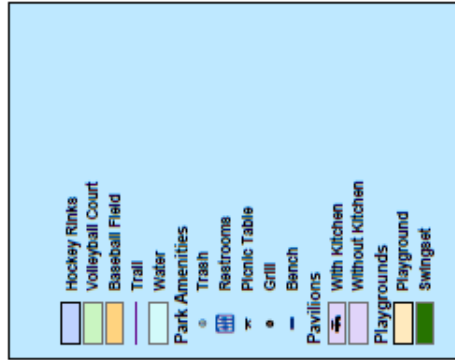


Figure 3. Casey Lake Park



SITE

Casey is located in the Kohlman Creek Subwatershed in the northwest corner of NSP, just adjacent to Maplewood between McKnight Road and White Bear Avenue. The park contains a designated wetland, baseball fields, playground equipment, and two parking lots (Barr Engineering, 2007; US Fish and Wildlife Service, 2014). Casey is one of the largest and most heavily used parks in NSP (J. Fure, personal communication, 2013). Given the local stormwater infrastructure, improvements to Casey and other connected watersheds depend on residents' behavior. Residents, in turn, depend on Casey for ecosystem services—the benefits gained from a healthy ecosystem (Bolund & Hunhammar, 1999). On a larger scale, Casey plays an important role in the eradication of invasive common carp from the Mississippi River Watershed (Silbernagel & Sorensen, 2013). Improved quality in Casey would positively impact downstream recreational lakes such as Gervais Lake and Lake Phalen, both of which are struggling with water quality impairments (Minnesota Pollution Control Agency, 2014). An assessment of community capacity can help partners at the city and watershed district understand how residents perceive and care for this important resource, and can offer insight into how the park can better serve the neighborhood. According to the 2012 Census, North St. Paul's population is growing faster, with higher representation from minority (Black or African American, Asian, and Foreign born persons) groups and with more people below poverty level than the rest of Minnesota (U.S. Census Bureau, 2014). At the same time, the city is facing increases in multi-unit structures a lower rate of homeownership. These demographic factors may have interesting implications for the capacity of the community to engage in solving problems.

After consideration of all partners' needs, the current work seeks to provide information through a qualitative interview assessment of community capacity (N=12). The project was initiated in August of 2013 and completed in February 2014. This holistic picture of how key stakeholder residents around Casey view their park and neighborhood will help inform educational campaigns and future park management. The study's research questions are as follows:

- How do residents conceptualize concerns about their community?
- What are some capacities for responding to challenges in the community?
- What do different conceptions of this community's identity look like?

LITERATURE REVIEW

URBAN NATURAL AREAS

In order to better educate residents on stormwater processes, local government units need to understand the interrelated social systems in which groups of residents view and use water

resources differently (Dewulf, Craps, Bouwen, Taillieu, & Pahl-Wostl, 2005). Dahmus and Nelson found wide variability in perceptions of natural areas across neighborhoods and cities (2013). Dewulf et al. argue that mere education is not enough to inform residents—it must be integrated through community discussion and joint interpretation (2005). The current study seeks to illuminate resident views and relationship networks in order to inform the way such educational messages are delivered.

Despite positive benefits for communities, water resources found in urban areas—especially wetlands—face a number of threats aside from loss to development. For example, there is a tendency for wetland mitigation processes to relocate urban wetlands to more rural areas (BenDor, Brozović, & Pallathucheril, 2007). This takes the access to and benefits of wetlands away from a denser human population. Wetlands are of special significance in the northeast metro area of the Twin Cities given recent challenges in maintaining groundwater levels (Jones et al., 2013). Research has shown connections between the presence of wetlands and the groundwater recharge (Boyer & Polasky, 2004; Winter, 1999).

Invasive species present another threat to the quality of water in Casey. Casey has been the subject of the aquatic invasive common carp by the lab of Dr. Peter Sorenson at the University of Minnesota. The presence of these invasive carp has been linked to declines in native vegetation as well as to reductions in water clarity and quality (Silbernagel & Sorensen, 2013). As of this past year, Sorenson’s team was able to eradicate carp from Casey. Changes to the visible appearance of the water have been easily observable and may have interesting impacts on the community’s capacity to engage with park management. Research suggests that positive changes—such as the carp’s removal— may help create an atmosphere well-suited for building capacity (Chaskin, 2001). In addition, it is important to better understand related resident behaviors, such as supporting healthy populations of bluegills, which will contribute to long-term success or failure of carp’s elimination.

COMMUNITY CAPACITY

The theory of community capacity has origins in a variety of fields such as social science, psychology, and political science (Chaskin, 2001). The presence of community capacity is indicated by collective action, community empowerment and shared vision (Brinkman, Seekamp, Davenport, & Brehm, 2012). Capacity has been used to better understand issues ranging from public health to natural disaster responses (Chaskin, 2001). Examples of community capacity range from neighborhood watch groups aimed at crime prevention to a community leader who gets a petition signed to lower a neighborhood’s speed limit.

According to Chaskin's review of definitions, community capacity centers on existence of resources, networks of relationships, leadership, and public participation processes (2001). The author also identifies four fundamental characteristics: sense of community, level of commitment among community members, ability to solve problems, and access to resources. A decision maker may understand community capacity by answering the question: Are there community members who see themselves as stewards of the community and are working towards a collective well-being? Seeking answers to this question may help to better understand gaps in community capacity and how they might be filled.

Some aspects of community capacity such as shared vision and sense of community may be illuminated through characterizations of community identity. Research has shown that a sense of community provides a framework in which an individual's self identity is constructed, maintained, and transformed (Cuba & Hummon, 1993). This is significant because the meaning of an environment is thus intertwined with individuals' self esteem. Place attachment is a concept related to both place dependence (the way physical aspects of a place serve the community) and place identity (meaning and a sense of belonging) (Vaske & Kobrin, 2001). Research has shown that place attachment and sense of identity may be correlated with environmentally responsible behaviors like recycling or taking shorter showers (Vaske & Kobrin, 2001). These authors argue that building a sense of place is even more important than amenities like picnic tables or paths because it forges an emotional connection. One way that this attachment may be built is through structured experiences, such as a day camp for youth, that involve a time commitment in the setting.

Research in the field of human dimensions of natural resource management asks the essential question: How can we illuminate the connections between human behaviors and environmental degradation (Bonney et al., 2009)? First, managers need to understand if a community has the capacity to engage with these connections (Davenport & Seekamp, 2013). A variety of methods for measuring community capacity specific to natural resource management are described in Raymond & Cleary (2013). Some authors have found measurable indicators of community capacity such as collective action, community empowerment, and shared vision, which were used to create a quantitative assessment tool (Brinkman, Seekamp, Davenport, & Brehm, 2012). Authors of both studies call for additional assessments that go beyond survey data to better understand community-based methods of water conservation.

Efforts for building capacity include leadership development, organizational development, community organizing, and fostering collaboration among individuals or organizations (Chaskin, 2001). Raymond and Cleary's recommendations for addressing gaps in capacity to engage in natural resource management include: a clear community engagement strategy, reviewing public meeting accessibility and frequency, targeting outreach to appropriate market segments, and strengthening monitoring and evaluation programs (See (Raymond & Cleary, 2013) for complete

list). Chaskin discusses other factors that may make building capacity easier, such as positive changes in the regional economy or improved distribution of resources (2001). In this case, positive changes may result from the presence of the Resilient Communities Project in NSP and provide an opportunity for building capacity. Any plan to build capacity must be based on the realities of the particular community, since there is no one-size-fits-all solution (Chaskin, 2001). Capacity building may take two approaches with differing results: a bottom-up grassroots approach or a government initiative approach. Community based initiatives that are more grass roots tend to be focused on immediate benefits to an identifiable group whereas projects initiated by professionals or government tend to have a longer term vision and are more capital intensive (Chaskin, 2001).

Davenport and Seekamp (2013) apply community capacity to sustainable watershed management in a multilevel model (See Figure 3). According to Davenport and Seekamp, “a community may possess a broad range of capitals needed to cope with problems (i.e., resiliency) but lack the capacity to establish common goals, make decisions based on learning, and act collectively” (2013, p. 4). Capacity is described on four different levels in this model: member level, relational level, organizational level, and programmatic level. Member level capacity is at the scale of the individual through leadership, trust, or behavior. Member level capacity involves knowledge or beliefs about conservation practices; for example, do residents see the native plantings around Casey as an effort to improve water quality? Relational level capacity is shown through networks of knowledge sharing and communication. Relational networks are informal social networks such as people who visit the park on a regular basis and talk about what they see. Organizational level capacity is about the provision of resources to organizations, collaborative decision-making, and promotion of social learning. Organizations can take action to reflect the identity of the community such as a park board getting input from neighbors before putting in a new swing set. Finally, programmatic capacity involves trans-boundary coordination (such as the District and NSP partnering together), clear roles and objectives, and measurable outcomes.

Figure 4. Multilevel Community Capacity Model (Davenport & Seekamp, 2013)

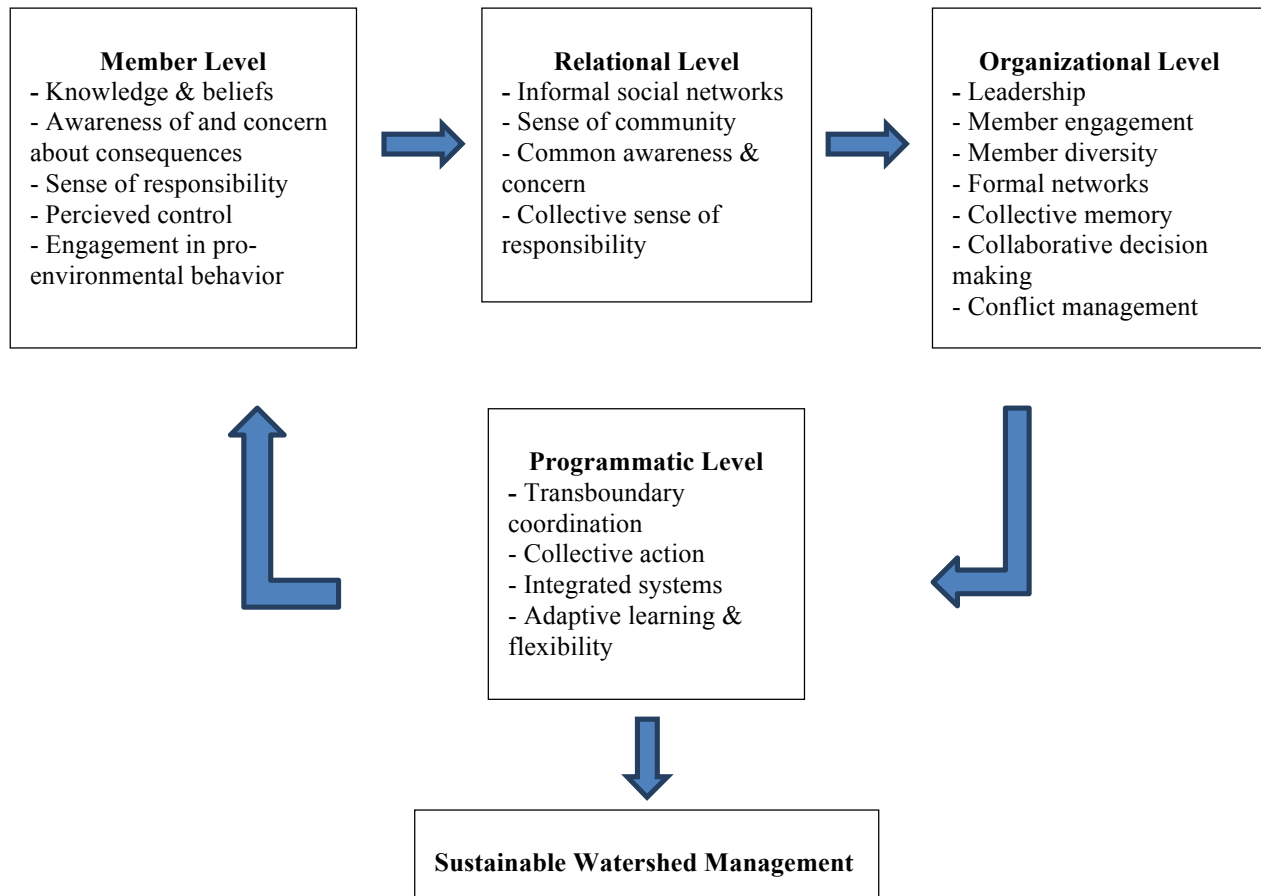


Figure 5. Research Questions and Community Capacity

Research Question	Level of Capacity
How do residents conceptualize concerns about their community?	<u>Member</u> knowledge and beliefs, and awareness and concern
What do different conceptions of this community's identity look like?	<u>Relational</u> capacity, shared identity, sense of community <u>Member</u> knowledge and beliefs.
What are some capacities for responding to challenges in the community?	<u>Organizational</u> collaborative decision making processes, leadership development. <u>Programmatic</u> collective action through resource pooling and innovation. <u>Member</u> sense of responsibility. <u>Relational</u> collective sense of responsibility.

METHODS

DATA COLLECTION

Interviews were completed between October 2013 and January 2014, at NSP City Hall or location of the interviewee's choice. Study design and materials were approved by the University of Minnesota Institutional Review Board for human subject research. The interviews were audio recorded on a password-protected cell phone and stored on a password-protected computer. Audio was recorded with informed consent from participants. Participation was voluntary as indicated both in the recruitment script and during the informed consent process. Participants were informed that their decision to participate and any responses would not impact any current or future relationship they had with NSP and the District. Participants' identities were protected by storing all identifying information separately from transcript data. Interviews were transcribed verbatim into word documents using VLC Media Player. These documents were imported into NVivo 10.0 (www.qsrinternational.com) qualitative analysis software, which aids in the organization and analysis of qualitative material.

A purposeful or criterion sampling method was used to create a list of potential participants (Oliver, 2006; Seidman, 2006). Criterion sampling is a non-probability form of sampling in which participants are chosen based on researcher-identified criteria. Criteria and potential participant lists were created with the help of District and NSP staff. Participants were chosen based on meeting one or more the following criteria: residents of the Kohlman Creek Subwatershed, key decision makers such as commission members or city council members, prominent volunteers in the park, frequent users, otherwise active community members (people who participated in associations or organizations locally), or members of the community who agreed to have a raingarden installed on their property during the District's preliminary outreach. A total of 25 potential participants were contacted via phone and email (see Appendix B and C for recruitment scripts). At the close of each interview, participants were asked for reference to other community members who they felt should be included in the study (Heckathorn, 2002). The names of these community members were used to select from the original list. Names that were mentioned by both the initial listing process and referenced by a participant were priority for contact.

Twelve people (not including pilot) agreed to participate and were interviewed, one person declined, one person did not show up, and the remainder did not respond to multiple voicemails or email messages. One participant helped pilot and refine the interview guide. Pilot results were not used in this analysis because the guide was changed after their interview and the participant had to leave halfway through unexpectedly. The guide was revised halfway through the interview process, with help from the author's committee, to clarify questions and remove those that weren't eliciting helpful information. Both versions of the guide are available in Appendix D

and E: the original labeled as guide A and the second edition as Guide B. Participants one through seven responded to Guide A; eight through twelve responded to Guide B.

While the sample is not statistically generalizable to a larger population, it is informationally representative, meaning it includes people who can stand for others with similar characteristics in terms of the information they are able to provide (Sandelowski, 1995). Participants who were interviewed included representatives from local government, education, small business, active citizens, and volunteers. Nine out of the twelve participants were residents of the Kohlman Creek Subwatershed—the three who were not residents spent significant time in the watershed near Casey due to work, family, or volunteer commitments. A fifteen-dollar gift card was offered during the recruitment process as an optional incentive for participants’ time. Two participants declined the gift card offer, the remainder accepted. Interviews ranged from twenty-three minutes in length to an hour and ten minutes. The median interview length was forty-one minutes. Typed transcripts ranged from seven pages to fifteen pages.

Figure 6. Demographics of Participants

Age	Minimum	31
	Maximum	78
	Median	62
Gender	Male	7
	Female	5
Years lived in the community*	Minimum	2
	Maximum	55
	Median	30
Formal Education	Completed High School	1
	Associate or vocational degree	1
	Bachelor's Degree	6
	Graduate Degree (Masters, PhD, JD)	4

*Community is defined as the Kohlman Creek Subwatershed

Qualitative interviewing elicits stories that show what is meaningful in people’s experiences and is not meant to have broad generalizability. However, through analysis these findings may permit generalizations about cases, sometimes referred to as idiographic, or naturalistic generalizations (Sandelowski, 1995). Exploratory research like this can help illuminate key issues to be investigated further by a quantitative study or provide insights on what different types of people perceive (Sandelowski, 1995). Many similar assessments of capacity or community knowledge involved qualitative interview methods (e.g. Chaskin, 2001; Dahmus & Nelson, 2013; (Davenport & Pradhananga, 2012), making it an appropriate measure for the current project. Individual in-depth, semi-structured interviews were chosen to best understand aspects of capacity related to individual contributions such as human capital (Chaskin, 2001; (Putnam, 1995).

DATA ANALYSIS

Analysis technique was informed by Burnard (1991), who adapts and synthesizes methods from previous authors for the analysis of qualitative interview transcripts. Burnard's method is based on a series of stages that guide the researcher through identifying themes and issues, and then linking them together in an exhaustive category system. While this is not the only way to code and analyze data, it provided a guideline for this analysis. Meaning condensation and other analysis techniques described by Kvale and Brinkmann (2009), were also used in this analysis.

Transcripts were first read holistically in their entirety to derive overall themes and to immerse the researcher in the data (Burnard, 1991; Seidman, 2006). Initial themes (Figure 6) were collapsed as much as possible and considered along with research questions and guide questions to create initial categories for coding transcript data. Transcript data were put into these categories, with a few additional categories added as they emerged from the data. The next phase was to break down data within each of those bigger categories. This helped reveal what was most important about each category and helped the researcher put together theme tables for displaying the data. The researcher used memoing throughout the analysis process to keep track of key themes and ideas as well as methodology. Memoing is a technique recommended widely in qualitative analysis literature, which involves continually writing or journaling throughout the analysis process on apparent themes, connections, or other insights (Creswell, 2012; Kvale & Brinkmann, 2009).

Figure 7. Initial Themes Derived from Holistic Reading

- Uses of park
- Solving problems
- Roles
- Knowledge of natural resources
- Concerns
- Character/Identity of park and neighborhood
- Changes in park and community

The process was iterative and included editing and re-editing theme tables to best reflect the transcript data and study objectives. Final theme tables consist of themes, which are the broadest categories created through the analysis process; subcategories, which were used to break down the themes and understand better different perspectives; and descriptors, which are key phrases or quotes that convey the perspective of a participant on that subcategory and theme.

Some data remained uncategorized for a few reasons: the analyzing researcher was unable to discern meaning or wholly unrelated to project research questions. However, Burnard (1991) recommends that the researcher err on the side of inclusion towards the beginning of categorization and then gradually boil down the data to the key themes.

Findings in theme table one, which describe concerns and challenges, came from responses to guide question 7B and from any additional transcript data in which those topics were discussed by a participant. Theme table two, conveying participant opinions on how challenges get addressed, contains data analyzed from responses to guide questions 8B and 9B, as well as any other participant expression of problem solving, and how they or others get involved to address problems. The third theme table about identity came from responses to guide question 2B and 3B and other transcript data in which participants discussed meanings and identifying factors relating to the park and neighborhood. Quotes presented here have been edited for content that is not necessary for meaning, such as ‘um’ or ‘so, yeah’, with the assumption that participants would have omitted such phrases themselves had they responded to guide questions in written form rather than verbal. The aforementioned method is recommended by Kvale and Brinkmann (2009). Participant identification numbers are marked in parentheses after their quotes.

LIMITATIONS

The study was limited in a few aspects. The quantity of participants and the definition of participant inclusion criteria could have been stricter. For example, a few participants were included even though they were not residents of the subwatershed. However, given limited time, only so many people were able to be reached. Inclusion of representative perspectives was important and necessitated interviewing a few participants who did not fit the criteria of resident. Although twelve is a small number of participants when compared to quantitative studies, it is common for community capacity studies include ten to twenty participants, as do most phenomenological studies (Sandelowski, 1995). Only one researcher analyzed transcript data. An additional researcher may have increased validity and reliability by helping to corroborate findings and compare theme analysis. However, the researcher mitigated the situation through a constant comparison method which involved comparing emerging categories to the data collected in an iterative process to ensure results are as true to transcript data as possible (Creswell, 2012). The researcher also mitigated this situation by consulting partners at the city and watershed district as well as committee members to inform study design and analysis whenever possible.

FINDINGS

Findings from the analysis of 12 interviews on community capacity to engage in natural resources issues in the Kohlman Creek Subwatershed are displayed in theme tables and quotes from interviewees. The following three theme tables provide summaries of data pertaining to

three aspects of the community: perceived challenges, capacities and constraints to responding to challenges, and sense of community identity.

Participants mentioned challenges they felt faced their community throughout the interview. Data in this section include comments that came either in direct response to a guide question (e.g., *What are some of the biggest challenges this neighborhood is currently facing?*) or at random. Challenges and concerns mentioned by participants were grouped into four major themes related to stewardship of natural resources, threats to quality of life, ensuring safety, and engaging youth. Participants' descriptions of capacities and constraints for addressing challenges relate to four levels of capacity: individual, relational, organizational, and programmatic. Participants provided their thoughts on capacities in response to a guide question (eg. *Can you provide examples of ways the community has responded to these challenges?*) or at random.

COMMUNITY CHALLENGES

NATURAL RESOURCE MANAGEMENT

Participants expressed concerns about the stewardship of natural resources in the park and neighborhood. These concerns were broken down into subcategories: management of invasive species, maintaining water quality and quantity, and availability of environmental education.

Many participants comments centered on maintaining the lake's quality and quantity of water. Quite a few participants communicated worries about declining water depth in comparison to years past and an interest in having the water body dredged. As this participant describes, worries about water depth were connected to sediment coming from stormwater,

The storm drains, well that'd be the big one, I guess. And that's back to the city, maybe. There are something like five storm drains leading into Casey off of the neighboring streets. They weren't designed in the era when they had sediment traps. So there's an awful lot of sediment and then deltas out where they exit into Casey and you'll see that in the low water conditions (1).

Some participants voiced concern about the identity of the body of water and whether it should be managed as a lake, stormwater pond, or wetland. A few participants conveyed a preference for managing the water as a lake rather than a wetland or swamp. Others, however, identified the water area as a "wetland" or a "drainage pond",

There is an advantage to keep it a lake and not have it become a swamp...if it gets too weedy, you can't go out on it, and you can't do anything with it. It generates more mosquitoes—it's a swamp. Lots of nice things live in swamps, but it's not as pretty to look at as a lake (2).

Other participants discussed previous management strategies that increased stormwater runoff or prioritized other uses of the park over the water's quality. A number of participants portrayed the water as no longer usable or accessible for visitors. One participant described the water as lacking access for interaction with visitors, "Is there a way to give people some access to the place? Because right now, it's almost like just a picture; it's not really used in any experiential way" (9).

Another participant painted a picture of the changes the water area has gone through and expressed a desire for the shoreline to return to a previous state:

They had created the lake, with a lakeshore at that point—they made the lake really usable by everyone. But now, since they've put the natural grass and shoreline in, which looks really nice, the problem is it made the lake not usable by anybody. You got two accesses, one for walking up to it, and one access that's for putting a boat in, for the watershed or whoever. They've done that, but it lost the shoreline on the whole south side all the way along there was usable by people. There was always kids down there skipping rocks or whatever, fishing...you could fish anywhere from the shoreline. At that time actually you didn't have the carp in there. It's kind of made the lake something to look at rather than something to use (3).

A few participants wondered how the park would be impacted by a changing climate. One participant felt that this would be a challenge that would impact the many aspects of residents' lives,

That whole climate change and that whole change of droughts and then also the expansion of community, of population, and White Bear is right here and the whole issue around that lake dropping and us watching that drop and then how does that impact people, so again, it's that ground water thing, it's just really the foundation of us, right? I think that's a big issue (4).

Another participant mentioned groundwater concerns in relation to issues facing White Bear Lake and how NSP's water might be impacted,

They're saying now that City of North St. Paul shouldn't be tapping the water from the aquifer because that's causing White Bear Lake to drop. Well, we've been tapping the aquifer since early part of this century or before. I think there're a lot of other places a lot bigger than ours that are taking a lot more water than we're taking. It's been good for us, it's been great. But what if somehow that was shut off, and how would we react then? (10).

Participants voiced concerns about overabundant invasive vegetation and the role of carp. Many people who live directly on the lake expressed frustration at not being able to see the water due to hybrid cattails. Participants had divergent opinions on the role of the carp and the

effectiveness of the carp kill last year. Some, like this participant, questioned the impact the fish had played in the ecosystem,

What I'd like to see is more of an interest in maintaining the water area, because I've just seen the hybrid cattails take off now. I believe that the carp actually did something to kind of control them that they didn't allow them to get too far in the water because they just dug it up (8).

Participants conveyed worries about the lack of familiarity with the natural world and a lack of educational opportunities in the park system.

I think most people are just so...everything comes prepackaged and they're pretty removed from the realities of the world, the environment that supports them. You buy water in bottles. We're so plugged in technologically; we're just kind of clueless with what's around us in the world. I think it's really critical we start becoming effective with environmental education for all kinds of reasons (9).

MAINTAINING QUALITY OF LIFE

Participants described concerns about quality of life experienced by residents related to: economic issues, uncertainty of response to changing demographics, and management of the park experience.

A large number of participants mentioned economic concerns, especially declining property values and issues with the aesthetics and residents of rental properties. One participant expressed a worry that neighbors may start to move to other areas given falling property values and the sentiment that renter-occupied properties were not well maintained,

My concern with the neighborhood is there's more and more rental properties there. If they're not maintained, it's all going to go down the tubes. There is concern with neighbors that could stay or we could start moving to townhouses. I know one family that's right on the park that just recently moved to another house as they hit retirement years, because they were concerned about the value of property starting to come down because of some of the houses, renters and other people moving in and not taking care of property. It is different than it was ten years ago (6).

Others expressed fears that the conditions of the neighborhood and city were not attractive to new homebuyers—especially young families.

Somebody on my bus was talking about buying in North St. Paul and he was a single guy and divorced and with a dog and I said, well great, there's real bargains out there. Have at it. But for a young family with kids, I wouldn't be expecting them to...I would expect them to really think twice (7).

Meeting the challenge of changing demographics was an area of concern for participants, who mentioned fears about changes that may accompany increased diversity, a lack of community engagement among their peers, and the need to balance different park user's needs.

Some participants expressed fear about the changing demographics, and that other changes would accompany the increasing diversity,

Our population is becoming much more diverse and that's one thing that I'm sure a lot of people get concerned about, whenever things change that way people get nervous. They've seen these changes happening in other areas, and that makes it even more concerning, crime figures change as a result of some of that (10).

A participant who is familiar with the local school district had a different perspective as they described changes in the schools that they saw mirrored in the community,

This particular area in a short time has changed from a pretty much white and probably older age group of people to where our school district is a breath away, 48,000 to 52,000 people of color and white people. With that comes multiple languages as well...one of the issues that repeatedly comes up...is the achievement gap and the fact that, we are sitting almost at 50/50, yet when you look at the achievement gap in terms of math and reading scores and poverty, and special ed, people of color hold the biggest burden of that gap. So, what does that mean in a community that's very used to being successful in a white American culture and is figuring out how to be successful with a multicultural, multirace, multilanguage neighborhood (4).

A few participants expressed concern at the lack of involvement and engagement in local politics among their neighbors. One participant described this sense of apathy and that people were missing a chance to improve their lives,

I was surprised at the number of people that don't have any idea what's happening at city hall. They don't pay any attention to local politics. Even though that's the easiest place to get in contact with people, and express their concerns. It's amazing the number of people that just don't pay attention (10).

Other participants voiced the need to respond to different visitor preferences within the park, "I know different cultures...like to get together with big groups so they have to redesign parks and create park picnic shelters that will handle 100 people instead of just 20" (1).

Some participants had concerns related to balancing an identity as a community park with appeal to regional visitors. For example, a few participants mentioned their aversion to a previous plan to open a water park in Casey and how this incident prompted vocal participation from the neighborhood,

A number of years ago they had some crazy idea of putting in a water park at one end of Casey but at least they pulled in people to get opinions and they finally dropped the idea. They were trying to attract people to the park from other communities and...we don't want other communities coming to the park, we don't want a water park in our community" (6).

The need for a new building, ideally one that includes restroom facilities was brought up by almost every participant. However, funding for park improvements such as this was mentioned as an ongoing challenge.

It's always been budgetary. Ok, we're going to do this and here's all the money and oh, well now we don't have the money. That park fund is always on the chopping block. Do we need a new park shelter or do we need another police officer (5)?

ENSURING SAFETY

Some participants described concerns about the park and neighborhood becoming less safe. Participants conveyed worries that the park attracted criminals and homeless people to the area. Participants linked community-building activities to crime prevention.

The park was described as a "crime magnet" and participants expressed worries about the presence of homeless people in the park and whether they might be committing crimes or endangering youth. "This has definitely become more of a crime magnet area over the decades and I see that increasing" (7). Others reported instances of trespassing or theft that had occurred on their properties and homeless people who have taken up residence in the park on occasion.

The buckthorn is so thick...the homeless guys move in with two or three tents and you know, I'm all for live and let live, but when you've got little kids, the safety concerns kind of override that. I've called the police on them once or twice (1).

However, there were some diverging opinions on safety as other participants described the park as safe and that safety was not a key issue for the community.

Participants expressed coping with the threat of crime by getting to know neighbors and park visitors.

I just figure with some of the young kids it's better to just chat with them and say hi as they're entering the park and I've kind of gotten to know some of them. [Laughing] They know me and they'll stop and chat and it really is that familiar face type concept (6).

Other participants conveyed worries about not knowing their neighbors as well, and that the sense of community was not what it used to be. Participants reminisced on their own childhoods and how they knew their neighbors better then.

ENGAGING YOUTH

The last theme found within identified challenges to the community relates to engaging community youth. Participants mentioned seeing less youth on their blocks or in the park than in previous years. “I don’t know how you attract younger families, but we haven’t done very well in the last 15 years” (3).

Some thought that the lack of children may hinder relationships between neighbors. “By having the children playing together brought people together, as I remember it. But it’s not close in that way; I don’t really know the individuals other than two across the street and two on either side” (8).

Participants mentioned the lack of facilities in the park for toddlers and the general lack of sports participation by young people. One participant spoke at length about the issues within the recreation program:

Maybe its kids doing other things, maybe its kids more involved in video stuff or computer stuff, I mean, I don’t know. We’ve lost outdoor hockey rinks, from having a dozen, down to 4, 3? They’re even having trouble justifying that, because the usage is not as much as it should be (3).

Another felt that sports facilities for youth deserved more space in the city. “I would like to see space opened up somewhere, if you could find the space, for a park, athletic park, dedicated for the youth” (12).

Table 1. Identified Challenges to the Community

Theme	Subcategory	Descriptor
Natural Resource Management	Maintaining water quality and quantity	<ul style="list-style-type: none"> • Declining water depth • How to manage water—as a Lake? Swamp? Pond? Wetland? • Mitigating for poor management in past • Inaccessible/unusable lake and shoreline • Uncertain climate change impacts • Groundwater availability and quality
	Management of invasive species	<ul style="list-style-type: none"> • Lack of visible/usable shoreline due to vegetation • Understanding carp’s role
	Availability of environmental education	<ul style="list-style-type: none"> • Lack of environmental education programming
Maintaining Quality of Life	Economic issues	<ul style="list-style-type: none"> • Property values threatened • Increase in rented housing—threatens aesthetics of neighborhood • Not attracting new homebuyers, especially families
	Responding to changing demographics	<ul style="list-style-type: none"> • Fears that increased diversity might detract from character of neighborhood • Lack of civic engagement/community involvement • Balancing needs for different visitor groups in the park
	Managing park experience	<ul style="list-style-type: none"> • Balancing neighborhood vs. regional appeal • Need for new park building • Competition for park funding
Ensuring Safety	Park safety deteriorating	<ul style="list-style-type: none"> • Becoming a “crime magnet” • Concern that homeless people in the park commit crimes or endanger youth
	Building a sense of community	<ul style="list-style-type: none"> • Struggle to familiarize with neighbors
Engaging Youth		<ul style="list-style-type: none"> • Attracting families with youth to the neighborhood • Meeting the needs of families with toddlers in the park • Recruiting youth for athletic program

*Not all themes have subcategories

CAPACITIES FOR RESPONDING TO COMMUNITY CHALLENGES

INDIVIDUAL LEVEL CAPACITIES

Participants described the capacities at the individual level for responding to the challenges that face their community. These capacities included individual action, gaining knowledge or awareness, inspiration for involvement, and civic participation.

Participants shared ways that individuals took matters into their own hands by taking action to improve an aspect of the community. One participant noticed that neighbors took action to make the park look nicer, “Some of the folks have planted flowers that will grow on their own, perennials, along the crick area. Because they can see it right from their houses then. But the rest

of us get to see it too” (6). Other participants shared stories of residents taking action by installing rain gardens in their yards, eradicating invasive species on their property, or working independently on new ideas for park planning.

Individuals were also portrayed as taking an interest in local issues and staying informed. Some did this simply by observing the park and neighborhood, for example, “I, especially during my retirement years, every morning I take note of what is happening to the lake” (8). Individuals learned about local issues by attending meetings hosted by the city or District or staying updated through newsletters. Most participants described the residents around the park as people who care about the area and are willing to get involved to improve it. One participant described this sense of ownership:

People that are living there, live there because they want to use the park and take care of it. If there are problems out there, people call. They had somebody break into the water pump building and one of the neighbors called and caught him. So, it’s just people that care about the region, that’s a big part of what makes it a nice place to live (3).

There was some divergence in described levels of residents’ civic participation. Some participants expressed a concern that residents did not get involved enough while others gave examples of a variety of ways residents were involved. Participants mentioned a few instances that seemed to especially inspire participation. One participant pointed to the parks commission’s meetings during the summer months as an opportunity to get involved, “During the summer months they’ll meet outside in each of the parks in the city. They have their meetings there, which enables neighborhood people to come and sit in on the meetings and express their concerns too” (10). Participants also described how some city commission members act as park liaisons at each park and organize neighbors who are particularly interested.

RELATIONAL LEVEL CAPACITIES

Relational capacities included informal social networks, relationships between residents and government, and a sense of community. Participants shared stories about community members coming together around a garden located adjacent to the park. One participant described ways the garden promoted social networks:

That’s one of the reasons for a community garden is to try to bring a whole variety of people together doing interesting things, hands-on things like gardening, so they can get to know each other. We’ve found that in sharing food, that that builds community. It’s not changing the face of our neighborhoods but it is building community with some. We’d like to see a lot more of that happening. I think kids and families together kind of sharing and mixing it up, having it be truly intergenerational becomes important. There’s a tendency to be more isolated all the time and less integrated. I don’t think that’s healthy for anybody. I don’t think that’s what people want (9).

Again, those residents who live adjacent to the park were described as having a collective sense of responsibility for the well-being of their neighborhood. Participants mentioned ways that residents would connect with local government units to address issues such as calling the city in the case of crime.

Participants discussed ways that residents were working to build a sense of community. A few participants mentioned block parties and events that helped to bring people together behind a common cause. Participants portrayed the park as a setting for bringing neighbors closer together and promoting a sense of community:

I think it's important that you know your neighbors and I think having a park near you is one way to get that out and to have maybe a couple parties at night or just a potluck down at the park, that's just really great to know. I think it is important to have a park (11).

ORGANIZATIONAL LEVEL CAPACITIES

The capacities of local organizations related to leadership, taking initiative, handling public opinion, and engaging individuals.

Some non-governmental organizations were mentioned as taking a leadership role to address gaps in recreation services in the city. For example, by providing a port-a-potty for park users:

There have been a lot of times with the little kids where we've been over there and if they got to go to the bathroom, then you got to go home! Not even a port-a-potty in the summer except when the athletic association provided it (1).

These non-government entities were also described as running the recreation programs and maintaining some of the youth athletic facilities.

Participants described ways that organizations have taken leadership to care for water resources in the park. The city was portrayed as demonstrating concern for the environment, "I read things in the newsletters and I think North St. Paul is really good with environmental things. It seems like they're always partnering with somebody or they have rebates for various energy conservation type rules or heating" (6).

Some participants credited the District with taking leadership to improve water quality by controlling the shoreline and funding projects. One participant described the decline in water quality over their lifetime compared to the improvements in the last year,

It's sedimented in and changed dramatically, so just in one generation, forty years, its lost half its depth, and it was getting really nasty, all the algae was growing. Two years ago, the watershed and the university started looking at the carp problem and last year pretty successfully eradicated them. This past summer, it was a dramatic change, the water

quality was again clear; you could see down two three feet in August and that was not the case previously (1).

Participants discussed efforts to manage public opinion when making decisions. For example, one member of local government expressed that while difficult, it is necessary to consider lots of opinions while also moving forward to get things done.

Participants conveyed a sense that engaging residents to get more involved was important. Improving lines of communications between formal and informal entities was mentioned by participants. One capacity for this may be through outreach efforts of the part of commission members:

We have a parks commission so [solutions] should be coming from them, the commission and that's comprised of all residents. They should be coming up with the ideas and the proposals and then engaging the public with meetings and moving on to the design and development stage, presenting that to the council for review and approval. That really hasn't happened in the past. Its always been an individual within the city taking it on his own and doing all that stuff and then bringing it to the parks and saying, here's what we're gonna do" (5).

PROGRAMMATIC LEVEL CAPACITIES

Participants described programmatic capacities relating to collective actions, coordination, and building relationships.

Collective action by multiple parties to tackle issues facing the community were portrayed as highly valuable by participants. These kinds of actions included events like one put on by the District:

...it was facilitated by the watershed district...that was powerful in that we broke up into groups that looked at, solid waste, and cleanliness, some were about education, some were about recreation, and kind of worked to say what would we want to happen and what would we do and it emerged into having things like a man who is now a Senator, Fong Ha, he helped in that group, start nature walks around Phalen in different languages, flower identification, those kinds of things (4).

Programmatic capacity was also described in current and prospective collaborations across political boundaries. For instance, participants expressed gratitude at the city's partnership with the District on providing an aerator for aquatic habitat in Casey. One participant noted that this couldn't happen if the water body wasn't part of a park:

There's things like wanting to put in the aerator in Casey. That's something they want. We as homeowners certainly couldn't afford to do it. It's nice that there's a public entity

and if the City of North St. Paul can afford to do it, that's great. That benefits us too. I know that my sister lives on a lake down in near Northfield and they've got a carp problem down there too. But, there's no park on that lake, its all the homeowners that are gonna have to deal with the issues (7).

Some participants pointed to entities and individuals with common interests, seeing potential for pooling resources to solve problems. One person described how this could be successful,

I think there's always an opportunity to work together to improve things. Do you have a common goal? If cleaning up the water system means leveling the entire park and having it go back to nature, I don't know if that's a practical solution. If it means changing how they fertilize the fields and how that run off can be minimized, how you can minimize the impact the run off has on the water system, then I think there's ways to work with each other (12).

Table 2. Capacity for Responding to Challenges

Capacity Level	Capacities	<i>Examples/Descriptors</i>
Individual	Individual action	<ul style="list-style-type: none"> • <i>Planting flowers in the park</i> • <i>Installing rain gardens</i> • <i>Drawing up park improvement plans</i>
	Staying informed on issues	<ul style="list-style-type: none"> • <i>Observing the park and neighborhood</i> • <i>Attending meetings to learn more</i>
	Finding inspiration to get involved	<ul style="list-style-type: none"> • <i>Sense of ownership from surrounding residents</i>
	Resident participation in civic activities	<ul style="list-style-type: none"> • <i>Commission meetings in each park in summer</i>
Relational	Getting to know each other-building social networks	<ul style="list-style-type: none"> • <i>Community garden participation</i>
	Residents communicating with LGUs	<ul style="list-style-type: none"> • <i>Calling city in the case of crime/issues</i>
	Building a sense of community	<ul style="list-style-type: none"> • <i>Block party or clean up events</i> • <i>Forming neighborhood coalition</i>
Organizational	Local NGOs taking initiative on their own to improve park	<ul style="list-style-type: none"> • <i>Maintaining sports fields, providing port-a-potty, and athletic programming</i>
	Leadership in improving water resources	<ul style="list-style-type: none"> • <i>Controlling water levels, fish, shoreline</i> • <i>Funding and implementing improvements in water quality</i> • <i>Demonstrating concern about natural resources</i>
	Balancing public opinion with the greater good	<ul style="list-style-type: none"> • <i>Considering conflicting perspectives</i>
	Engaging residents to get more involved	<ul style="list-style-type: none"> • <i>Improving communication between governmental entities and between residents and government</i> • <i>Commissions reaching out to neighbors</i>
Programmatic	Promoting collective action	<ul style="list-style-type: none"> • <i>Events like Waterfest and park clean up days</i> • <i>School district's community garden</i>
	Collaborating across political boundaries	<ul style="list-style-type: none"> • <i>Partnering with Maplewood</i> • <i>Collaboration between the city and District on aerator</i>
	Building relationships between entities with common goals	<ul style="list-style-type: none"> • <i>School District and Watershed District both care about engaging youth</i>

CONSTRAINTS TO BUILDING CAPACITY

A few constraints to building capacity emerged from transcript data. These related to inspiring citizen participation and concern, a lack of familiarity between neighbors, confusion about roles and responsibilities, and communication break-downs between different scales and hierarchy levels.

Some participants recognized that residents need inspiration to participate and to help solve problems. One participant expressed a feeling that the issues facing Casey were not inspiring enough to elicit much involvement by the community, and gave examples of what issues might be more engaging:

Like a tangible: there's everybody's spray painting on this building and we need to do something and it's horrible and people are getting mugged on the paths at night and how are we going to remedy that—let's put up a camera. Something like that would be a solution to help but, if the park wasn't getting mowed, what's going on in Detroit, where the public works doesn't exist anymore but residents say well, let's get on our own lawnmowers and just start mowing it ourselves. Stuff like that is just not there [referring to Casey], but if it were, I think then people would be more engaged. If it were to get to that ever, I think that's when you'd see more engagement and it would be especially the users of the park (5).

Residents may not have enough information about issues to inspire their participation in park decision making. For example, this participant described that the issues with the invasive carp in the water inspired participation and revealed a lack of knowledge, “I think some of the people have come to the meetings, when they were trying to deal with the carp. I think not everyone who lived on the lake necessarily knew the carp were a bad thing” (2).

Some participants conveyed a preference for city enforcement rather than having to confront offending neighbors themselves—especially newly arrived renters who might be unfamiliar. Participants' comments suggested that the city should take responsibility to correct these issues for a variety of reasons ranging from participants being afraid of unfamiliar neighbors to simply felt it was the city's duty.

When asked about how residents could deal with a rental property that was as unsightly, one participant said, “The mayor is big on neighborhood...coalitions, or I'm not sure just exactly what it is, but dealing with neighbors getting together amongst themselves and discussing what the problems are and trying to come up with a solution” (8). However, this was described as difficult to do on occasions when neighbors remained strangers, as mentioned above.

Participants described a gap in communication between the resident and the formal decision maker. Quite a few participants were unfamiliar or felt that their neighbors were unfamiliar with

the role of the District and what they did, for example, “I’ve met one person from there and she’s expressed support for our garden work but I don’t honestly...I think they’ve done some work with rain gardens. I don’t know much about them other than that” (9).

Participants felt this additional outreach was needed to ensure a better understanding the roles of all the different entities involved in the area. For example, one participant described different entities pointing fingers at each other when asked who was responsible:

Who’s responsible for maintaining? Well, the watershed district said, it’s the city’s responsibility. Well, the city hadn’t budgeted anything for that and so that was another big discussion [laughing]. Things like that happen, that sometimes create problems for both the city and the watershed district (10).

COMMUNITY IDENTITY

Participant accounts of the character of the community related to a few overall themes: changing identities, the character of the park, and the character of the neighborhood. The majority of data came from participant responses to a specific interview question: *How would you describe this neighborhood to a friend from out of town?* Some of the characteristics of the community were also mentioned in the challenges section. They are included again here if they were also mentioned by participants to describe identity of the community.

CHANGING IDENTITY

Often the first descriptor of community identity included the word “changing”. For example, participants expressed concerns about not knowing their neighbors as well as they used to. Some of them had moved to NSP from a different area of the metro where they knew their neighbors better, and some of them reflected on the difference between now and when they were growing up or raising their kids. One participant expresses this difference, “I moved from the St. Paul area and we used to do a lot of things and North St. Paul I moved to and now our neighborhood is changing, and I don’t know my neighbors as well” (11).

Participants shared memories of the area before residential development and the changes in the last few decades. Many participants described how the neighborhood was “back then”. A few participants shared memories of the area from when it was still farmland. Changes that came with development were described as difficult for residents at the time and were very present in the memories of participants, for example:

When we grew up here, this was farm. It was hard for my dad, really hard for my dad, as North St. Paul developed and ‘now you have to connect to city water and pay for it’. One of the hardest things was when they built this sidewalk...and we have to keep it plowed?

He had a really, really hard time with that. It's like, I grew up here and if I want a fire, I'm building a fire and I don't care what your regulations are and if I want to shoot a wild animal I'll shoot a wild animal (2).

A number of participants conveyed a sense of change in the park's physical identity, like water depth. One participant expressed this identity as "confused":

I think it has a lot of potential as a mixed use facility, but I think the direction of the park has been pretty confused. Do you make it a wildlife dark skies nature preserve, or do you make it a community friendly, children friendly, supportive, play active environment or do you make it more of a large community organization meeting spot? It's visible, it's centrally located, and it actually is more of a regional park than it is a City of North St. Paul park... (7).

For others, there was some confusion over what the water body should be labeled. "I know they call it Casey Lake, but I think it's technically a pond" (5). One participant was particularly insistent on Casey's identity as a lake:

They weren't even calling it a lake for crying out loud on their maps. I think that's a big mistake because if you don't look at these little puddles, okay maybe it's a little puddle to you, but it really is a lake in my backyard and it's a lake to not just me but many several hundred people surrounding it (7).

However, another participant found value in the water area as a wetland. "As you walk up to the lake, it's all planted in native plants so there is a sense that it's a wetland for wildlife more than it's a wetland for people to swim. It's for the beauty of it, it seems" (4).

Many participants commented on the trend towards increased renter-occupied homes rather than owner-occupied, "this is a changing neighborhood over the years, I've seen a lot of homes that are turning into rental properties so that the ownership is less than it had been before" (8).

Almost every participant mentioned shifting demographics as important to any description of the community. Some mentioned increasing ethnic and socioeconomic diversity. "It's a changing neighborhood, it's a working class neighborhood. Small town feel in many ways. There's a changing demographic, a lot more immigrants moving in, higher poverty rates for families" (9).

Others mentioned different aspects of demographic change,

The houses have turned over a bit, but there were 75 or 80 kids that lived on that street within one block area. Now there's probably 10 or something like that. Not just that the people that were there were getting older and their kids moved on, but a lot of the houses have been sold three or four times (3).

PARK IDENTITY

A number of participants focused their descriptions of community identity on the park itself. They described the identity of typical users, the park as a benefit to the neighborhood, uniqueness of the park, and the park as a “window” on the natural world.

Participants described the opportunity for walking as a valued part of park identity for a all kinds of users, “I will see young couples walking, I’ll see old couples walking, I’ll see a diverse culture of people walking, using the walking path, and those with dogs” (12).

Most participants conveyed the feeling that the park was good for the neighbors and neighborhood by providing positive emotional experiences, intrinsic value, and as a gathering space for neighbors. Many participants shared positive emotions attached to the park. “There’s very deep emotional attachment to it. I don’t know how it could get any better” (2).

One participant described the peace of mind they feel while walking through the park.

When you walk through there you can’t help but kind of let go of whatever you’re thinking. In the summer, even in the winter, because there’s enough of a walk, where you kind of get away from your home and your everyday things and you see that there’s lots of, like red winged black birds down in that lake area. Just a lot of little critters running around, you feel the beauty of nature and you really can stop and smell the roses, so to speak. I think that’s largely because it’s a beautiful walking path and it winds through, and it’s pretty well laid out (6).

A number of participants expressed positive benefits of just having a park, indicating that it has some intrinsic value.

The fact that the park is there is a beautiful thing. It’s really pleasant. One of my old neighbors moved away and he said he used to come back and just park up there at the park and look across and watch the sunset across the lake and play his music and just enjoy it (7).

Participants shared views of the park as providing an important space for neighborhood events like the annual fireman’s booyah, which was mentioned by almost all participants as a positive aspect of the park’s identity:

It does bring out a lot of people. It gets to be kind of a, if the weather’s nice, it gets to be a real social affair, because people can buy soup and eat it right there or they can just pick up. People come in with jugs and containers that are huge, you know, they save this booyah for the wintertime too, I think...I enjoy it, I like it and I’ve grown up with that. They used to have that event in other parks and they settled on this one because they built that building with that in mind, I think...Its one of the big community events (10).

Casey was also singled out as unique among parks due to its residential nature, sense of ownership from surrounding residents, and larger size. One participant describes the sense of ownership perceived amongst residents surrounding the lake, “there’s this sense on this lake of people who have been there for a long time. And care about that lake” (4).

Many participants expressed appreciation for the park as providing a unique experience of nature in the city. “So, what Casey does is it’s a window on nature in a city that people normally don’t have. There’s everything and since the watershed district finally was able to kill off the carp-- the ducks that have made it their nesting home!” (8)

NEIGHBORHOOD IDENTITY

Some participants’ portrayals of the community focused on the neighborhood surrounding Casey. These descriptions centered on the neighborhood type and the residents. Many placed an emphasis on the neighborhood as having a “small town” feel or referred to it as “a typical suburban community”. “I think it’s got a little more of a ‘small town’ feel. It’s a near ring community to the urban area and it still retains a neighborhood feel” (9).

Residents were described as long-term home owners who value green space, are diverse, and have family history in the area. Homeownership was conveyed as important by almost all participants. Some commented that most homes were still owner-occupied, “...pretty much all the homes that are owned by the individual. There’s hardly any rentals. I mean I know of one rental. Most are older people and younger families” (3). Others described how homeowners maintained their properties, “Yeah, and I don’t see things real fancy but I think in general, when you walk the park, you’re looking at the backs of the house, but its real pleasant walk, you don’t have any eye sores” (6). The area was described as affordable for home owners, “One advantage that neighborhood has, the houses are medium priced houses and generally are affordable by most people that have a normal job or something like that” (3).

Table 3. Identity/Character of Community

Theme	Subcategory	Descriptor
A Changing Identity	Not like “back then”	<ul style="list-style-type: none"> • <i>Don’t know neighbors as well</i> • <i>Developed in recent memory- previously farmland</i>
	Identity of Park is “Confused”	<ul style="list-style-type: none"> • <i>Tension between differing labels- tamed vs. wild, regional vs. community</i> • <i>Identity of water body</i>
	Shifting Demographics	<ul style="list-style-type: none"> • <i>Increasingly diverse, new immigrant arrivals</i> • <i>Higher poverty rates</i>
Park Identity	Identity of typical Users	<ul style="list-style-type: none"> • <i>Place high value on walking path</i> • <i>Diverse- ages, group size, ethnicity, activity of choice etc.</i>
	Park Identity Improves Neighborhood Identity	<ul style="list-style-type: none"> • <i>A place for neighbors to gather, eg. Booyah</i> • <i>Intrinsic value- makes neighborhood more “attractive”</i> • <i>Provides emotional benefits</i>
	Not like other parks	<ul style="list-style-type: none"> • <i>Identity is shaped by residential yards</i> • <i>A sense of ownership from surrounding residents</i> • <i>Larger in size</i>
	A “window on nature”	<ul style="list-style-type: none"> • <i>Diverse environments (woods, creek etc.) rarely available in a city</i>
Neighborhood Identity	Neighborhood Type	<ul style="list-style-type: none"> • <i>Feels like a small town - despite being near large cities</i> • <i>Affordable homes</i>
	Resident Identity	<ul style="list-style-type: none"> • <i>Long term homeowners</i> • <i>Homeowners who take care of their yards</i> • <i>Value green space</i> • <i>Majority of homes are owner- occupied</i>

DISCUSSION AND RECOMMENDATIONS

In order to address the needs of community partners—the Ramsey Washington Metro Watershed District and the City of North St. Paul—the current research sought to assess the community capacity of the Kohlman Creek Subwatershed surrounding Casey Lake Park through in-depth interviews of key stakeholders.

Study findings illuminate the capacity for engagement with natural resources issues by providing insight on what the community views as challenges, the capacity for addressing challenges, and perceptions of collective identity. This discussion will relate findings to the different levels of capacity identified by Davenport and Seekamp (2013) and suggest recommendations for building capacity at all scales.

CAPACITY TO RESPOND TO CHALLENGES

Through the interview process, participants identified a number of challenges facing the community, cited responses to past issues, and discussed what could be done in the future. Participant responses indicated high levels of capacity on all four levels (individual/member, relational, organizational, and programmatic), however there is room to build on current capacity to strengthen the community and improve collective water resources. It is interesting to note that many of the challenges perceived in the Kohlman Creek Subwatershed are challenges typical of fringe cities such as an increase in immigrant populations, decreases in homeownership, and decreases in the youth population (Puentes & Warren, 2006).

According to Davenport and Seekamp's Multilevel Community Capacity Model (See Figure 4), responding to water resource problems is easier when community members have knowledge about those problems, a sense of responsibility for solving them, and a sense of efficacy for solving problems (2013). Participants described themselves and other residents as attentive to the issues in the park, and willing to make connections with organizations to address issues. However, some gaps appeared here since not all residents were concerned *enough* about the park to get involved and residents were hesitant to work with each other to solve problems. Since some residents may not be inspired to action by the issues facing Casey, perhaps those issues can be better connected with higher priority issues. For example, one issue that seemed to galvanize residents' participation (in opposition) was the previously proposed water park.

Empowering neighbors to work together to solve problems may be difficult given the described lack of familiarity between neighbors in this area. The increase in renter-occupied homes may mean more short-term residents, which could make relationship building additionally difficult. Rather than approach unfamiliar neighbors themselves, some residents may be more likely to contact the city for help resolving issues between neighbors, such as illegally parked cars. This puts the onus of problem solving on the city. Building up familiarity between neighbors through events at the park or adjacent community garden could help relieve some of the city's burden by encouraging residents to resolve smaller scale problems on their own.

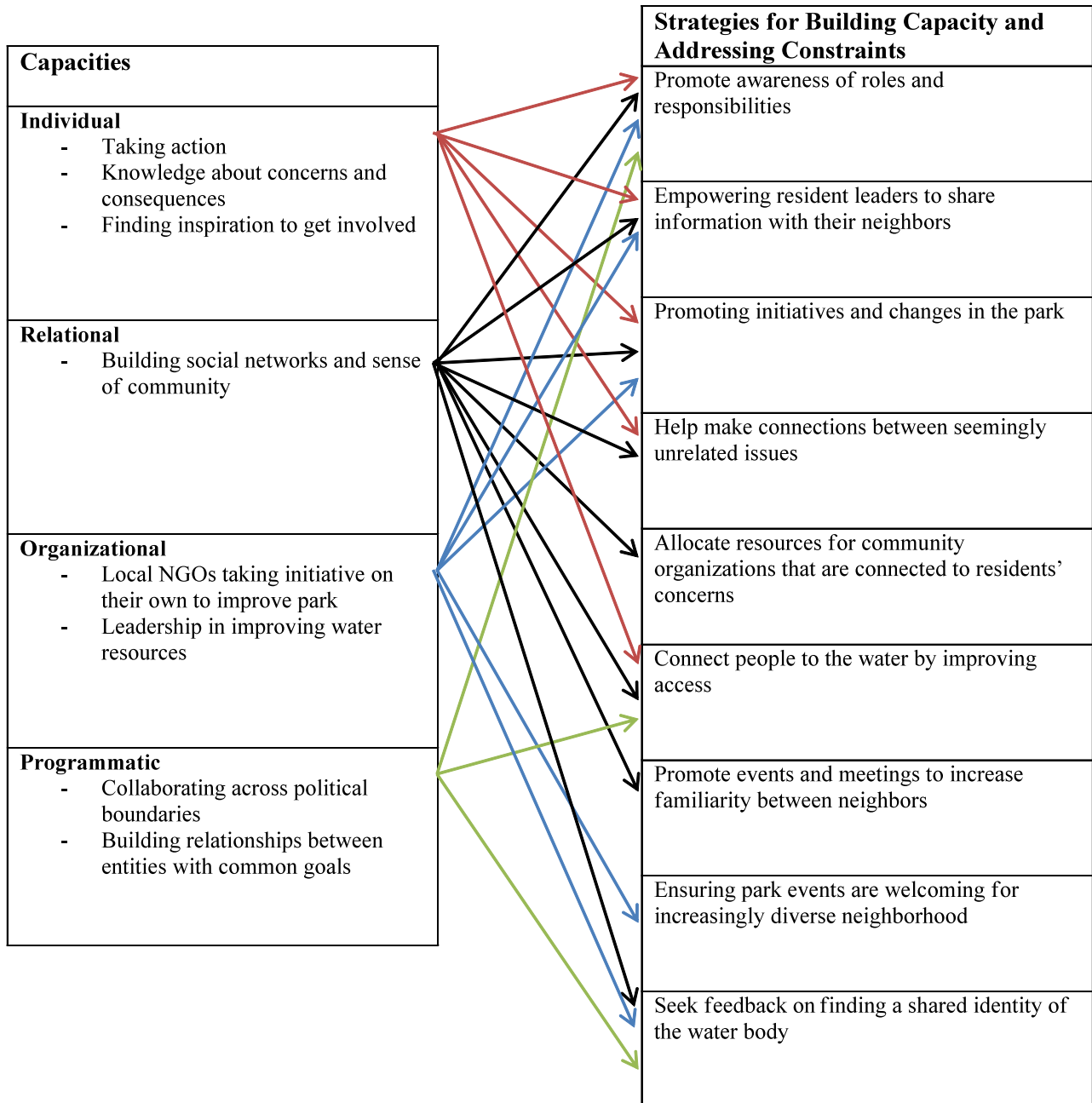
At a finer scale, many participants remain unclear about what happened to the carp and why they were removed. A few participants expressed surprise at the lack of followup on last year's carp removal and indicated a desire to learn more. Addressing this would provide an opportunity to open up lines of communication between individuals and organizations (Ivey, Smithers, de Loë, & Kreutzwiser, 2004).

It is indicative of high levels of community capacity that local non-governmental organizations have started to take action to fill community needs that government cannot. Supporting these organizations with resources, leadership development, and information sharing may help them remain active problem solvers in the community.

The District is seen as a powerful, financially stable leader that is working to solve water resource issues. However, some perceive the District as disconnected with individual homeowners and many are confused about or lack knowledge of the District's roles and responsibilities. One way the District could better connect is through collaborative work with the city and non-governmental organizations. Many participants mentioned the collaboration between the city and District on the aeration of Casey as a positive response to water quality challenges. The District also has a unique opportunity to bring community members together behind a shared vision of the water area in Casey. There was some divergence of opinion among participants on water management. Participants expressed different opinions on what the water "should" look like, what function it "should" serve, and the role of vegetation and carp in the ecosystem. This is an area for potential growth and learning. Creating a shared understanding helps build consensus of opinion, a greater sense of community, and may even help the community respond to the challenges it faces (Davenport & Seekamp, 2013). The District may need to be sensitive to labeling the water body given that there is a lack of consensus on its identity among residents. Educational outreach may help clarify how managing the water as a lake or as a wetland connects to other issues residents already care about such as property values.

Figure 8 illustrates the interconnected nature of capacities and strategies for addressing constraints. Capacity for individual knowledge and action may be built upon by increasing outreach and promotion of local organization's initiatives, such as the carp eradication effort and consequences. Relational networks may be strengthened by creating a shared sense of identity around the park's water area. Fair citizen engagement on the part of organizations means developing events and outreach that are accessible to all members of the community, especially in an area of increasing diversity like this one. Promoting awareness of the roles and responsibilities of formal government units may help collaboration at both the resident-to-organization scale and between organizations. In addition, building on one capacity may help build on another. It is important to note here that capacities and strategies for addressing constraints are interrelated and this demonstrates just a few of such connections.

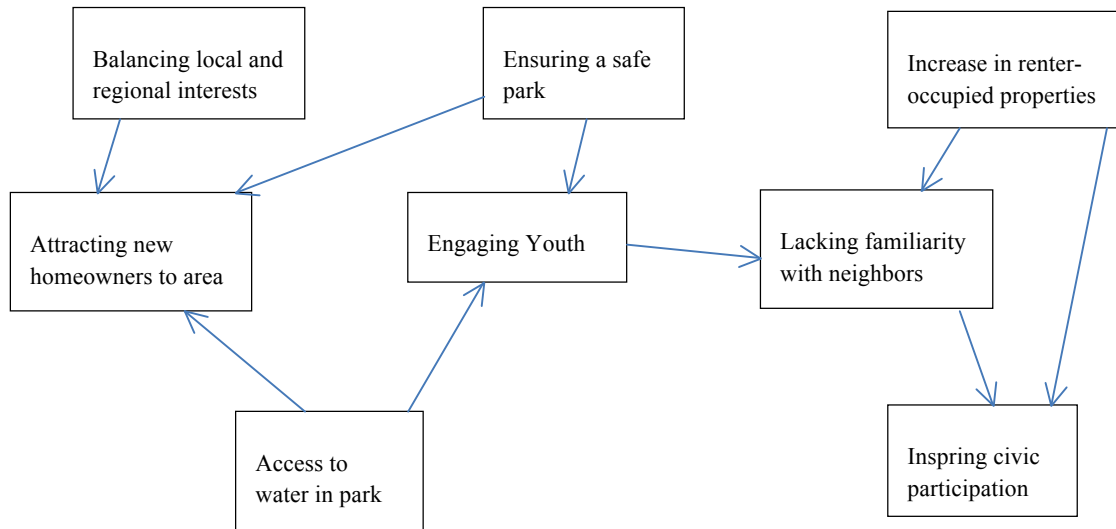
Figure 8. Connections Between Capacities and Strategies



Concerns that participants described also present opportunities for forming connections. Many of these concerns are related, and could thus unite people to find common solutions together. For example, prioritizing local interests over attracting regional ones may not help attract new homeowners; a perceived unsafe park may keep kids away; an increase in rental-occupied properties may lead to less familiarity between neighbors. More potential connections may be

seen in Figure 9. Together, these point towards the interwoven nature of the health of the park and the health of the neighborhood.

Figure 9. Connections Between Challenges.



Relational networks enable information sharing, a sense of community, and a shared sense of consequences and responsibility (Davenport & Seekamp, 2013). In this study, participants shared information indicating that some aspects of relational networks are constrained. Unknown neighbors and fears about changing identity may be barriers to forming relational networks, given that a shared sense of community identity is one way to understand such networks (Davenport & Seekamp, 2013). The changing face of the community described by participants in this study may present an opportunity for growth in this area of capacity. Connecting the newer immigrant population and renters to the network of homeowners is essential to building capacity at the individual and relational level. Connected networks can promote awareness of problems, foster a common understanding of causes and consequences, and apply social pressure for behavioral change.

Programmatic capacity is “demonstrated in implementation outcomes, or specifically impacts of water resource management initiatives on communities and ecosystems” (Davenport & Seekamp, 2013). High programmatic capacity is associated with clearly defined roles for entities that share management responsibility. Some issues with role identification and communication emerged from this data. Participants identified some aspects of communication that are working well, such as the parks commissions meetings in the parks during summertime. However, some communication was conveyed as lacking, such as the District’s outreach on raingarden installation and other initiatives.

COMMUNITY IDENTITY

Unstable aspects of identity were often connected to the challenges described by residents. These included the balance between differing views of park identity, unfamiliarity with neighbors, and increasing diversity. Decision makers and managers should prioritize issues that are described as being both a part of identity and a challenge. It is vital to find a balance between policies that encourage homeownership and those that embrace and integrate renters.

Divergent perceptions of the water area may be problematic for managers who wish to organize neighbors behind water quality. A shared sense of the water may help build relational networks around it to care for it. Places have unique meanings to people and can inform attitudes, inspire strong emotional bonds, and contribute to community identity (Davenport & Anderson, 2005). It is important for managers to be sensitive to these feelings of place attachment and the way management might impact them and residents' overarching feelings about the place.

The identity of the park is shaped in part by the residential yards that surround it on all sides. This is unique, according to participants, because most parks are surrounded by streets rather than residential yards. According to participants, residents take pride in their "small town" feel (indeed, this is part of the city's tagline: "an extraordinary small town in the cities"). Connecting that identity to initiatives like a raingarden retrofit may provide motivation (eg. "North St. Paul residents take care of their neighbors—installing a raingarden in your yard may help keep your neighbor's basement from flooding").

CONFIRMATION OF CITY SURVEY FINDINGS

The current study also supports findings from NSP's recent survey of residents (Fure & Werner, 2013). The survey found that few respondents had participated in recreational programming in the last 6 months to a year (16%). This finding is supported by the concerns participants in this study shared about athletic programming for youth in the community. In addition, the survey found that residents were most likely to obtain information through the utility newsletter sent out by the city. This particular newsletter was mentioned by most participants in this study as a way they learned about parks or other city information.

FUTURE RESEARCH

This was a small sample of active community members with limited diversity of experience and attitudes given that they all live in the same area and are active (possibly with each other) in the community. Some characteristics may be overrepresented here, such as homeowners and people over the age of 50. There is a lack of representation from minority groups such as new immigrants and renters.


Future research in this community should investigate its changing demographics in greater detail. An examination of the lived experience of individuals from more newly-arrived groups (eg. renters, immigrants, and ethnic minorities) would help decision makers connect new and old groups of residents. This research suggests that valued conceptions of identity, such as homeownership and “small town” feel, were perceived as threatened by changes in demographics. Perhaps understanding the perspectives and values of the groups who are part of that change would be helpful in bringing the community closer.

Future research may also delve into what Casey Lake means to residents in a more focused way. Since this study was an attempt to illuminate several aspects of community capacity, it merely scratched the surface of these meanings and implications for management. It would also be interesting to compare the experiences of those who live directly adjacent to Casey to those who live farther away.

RECOMMENDATIONS

Specific recommendations to build capacity and address constraints with consideration of perceived challenges and community identity follow.

1. Open up the shoreline for more human access in order to draw more youth into the park and to the neighborhood. This could take the form of bird nesting boxes or a wildlife blind, which is typically a wooden structure that blocks human viewers from detection by wildlife.
2. Promote initiatives in the park and roles of organizations through interpretive signage or other public relations campaigns. For example, signage along the well-travelled walking paths that explains shoreline restoration project.
3. There is a potential for a partnership between the District and the NGOs that manage the recreational programming. Is there a common interest in finding ways to create additional infiltration in the sports fields or in minimizing fertilizer? Partnerships between baseball fields and water management are not unprecedented (eg. (Minnesota Twins, 2014).
4. Create opportunities for connection between entities with common interests. For example, the needs and ideas of various current user groups overlap and they may work better together to improve the park. For example, the NGOs who manage recreation programming and the school district both care about engaging youth.
5. Reframe the issues for stakeholders that view natural resource issues differently in order to create the shared understanding necessary to take collaborative action (Dewulf, Craps, Bouwen, Taillieu, & Pahl-Wostl, 2005).
6. Raingardens and other methods to improve water resources and the park may be portrayed as a way to attract homebuyers, which would preserve an aspect of the area’s identity that residents clearly value.

7. It is indicative of high capacity that there were twelve people willing to spend an hour talking about it. Decision makers may leverage existing leaders by empowering them with more information about the state of the park and the water area.
 8. Clarify roles and responsibilities at all scales in outreach and educational materials.
 9. Find spaces for long-term residents tell their stories about the growth and changes in the area over the past few decades. This could occur at an event to bring new and old residents together.
- 

REFERENCE

- Barr Engineering. (2007). *Casey lake: Lake status report*.
- BenDor, T., Brozović, N., & Pallathucheril, V. G. (2007). Assessing the socioeconomic impacts of wetland mitigation in the Chicago region. *Journal of the American Planning Association*, 73(3), 263-282.
- Bolund, P., & Hunhammar, S. (1999). Ecosystem services in urban areas. *Ecological Economics*, 29(2), 293-301. doi:[http://dx.doi.org/10.1016/S0921-8009\(99\)00013-0](http://dx.doi.org/10.1016/S0921-8009(99)00013-0)
- Bonney, R., Cooper, C. B., Dickinson, J., Kelling, S., Phillips, T., Rosenberg, K. V., & Shirk, J. (2009). Citizen science: A developing tool for expanding science knowledge and scientific literacy. *Bioscience*, 59(11), 977-984.
- Boyer, T., & Polasky, S. (2004). Valuing urban wetlands: A review of non-market valuation studies. *Wetlands*, 24(4), 744-755.
- Brinkman, E., Seekamp, E., Davenport, M. A., & Brehm, J. M. (2012). Community capacity for watershed conservation: A quantitative assessment of indicators and core dimensions. *Environmental Management*, 50(4), 736-749.
- Burnard, P. (1991). A method of analysing interview transcripts in qualitative research. *Nurse Education Today*, 11(6), 461-466.
- Chaskin, R. J. (2001). Building community capacity a definitional framework and case studies from a comprehensive community initiative. *Urban Affairs Review*, 36(3), 291-323.
- City of North St. Paul. (2013). *Park improvement plan*. ()
- Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches* Sage.
- Cuba, L., & Hummon, D. M. (1993). A place to call home: Identification with dwelling, community, and region. *The Sociological Quarterly*, 34(1), 111-131.
- Dahmus, M. E., & Nelson, K. C. (2013). Yard stories: Examining residents' conceptions of their yards as part of the urban ecosystem in Minnesota. *Urban Ecosystems*, , 1-22.
- Davenport, M. A., & Anderson, D. H. (2005). Getting from sense of place to place-based management: An interpretive investigation of place meanings and perceptions of landscape change. *Society and Natural Resources*, 18(7), 625-641.

- Davenport, M. A., & Blooms, M. (2013). Conservation practice adoption: Motivations and constraints among lake nokomis area business owners.
- Davenport, M. A., & Pradhananga, A. (2012). Perspectives on minnesota water resources.
- Davenport, M. A., & Seekamp, E. (2013). A multilevel community capacity model for sustainable watershed management. *Society & Natural Resources*, (ahead-of-print), 1-11.
- Dewulf, A., Craps, M., Bouwen, R., Taillieu, T., & Pahl-Wostl, C. (2005). Integrated management of natural resources: Dealing with ambiguous issues, multiple actors and diverging frames. *Water Science and Technology*, 52(6), 115-124.
- Forsyth, A., & Musacchio, L. (2005). Why small parks matter: Let's start looking at them as community assets. *Planning*, 71(11), 32.
- Fure, J., & Werner, T. (2013). *North st. paul 2013: Performance measurement program report*. ().
- Grimm, N. B., Faeth, S. H., Golubiewski, N. E., Redman, C. L., Wu, J., Bai, X., & Briggs, J. M. (2008). Global change and the ecology of cities. *Science*, 319(5864), 756-760.
- Heckathorn, D. D. (2002). Respondent-driven sampling II: Deriving valid population estimates from chain-referral samples of hidden populations. *Social Problems*, 49(1), 11-34.
- Ivey, J. L., Smithers, J., de Loë, R. C., & Kreutzwiser, R. D. (2004). Community capacity for adaptation to climate-induced water shortages: Linking institutional complexity and local actors. *Environmental Management*, 33(1), 36-47.
- Jones, P. M., Trost, J. J., Rosenberry, D. O., Jackson, P. R., Bode, J. A., & O'Grady, R. M. (2013). Groundwater and surface-water interactions near white bear lake, minnesota, through 2011.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* Sage Publications, Incorporated.
- Metropolitan Council. (2012). Community profile for north st. paul. Retrieved 1/23, 2014, from http://stats.metc.state.mn.us/profile/detail_print.aspx?c=02395261
- Minnesota Pollution Control Agency. (2014). Minnesota's impaired waters and TMDLs. Retrieved 01/23, 2014, from <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/impaired-waters-list.html>

- Minnesota Twins. (2014). Target field- the first professional sports facility to receive LEED silver certification for both construction and operations. Retrieved 01/11, 2014, from http://minnesota.twins.mlb.com/min/community/go_green.jsp
- Oliver, P. (2006). Purposive sampling. In V. Jupp (Ed.), *The SAGE dictionary of social research methods* (pp. 245-246). London, England: SAGE Publications, Ltd. doi:<http://dx.doi.org/10.4135/9780857020116>
- Puentes, R., & Warren, D. (2006). One-fifth of america: A comprehensive guide to america's first suburbs.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), 65-78.
- Raymond, C. M., & Cleary, J. (2013). A tool and process that facilitate community capacity building and social learning for natural resource management. *Ecology and Society*, 18(1), 25.
- Resilient Communities Project. (2013). *University of minnesota- city of north st. paul scope of work agreement*. Unpublished manuscript.
- Roby, K. (2013, 12/09/2013). Carp-free casey lake in north st. paul benefits east metro watershed. *Lillie Suburban Newspapers*
- Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*, 18(2), 179-183.
- Seidman, I. (2006). *Interviewing as qualitative research : A guide for researchers in education and the social sciences*. New York: New York : Teachers College Press.
- Silbernagel, J. J., & Sorensen, P. W. (2013). Direct field and laboratory evidence that a combination of egg and larval predation controls recruitment of invasive common carp in many lakes of the upper mississippi river basin. *Transactions of the American Fisheries Society*, 142(4), 1134-1140.
- U.S. Census Bureau. (2014). *State and county quickfacts*. (Census Data).
- US Fish and Wildlife Service. (2014). National wetland inventory. Retrieved from <http://www.fws.gov/wetlands/Data/Mapper.html>
- Vaske, J. J., & Kobrin, K. C. (2001). Place attachment and environmentally responsible behavior. *The Journal of Environmental Education*, 32(4), 16-21.
- Winter, T. C. (1999). Relation of streams, lakes, and wetlands to groundwater flow systems. *Hydrogeology Journal*, 7(1), 28-45.

CONSENT FORM

Kohlman Creek Subwatershed Community Assessment Study

You are invited to be in a research study of community assets and challenges in addressing natural resources problems. You were selected as a possible participant because you were identified through background research as a key community member. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by: Mary Hammes, Department of Forest Resources, and the University of Minnesota

Background Information

The purpose of this study is to better understand the neighborhoods surrounding Casey Lake Park and how residents interact with natural resources in the area.

Procedures:

If you agree to be in this study, I would ask you to do the following things:

Answer open-ended interview questions in a process lasting less than an hour with audio recording.

Risks and Benefits of being in the Study

Risks associated with this study are minimal, responses are confidential and participant's names will not be linked to any information in any publications. Benefits of participation include the ability to share your perspectives and learn about natural resources in the neighborhood. Study results will be made available to the public and all participants will have access to them.

Compensation:

You will receive payment: An optional \$15 gift card.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records. Study data will be encrypted according to current University policy for protection of confidentiality. Audio recordings of interviews will be maintained in a locked office on a password-protected computer and will be erased after three years.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota, the city of North St. Paul, or the Ramsey Washington Metro Watershed District. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is: Mary Hammes. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact them at 115 Green Hall 1530 Cleveland Ave N, St. Paul, MN, 55108, 651-216-1973, hamme464@umn.edu. Advisor: Dr. Stephan Carlson, 651-624-8186, carls009@umn.edu

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Kohlman Creek Subwatershed Community Assessment

Script for Initial Contact

“Hello, my name is Mary. I am a graduate student conducting research on communities and water resources. This study involves community stakeholders in the Kohlman Creek Subwatershed. One goal of this study is to identify the resources your neighborhood has in place to respond to natural resource challenges.

To do this, I have been conducting interviews with people in the watershed about their perspectives. I am hoping you would be able to assist me by participating in the study and sharing your perspectives with me. We are offering an optional \$15 gift for your participation. The interview takes about one hour. Would you be willing to participate?”

If yes: “Thank you. I am available on _____ (days of week, times, have alternates ready) is there a time that would work best for you? [Set date, time, location (get directions)]. I would like to send you a confirmation email with date, time and location information. The email will include all of my contact information, in case you have any questions or concerns. Do you have an email address I can send the confirmation to?”

a. If yes, take it down or confirm we have the correct email address for them. “Thank you. I look forward to meeting with you on ___(agreed upon date)___.”

b. If no, “Is ___(phone # you contact them with)___ the best way for me to get a hold of you? In case you need to get a hold of me with questions or concerns, my phone number is _____.” I look forward to meeting with you on ___(agreed upon date)___.

If no: “Ok, thank you for your time. Good bye.”

If they seem unsure: “Just to be clear, participation is completely voluntary and if you decide to participate you can withdraw at any time. Your identity will remain confidential and we won’t include any information that would make it possible to identify you in the final report. We’re only talking to a limited number of key representatives, so capturing your perspective is important. Can I ask what your concerns about participating are?” [Try to address their concerns]

If they want to know why they are being asked to participate: “We’re interviewing a variety of community members to try to get diverse perspectives and a range of experiences. I’ve been conducting background research and see that you are a [position in organization] OR [Name of person] recommended I contact you. Since we are only able to conduct a limited number of interviews, capturing your perspective is important.”

If they want to know how the information will be used: “We are trying to understand the critical capacities that communities need to respond to natural resource challenges. We’ll be putting together a final report that identifies community needs and assets to share with community leaders, educators and water resource professionals. Your information will be kept confidential and there will not be any identifying information in the report.”

If they want to know what the study is for: “This project is aimed at understanding the critical capacities communities need to respond to water resource problems. We’re collecting social data to assess the needs and opportunities in your community and identify strategies that could be used to address community problems. This will lead to an improved understanding of local perspectives around water resource management.”

If they ask about IRB: The research project has been approved by the IRB/Human Subjects Committee.

APPENDIX C: RECRUITMENT SCRIPT FOR EMAIL

Dear [Contact name],

Hello, my name is Mary. I am a graduate student conducting research on communities and water resources. This study involves community stakeholders in the Kohlman Creek Subwatershed surrounding Casey Lake Park. One goal of this study is to identify the resources your neighborhood has in place to respond to natural resource challenges.

To do this, I have been conducting interviews with people in the watershed about their perspectives. I am hoping you would be able to assist me by participating in the study and sharing your perspectives with me. I am offering an optional \$15 gift for your participation. The interview takes about one hour. All responses will be completely voluntary and stored separately from identifying information.

If you are interested, please choose one of the following time slots and let me know a location that works best for you. Participants may be interviewed at the North St. Paul Community Center, but please suggest another place if it's more convenient.

Time option 1

Time option 2

Time option 3

Thank you for your consideration,

Mary Hammes

APPENDIX D: INTERVIEW GUIDE A

Interview Guide

Thanks for agreeing to be interviewed for this important project. My objectives are to look at local perspectives on urban natural areas (focusing on Casey Lake Park) and some ways that the community interacts with and understands these areas.

First, I'd like to better understand you and your connection to this neighborhood.

1. How would you describe your connection to the Casey Lake neighborhood and surrounding area?
 - a. Do you have any specific roles you play in the community?
2. What is great about living in the Kohlman Creek Subwatershed? (show map)

Next, I have some questions about changes and challenges that your community is facing.

3. What are some of the primary challenges this neighborhood is currently facing?
4. How effective has the community been at responding to or managing these problems?
 - a. What made the effort effective or ineffective? Can you provide examples?
5. If the community were to be more effective at addressing challenges, what would that look like?
 - a. What additional resources would be needed?

Now, I have some questions about local governing bodies and the role they play in your community.

6. Are you familiar with the Ramsey Washington Metro Watershed District?
 - a. What have you heard or how have you been involved?
7. One role of the RWMWD is to increase the quality of water running into local water resources, such as Casey Lake. Is this important to you? Please explain.
8. Are there other activities you would like to see RWMWD promote or initiate?
9. If RWMWD wanted to get your input on future programs or initiatives, what would be the best way to get it?
 - a. How might they better engage your peers or other community members in their planning?
 - b. How might they better communicate with you about water resource issues in general? For example: newspapers, city newsletters, web sites, blogs, personal email, in person visits, community meetings, etc.

Finally, I have some questions about the natural features in the neighborhood.

10. How would you describe this neighborhood to a friend?
 - a. What about the natural features of the neighborhood?
 - b. What about landscaping in the neighborhood?
2. In what ways does do you think the presence of natural areas impact the quality of life for residents here?

11. If you could change anything about the natural features in this area, what would you change?
12. What do you do to get information about local parks and natural areas?
13. Is there anything else you would like to share with me about the community or natural resources in this area?

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

14. What other community representatives (e.g., from government, organizations or interest groups) could give me an important perspective on community assets and needs or water resources in this area? (Either with similar or different perspectives than you.)
15. What makes them a key representative (organizations they are involved in, how are they involved in the community)?
16. 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?

APPENDIX E: INTERVIEW GUIDE B

Interview Guide

Thanks for agreeing to be interviewed for this important project. I'm a student at the University of Minnesota looking at local perspectives on urban natural areas (focusing on Casey Lake Park) and some ways that the community interacts with and understands these areas.

- *Please have a look at this consent form, take a few minutes to read it and let me know if you have any questions.*
- *Do you understand that your participation in this recorded interview is completely voluntary? What are you being asked to do?*

First, I'd like to better understand you, your connection to this neighborhood, and what roles you might play in the community.

1. How would you describe your connection to the Casey Lake Park neighborhood (show map)?
 - Describe any specific roles you play in relation to the community.

Next, I have some questions about the overall character of the neighborhood and some of its features.

2. How would you describe this neighborhood to a friend from out of town?
 - What about the natural features of the neighborhood?
 - What about landscaping in the neighborhood?
 - How do people connect and interact?
 - What is characteristic about this neighborhood that makes it special or unique?
3. What does having Casey Lake Park in your neighborhood mean to you?
4. If you could change anything about Casey Lake Park, what would that be?
5. What do you do to get information about local parks and natural areas?
6. Is there anything else you would like to share with me about the community or natural resources in this area?

Next, I'd like to take a step back and ask about some more general changes and challenges that your community is facing.

7. What are some of the biggest challenges this neighborhood is currently facing?
8. Can you provide examples of ways the community has responded to these challenges?
 - What made these efforts effective or ineffective?

9. If the community were to be more effective at addressing challenges, what would that look like?
 - What additional resources would be needed?

Now, I have some questions about local governing bodies and the role they play in your community. (If these have not been addressed by previous questions)

10. How would you describe the role of Ramsey Washington Metro Watershed District?
 - What have you heard or how have you been involved?
11. One role of the RWMWD is to increase the quality of water running into and through local water resources, such as Casey Lake. How does the district help to address the challenges you see your neighborhood face?
 - What could they do to improve their support of your neighborhood?
12. How important is it to learn about water quality issues in the park?
13. If RWMWD wanted to get your input on future programs or initiatives, what would be the best way to get it?
 - How might they better engage your peers or other community members in their planning?
 - How might they better communicate with you about water resource issues in general? For example: newspapers, city newsletters, web sites, blogs, personal email, in person visits, community meetings, etc.

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

14. What other community representatives (e.g., from government, organizations or interest groups) could give me an important perspective on community assets and needs or water resources in this area? (Either with similar or different perspectives than you.)
15. Do you mind if I contact you again to clarify portions of this interview?

APPENDIX F: DEMOGRAPHICS FORM

ID# _____ Date _____

Kohlman Creek Subwatershed Community Assessment- University of Minnesota

Please do not put your name on this sheet.

To better document the types and range of residents I talk to, I'm asking participants to provide some background information. This information will only be presented as a summary of study participant characteristics. All efforts will be made to maintain confidentiality and any information provided that might reveal your identity will be excluded from published documents. Your name will not be associated with the data collected and will not be referenced in any publications.

Year you were born:

Occupation:

Gender:

Highest level of formal education (HS, BA, MS etc.):

Member of Kohlman Creek Subwatershed (Refer to map provided): Yes/No?

Years lived in community:

Community groups/organization affiliations: