Exploring the Development of a Source Water Protection Collaborative

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DEPARTMENT OF HEALTH

CLEAN WATER LAND & LEGACY AMENDMENT

Environmental INITIATIVE

Powerful Partnerships, Effective Solutions

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SUMMARY

The Minnesota Department of Health (MDH) is tasked with ensuring that all Minnesotans have access to clean and safe drinking water, including the planning necessary to protect our drinking water sources, both for surface water systems and ground water systems.

Many of the most significant threats to safe drinking water come from how people use the land. The water that ends up in public drinking water supplies and private wells first passes over or through the land, where it can pick up contaminants. The land uses that could contaminate drinking water include landfills, storage tanks, septic systems, stormwater runoff from road and other paved surfaces, mining, agriculture, forestry, manufacturing and more. Tackling the human causes of contamination through land uses can help protect water quality and quantity for future generations. This is especially important as treating contamination can cost as much as twenty times the cost of protection.[1]

There are tradeoffs that can make it challenging to prioritize the protection of drinking water sources. One of the main challenges is the competition between protecting land and developing land for additional economic benefits. At the same time, the cost of treating contaminated water, especially for those communities with smaller tax bases, can be a heavy economic burden. Trying to weigh current benefits and future concerns can be especially difficult in communities that are growing or looking to add more economic opportunities.

Given the diversity of public and private interests that need to be aligned to effectively protect drinking water supplies across the state, in 2018 the Minnesota Department of Health approached Environmental Initiative about the possibility of establishing a state-wide partnership or collaborative focused on source water protection, drawing on existing national and regional models.[2] To ensure that a collaborative was designed to address the priorities of the communities where drinking water is at greatest risk, Environmental Initiative, Citizens League, and the Minnesota Department of Health spent 2019 exploring the needs and the opportunities associated with promoting land use decisions that protect drinking water supplies. Under the direction of a cross-sector steering committee, Environmental Initiative held conversations in Perham, Luverne, Rochester, Coon Rapids, and Virginia with people who have formal power or direct influence over water and land use decisions: Elected officials, soil and water conservation districts (SWCDs), water operators,

well drillers, septic installers and inspectors, farm operators, industry associations, and more. Citizens League held conversations in similar locations with community members who are newer to the topic of drinking water, as well as additional communities in the Twin Cities area. This process gave us insight into the perspectives of key decision makers and the members of the communities they serve.

Across these conversations in economically, hydrologically, and politically diverse communities, there are several themes that emerged that a state-wide collaborative could address:

- There are many projects and policy and planning efforts that impact the protection of drinking water across the state, and a number of new initiatives are already in development. The collaborative will leverage and learn from these activities—and facilitate the sharing of knowledge between communities with similar efforts and concerns.
- Local and state government officials responsible for providing drinking water have limited and varied training and resources available for supporting engagement of community members and surrounding residents. The collaborative will expand capacity, particularly for engagement with those who are often marginalized from government decision making, such as farmers, rural residents, immigrant communities, people of color and indigenous folks, and small businesses.
- Distrust between community members and local officials persists, and there is an undercurrent in many communities of feeling dismissed and discounted by public officials and civic institutions. The collaborative will support local community partnership- and trust-building efforts, focusing on those who have been marginalized, in order to build a stronger civic fabric and greater collective capacity for securing safe drinking water for all.

In summary, the collaborative should focus their efforts where *collective action* can support the protection of public and private drinking water supplies and *help local resource managers prioritize concerns of equity* for vulnerable communities.

In a next phase of work, Environmental Initiative will develop and launch this collaborative, providing coordination, facilitation, and support as it sets its course of action. The formation of this collaborative, and its possible functions and members, will be based on the outputs of this initial phase of work. This group will include state agencies, local government, nonprofit organizations, industry associations, community champions, and organizations working in impacted communities. These collaborative members will work to define common vision, goals, long-term outcomes they are seeking, and a plan for collective action.

[1] "Source Water Protection 101." Source Water Collaborative. 2012. https://sourcewatercollaborative.org/wp-content/uploads/2012/09/SWP101_September-2012-online-toolkit.pptx

[2] "Map of Collaborative Efforts." Source Water Collaborative. 2020. https://sourcewatercollaborative.org/how-to-collaborate-toolkit/map/

CONTEXT

Almost all of the water we drink falls here in Minnesota, giving us an exceptional opportunity to protect it and prevent the need to treat or import it from elsewhere. The Minnesota Department of Health (MDH) is tasked with ensuring that all Minnesotans have access to clean and safe drinking water, including protecting our drinking water sources, both for surface water systems and ground water systems (per the Federal Safe Drinking Water Act and state statute). Major threats to drinking water include:

- Contamination from human practices including:
  - » Land uses
  - » Aging wastewater infrastructure
  - » Prescription medication use and disposal
  - » Product use (like plastics, sunscreen, etc.)
- Contamination from the natural environment

One of the major types of human activity that impacts drinking water is land use. The water that ends up in public drinking water supplies and private wells first passes over or through the land, where it can pick up contaminants. The land uses that could contaminate drinking water include landfills, storage tanks, septic systems, stormwater runoff from road and land surfaces, mining, agriculture, forestry, manufacturing and more. Tackling the human causes of contamination through land uses can help protect water quality and quantity for future generations. This is especially important as treating contamination can cost as much as twenty times the cost of protection.[3]

There are tradeoffs and barriers that make it challenging to prioritize the protection of drinking water sources. One of the main challenges is the competition between protection of land versus the development of that land for additional economic benefits. Complexity of the contamination sources, unaligned incentives, time constraints, and short-term community priorities can lead operators to choose treatment over protection. In some areas significant parcels of land have been put into the public trust for the purpose of protecting drinking water supplies, but most of the land from which our source waters drain is privately owned and managed. This means that preventing the contamination of drinking water supplies throughout the state requires coordinated action across sectors and among landowners and operators with diverse interests.

Related initiatives around the U.S.

At the national level, the Source Water Collaborative (SWC) provides a model for collaboration from which we can draw lessons and leverage resources, including from SWC participant organizations that have a strong presence in Minnesota. Comprised of federal, state, and local partners, each organization recognizes the synergy of coordinated actions and the need for leveraging each other's resources in order to increase the chances for success for protecting drinking water.[4] The SWC website includes an information exchange, data sets, and tools for creating and facilitating a more geographically specific collaborative.

[3] "Source Water Protection 101." Source Water Collaborative. 2012. https://sourcewatercollaborative.org/wp-content/uploads/2012/09/SWP101_September-2012-online-toolkit.pptx

[4] "About the Source Water Collaborative." Source Water Collaborative. 2019. https://sourcewatercollaborative.org/about/

Another example comes from The Trust for Public Land, Smart Growth Leadership Institute, River Network, and the Association of State Drinking Water Administrators. These organizations formed an initiative to identify ways to support local protection of drinking water sources, helping partners in eight states align their land use, clean water, and drinking water policies to get better results for public health, public budgets, and the environment. For example, in Maine, the top recommendations included addressing the economic value of clean sources of drinking water, developing a one-stop GIS shop, identifying additional funding opportunities for source protection, and increasing land use planning as a source protection measure.[5]

In addition, there has been some conversation between water operators and source water protection staff across several states that have looked into what makes state source water protection programs successful. A working group made up of members of the Association of State Drinking Water Administrators and the Ground Water Protection Council released a report in 2008 that captures examples of what makes these programs successful. Some of these include:

- Measurement and characterization of activities to target new activities and refine ongoing activities.
  - » Keeping assessment information current
  - » Evaluating primacy agency effectiveness
  - » Tracking local efforts across the state
  - » Tracking statewide or regional efforts
- State implementation strategies that address human and financial resources, set of priorities, target elements, key players, and a plan for ongoing updates and evaluation.
- Partnerships, integration and leveraging between programs, sustaining these efforts through the building of trust.
- Motivating local activity through incentives and tools that are easy to implement at the local level.
- Managing and sharing information, including local area information.[6]

Values and Perceptions

Values and perceptions are very important when considering a collaborative's function, tactics, and strategies. Protecting drinking water sources requires communities to prioritize particular activities over others, change behaviors, and more. Tapping into perceptions and values held within communities will help the collaborative find and implement strategies that get to root concerns and problems.

There has been some research on the perceptions, perspectives, and values of people in the US around water by American Public Media's Water Main. The survey, published in 2018, showed that one-quarter of respondents are uninterested in growing their knowledge of water, while one-fifth would like to learn more about the protection of water resources. A majority of respondents

[5] "Enabling Source Water Protection." Enabling Source Water Protection Initiative. 2012. http://www.landuseandwater.org/

[6] "Elements of an Effective State Source Water Protection Program (Second Version)." Association of State Drinking Water Administrators and Ground Water Protection Council. 2008. http://www.nesc.wvu.edu/smart/training/toolkit/page1/Effective_State_SW_Protection.pdf

are willing to pay slightly higher taxes to make sure people in the United States have clean drinking water, believe it is more important to protect water than provide jobs, and feel government regulation will help protect water.[7]

As part of this project, the Citizens League had conversations with those who might be new to the issue of drinking water around Minnesota. In those conversations, people expressed a recognition of humanity's need for water to survive. Many conversation participants are worried about the quality of their drinking water and what is being done to protect it, a concern that was often amplified by a lack of trust in local government officials, including water operators. It is our hope that the collaborative that forms out of this exploratory phase will be able to help local officials understand these values and perspectives, connecting more deeply and effectively with community members, particularly those that are often marginalized in public planning and resource management decisions due to language barriers, geographic isolation, and political and cultural differences.

Related Minnesota projects, programs, and plans

In addition to this and other research on values and perceptions, there are many projects, programs and plans regionally and state-wide across Minnesota that, when taken together, would contribute significantly to a comprehensive strategy to protect drinking water. Some of these include the Southeast Minnesota Wastewater Initiative (SMWI), Community-based Aquifer Management Partnership (CAMP) through the Minnesota Department of Natural Resources, Groundwater Restoration and Protection Strategies (GRAPS) through the Minnesota Department of Health, the Groundwater Protection Rule through the Minnesota Department of Agriculture, One Watershed One Plan (1W1P) through the Minnesota Board of Water and Soil Resources, and the Upper Mississippi River Source Water Protection Partnership.

There are other groups outside of the Minnesota Department of Health that have been acting on drinking water, including the protection of drinking water sources. These include the Minnesota Rural Water Association, Metropolitan Council, University of Minnesota Institute on the Environment, Regional Sustainable Development Partnerships, and the Minnesota Humanities Center through their "We are Water" exhibit. Sources that can inform the work of a collaborative also include a multitude of reports on farming practices, a Regional Conservation Partnership Program proposal being designed by Minnesota Environmental Partnership and Minnesota Board of Water and Soil Resources, the "Future of Drinking Water" report from the University of Minnesota, and the outcomes of several other ongoing state-wide and regional conversations. More information on these initiatives can be found in the Appendix "Related Minnesota Initiatives."

In addition, there are many local drinking water protection plans and most regions of the state already contain partnerships that are critical for protecting drinking water sources. In its over 20-year existence, the Source Water Protection Unit within MDH has built strong relationships with many key stakeholder groups, associations, and relevant units within state and local government. Creating additional flows of information so ideas can spread from one municipality or region to another would help communities protect their drinking water by promoting innovation and transferring successful models for action.

[7] "How Americans Relate to Water: A Qualitative Study for the Water Main." American Public Media's The Water Main. November 13, 2018. https://www.apmresearchlab.org/water

There are many solutions are out there—it is a matter of prioritizing funding, time, and resources in ways that value public health and the environment and minimize barriers to public funding for drinking water protection, while also increasing understanding of the relationship between land use and drinking water and public engagement in decisions that impact the long-term sustainability of drinking water supplies.

PHASE I PROCESS

In order to intentionally build a collaborative that is helpful to addressing the protection of drinking water sources, we used this initial phase to:

- Understand opportunities where action and coordination at a broader scale can help provide resources and solutions to communities who are looking to manage their land for protection of drinking water sources;
- Understand the perceptions and experiences of community members related to their drinking water;
- Begin to refine a vision and focus for the collaborative based on a broader understanding of local needs; and
- Determine who should be involved in a statewide effort and who to connect with locally.

Environmental Initiative had the assistance of a cross-sector steering committee, which helped to guide the focus, locations, and content of the community conversations around the state, as well as to interpret their outcomes. These steering committee members included individuals from:

- American Water Works Association, MN chapter (Rick Wahlen)
- Citizens League (Amanda Koonjbeharry)
- Metropolitan Council (Lanya Ross)
- Minnesota Association of Soil and Water Conservation Districts (Ken LaPorte)
- Minnesota Department of Health (Alycia Overbo, Steve Robertson, and Tannie Eshenaur)
- Minnesota Environmental Partnership (Steve Morse)
- Minnesota Farm Bureau (Josie Lonetti)
- Minnesota Farmers Union (Michelle Medina and Stu Lourey)
- Minnesota Rural Water Association (Aaron Meyer)
- The Nature Conservancy (Rich Biske)
- University of Minnesota (Kate Brauman)

Conversations were held in five locations around the state, which were selected to provide a diversity of geologies, land uses, and stages of source water protection plan development: Perham, Luverne, Rochester, Coon Rapids, and Virginia. People who have formal power or direct influence over water and land use decisions were invited to these conversations: Elected officials,

soil and water conservation districts (SWCDs), water operators, well drillers, septic installers and inspectors, farm operators, industry, and more. Through these sessions, Environmental Initiative interacted with more than 150 people.

Citizens League held conversations in similar locations with those who are newer to the topic of drinking water, as well as additional communities in the Twin Cities area. This process gave us insight into the perspectives of key decision makers and the perspectives of members of some of the communities they serve.

BARRIERS AND TENSIONS TO BE ADDRESSED

Based on the conversations that were held, we see several dichotomies that impact how Minnesotans relate to the protection of drinking water sources. These dichotomies include:

- Twin Cities metro vs. Greater Minnesota: The amount of resources for protecting water perceived to be greater going to Twin Cities communities compared to towns in greater Minnesota.
- Ground vs. surface water as source: The protection needs are different between surface water systems compared to groundwater systems, both in terms of quantity and quality. Water operators with different sources have different needs.
- Difference in land uses and economic benefits: Economic sectors and how they interact with land—whether it's for parks, housing, agriculture, industry, etc.—have different potential impacts on source water. Whether an individual community has connections to one sector of the economy over another impacts how members of that community perceive risks.
- Public and community water supplies vs. non-community and private wells: Public water supplies are more regulated when it comes to drinking water standards than private wells. There is often less transparency and consistency about what people do and do not know related to water quality and safety when it is not from a public water supply.

The collaborative should keep these dichotomies in mind when determining tactics, strategies, and messages. It will be important to recognize the need for different tactics when it comes to different land uses, such as agriculture, septic systems, storage tanks, unused wells, industrial chemical usage, impervious surfaces, etc., and different audiences, such as state authorities, local authorities, landowners and managers, small business owners, and the general public.

COLLABORATIVE FUNCTIONS AND STRUCTURE

The incentives around prevention are not always aligned in the same way as the incentives for treating a known and existing problem. Science and policy experts are recognizing that healthy ecosystems and healthy social systems are interdependent and mutually supporting. "Water resource management requires not only technical solutions, but also the commitment and action of diverse stakeholders, from residents and landowners to business owners and local government officials."[8] A large part of the perceived problem stems from how society places economic value on drinking water and forms an understanding of the risks to it—indicating that a large part of the function of this collaborative should be around communications, not engineering solutions. In order

to build a successful collaborative, collaborative participants will need to see the relevance of this communication function to the needs of their organization.

The Phase I steering committee suggested that the collaborative should drive toward the following vision: ***People have the resources and ability to prioritize public health and drinking water when making land use decisions.*** This will be refined by the collaborative in Phase II, but the functions and structure should work in tandem to reach this vision.

Functions

Keeping the various dichotomies in mind, and the existing initiatives across the state, here are the functions we are initially looking to explore with the collaborative:

- Leveraging and learning from the many projects and policy and planning efforts that impact the protection of drinking water across the state—and facilitating the sharing of knowledge between communities with similar efforts and concerns. These efforts include:
  - » Initiatives that connect public values related to drinking water and possible sources of its contamination
  - » Initiatives that catalogue and share information about policy options for protecting drinking water sources, including:
    - ▪ Land acquisition
    - ▪ Land use planning and ordinances related to land use change
    - ▪ Wastewater management options, including investment in public infrastructure and local regulations
  - » Initiatives that support voluntary behavior changes associated with protecting drinking water sources, including:
    - ▪ Agricultural practices
    - ▪ Septic system maintenance
    - ▪ Turf management practices
    - ▪ Management of urban runoff
    - ▪ Small business and industrial land uses near wellheads and intakes (community, non-community, or private)
- Supporting local and state government officials responsible for providing drinking water with training and resources to expand capacity for engaging community members and surrounding residents, particularly those who are often marginalized from government decision making, such as farmers, rural residents, immigrant communities, people of color and indigenous folks, and small businesses.
- Supporting local community partnership- and trust-building efforts, focusing on those who have been marginalized, in order to build a stronger civic fabric and greater collective capacity for securing safe drinking water for all.

[8] Davenport, Mae. “Social Measures Monitoring System.” University of Minnesota. 2013. https://www.changinglandscapes.umn.edu/sites/changinglandscapes.umn.edu/files/social_measures_overview.pdf

Building trust between people and government to increase civic engagement, provide greater transparency, and increase the effectiveness and fairness of public decision making, plays an important role in what efforts are undertaken and the success they can have at the local level.

These functions are not mutually exclusive, and the collaborative does not have to pick only one function. The collaborative should focus their efforts where collective action can support the protection of public and private drinking water supplies and help local resource managers prioritize concerns of equity for vulnerable communities. The steering committee had mixed thoughts about which functions should be prioritized. We will need to work with collaborative members to come to a consensus about what strategies and tactics to focus on both in the short and long terms.

In addition, some key assumptions of the initial exploratory phase will need to be addressed by the collaborative in their initial meetings include:

- The collaborative should be focused on drinking water specifically—NOT all water
- The collaborative should work to protect public AND private drinking water supplies

In addition, the collaborative will need to come to agreement on a vision and long-term outcomes they are seeking to address together to then determine the functions and activities that make the most sense to achieve those outcomes. Any activities undertaken by the collaborative are meant to be complementary to existing efforts.

Structure

This group will include state agencies, local government, nonprofit organizations, industry associations, community champions, and organizations working in impacted communities. These collaborative members will work to define common goals and a plan for collective action. MDH is expected to be a participant, sharing and contributing like others in the collaborative. The group should have a facilitator that provides accountability and structure to drive toward intended outcomes and vision.

Due to the complexity of this topic and the complexity of these outcomes and outputs, the collaborative will likely need to have several layers of engagement. We think, based on the possible functions, that the collaborative would function best if it was a collection of “connectors” (those who are deeply trusted and respected for their relationship integrity) and those who approach challenges with a “generative mentality” (those who are open to innovating new solutions to drive transformation around the protection of drinking water).

The next layer includes those who are impacted by or influence decision making around drinking water at the local level and are interested in supporting the actions of the collaborative, likely to be part of collaborative work groups that implement actions. These people will need to be connected, informed, and able to provide input as the collaborative develops. There are others who are interested in knowing what the collaborative undertakes and connecting these efforts to other activities, but not in participating formally in the collaborative. We will design communications and facilitation capacity to support this multi-layered engagement approach.

NEXT STEPS

In a next phase of work, Environmental Initiative will develop and launch this collaborative, providing coordination, facilitation, and support as it sets its course of action, prioritizing concerns of equity for vulnerable communities. Based on this tiered engagement structure, possible functions informed by community conversations, and steering committee suggestions, Environmental Initiative will identify organizations to invite and participate. While the collaborative gets its footing, we will better define a membership structure and an ongoing funding model. In the first year of the collaborative, we will bring collaborative members through a process to identify how they want to work together, their vision, and their short- and long-term outcomes.

SOURCES

For more information on source water protection and perceptions of drinking water management and its relevancy:

"Cascade Meadow." *St. Mary's University of Minnesota.* 2019. https://cascademeadow.smumn.edu/ (Rochester Education Center focused on water and landscape interactions)

"The Challenge: Drinking Water Source Protection." *Metropolitan Council.* March 21, 2019. https://metrocouncil.org/Council-Meetings/Committees/Land-Use-Advisory-Committee/2019/March-21,-2019/Drinking-Water-One-Pager.aspx

"Collaboration Toolkit." *Source Water Collaborative.* 2019. https://sourcewatercollaborative.org/how-to-collaborate-toolkit/forming/

Davenport, Mae. "Social Measures Monitoring System." *University of Minnesota.* 2013. https://www.changinglandscapes.umn.edu/sites/changinglandscapes.umn.edu/files/social_measures_overview.pdf

"Drinking Water Mapping Application to Protect Source Waters." *U.S. Environmental Protection Agency.* ND. https://geopub.epa.gov/DWWidgetApp/

"Elements of an Effective State Source Water Protection Program (Second Version)." *Association of State Drinking Water Administrators and Ground Water Protection Council.* 2008. http://www.nesc.wvu.edu/smart/training/toolkit/page1/Effective_State_SW_Protection.pdf

"Enabling Source Water Protection." *Enabling Source Water Protection Initiative.* 2012. http://www.landuseandwater.org/

Fellows, Sarah, Amit Pradhananga, Holly Meier, Mae Davenport and Sharon Pfeiffer. "Groundwater Management: Capacity assessment at the local level—A survey of Minnesota local government units." Prepared for the *Minnesota Department of Natural Resources.* February 22, 2018. https://www.changinglandscapes.umn.edu/sites/changinglandscapes.umn.edu/files/mn_lgu_capacity_assessment_for_groundwater_final_technical_report_2018.pdf

"Groundwater Maps and Studies." *Minnesota Department of Natural Resources.* 2019. https://www.dnr.state.mn.us/waters/groundwater_section/mapping/atlases.html

"How Americans Relate to Water: A Qualitative Study for the Water Main." *American Public Media's The Water Main.* November 13, 2018. https://www.apmresearchlab.org/water

"Impact Goals RFP." *University of Minnesota, Institute on the Environment.* 2020. http://environment.umn.edu/impact-goals/

"Local Planning Handbook: Water Supply—Assessing and Protecting Source Water." *Metropolitan Council.* N.D. https://metrocouncil.org/Handbook/Plan-Elements/Water-Resources/Water-Supply.aspx

"Minnesota Rural Water Association—About MRWA." *Minnesota Rural Water Association.* 2017. https://www.mrwa.com/about.html

Peterson, Jeffrey and Peter Calow. "Future of Minnesota Drinking Water—A Framework for Managing Risk." *University of Minnesota.* February 3, 2020. https://www.wrc.umn.edu/sites/wrc.umn.edu/files/future_of_drinking_water_2020feb3.pdf

Pradhananga, Amit, Mae Davenport, and Vanessa Perry. "Groundwater Management: Capacity assessment at the local level—A survey of Minnesota Association of Soil and Water Conservation Districts." Prepared for the *Minnesota Department of Natural Resources.* December 4, 2015. https://files.dnr.state.mn.us/waters/groundwater_section/gw-management_report_122315.pdf

"RCPP Proposal: Continuous Living Cover Crops for Drinking Water Protection DRAFT." *Minnesota Board of Water and Soil Resources.* November 18, 2019. In print.

Ross, Brian and Katharine Chute. "Solar Energy & Natural Systems: Exploring Co-Benefit Opportunities." *Great Plains Institute.* November 21, 2019. https://www.betterenergy.org/blog/solar-energy-projects-natural-systems/

"Source Water Protection 101." *Source Water Collaborative.* 2012. https://sourcewatercollaborative.org/wp-content/uploads/2012/09/SWP101_September-2012-online-toolkit.pptx

"Source Water Protection Web Map Viewer." *Minnesota Department of Health.* ND. https://mdh.maps.arcgis.com/apps/View/index.html?appid=5051b7d910234421b0728c40a1433baa

Southeast Minnesota Wastewater Initiative. *SE Minnesota Water Resources Board.* 2018. https://www.legacy.mn.gov/projects/southeast-mn-wastewater-initiative

"Submit an idea to RSDP." *University of Minnesota Extension.* 2019. https://extension.umn.edu/regional-partnerships/submit-idea-rsdp

"We Are Water MN. *Minnesota Humanities Center.* 2020. https://mnhum.org/we-are-water-mn/

APPENDIX

Citizens League Report

Source Water Protection Project Community Conversations

Exploratory Phase Report

January, 2020

PREPARED BY

Citizens League

Funding provided from the Clean Water Fund as part of the Clean Water, Land, and Legacy Amendment

DEPARTMENT OF HEALTH

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The Minnesota Department of Health (MDH) is tasked with ensuring that all Minnesotans have access to clean and safe drinking water, including the planning necessary to protect our drinking water sources, both for surface water systems and ground water systems. Many of the most significant threats to safe drinking water come from how people use the land. Tackling the human causes of contamination through land uses can help protect water quality and quantity for future generations to come.

To explore ways to expand protections efforts, Environmental Initiative held conversations across Minnesota with people who have formal power or direct influence over water and land use decisions, such as elected officials, soil and water conservation districts (SWCDs), water operators, well drillers, septic installers and inspectors, farm operators, industry associations, and more. Citizens League held conversations in similar locations with individuals who are newer to the topic of drinking water. Citizens League made a concerted effort to connect with Black, Indigenous, and communities of color (BIPOC) as they are often marginalized from government decision making (see scope of work[1]).

Findings from both efforts will be used to inform a state-wide collaborative that is being formed to address drinking water source protection issues and support local community needs and efforts.

This report will 1) lay out the methodology employed to gather the community feedback, 2) provide demographic information of participants, and 3) identify key findings from the community conversations.

METHODOLOGY

Believing in the idea that when invested community members work together, they can come up with innovative ways to address community challenges, the Citizens League was born. That was in 1952, and over these past decades, there continues to be a need for a non-partisan, multi-issue focused organization that can be counted on by community members to explore issues that impact the lives of all Minnesotans. We have filled that space for over 67 years. From charter schools to the “MN Miracle” to the Metropolitan Council, the Citizens League’s tradition of informing and engaging Minnesotans has resulted in real and lasting innovations in public policy and improvements in Minnesota’s quality of life.

The Citizens League’s mission is to champion the role of all Minnesotans to govern for the common good and promote democracy. We do this by developing civic leaders in all generations so that they can effectively organize and cultivate the individuals and institutional relationships necessary to achieve these goals. In so doing, we help to create the sustaining civic infrastructure needed to govern and solve problems for the common good in and across all institutions.

One of the operating principles that guides our work is: “Bring diverse perspectives together. People impacted by a problem help to define it and generate solutions to it.” Consigning policy solutions

[1] Appendix A

just to the 'professionals' means missing an opportunity to learn, to impact your surroundings and to make sure other voices are heard. We take this responsibility seriously by including people in our work who might regularly be overlooked because they are not issue-specific experts. Making policy issues understandable, refraining from jargon and encouraging people to respectfully disagree is all important in our outreach and policy work. From this perspective, it was quite natural for Citizens League to lead conversations with community members about their drinking water.

Community Anchors

Citizens League rarely completes a project alone. Since most of the problems the Citizens League wants to solve are large and complex, we subscribe to a collective impact model, relying heavily on collaborations with partners who bring in their expertise, experience, and their networks so that a project can succeed. We call these partners our "community anchors." Community anchors are individuals who have strong ties and a strong reputation of trust in a community that we're working to connect with. Once identified we work with community anchors to co-create and execute community events. Often, we partner with community anchors we've worked with in the past on other projects to increase their capacity as local leaders, but also to mitigate "one-off" community engagement efforts that many marginalized communities experience with outside organizations, often leading to mistrust.

We identified community anchors through a mixed-methods approach of utilizing Citizens League's list of past facilitators, community anchors, and contractors, as well as receiving referrals from Environmental Initiative's list of stakeholders and partners. In several situations, our original contacts from Environmental Initiative and/or Citizens League referred us to someone else in the community who could serve as the community anchor based on greater capacity and community connections.

Community anchors were offered reimbursement for their time and if utilized they were asked to complete a *participation stipend information form*[2] along with a W-9. Once a community anchor was identified, we worked with them to confirm logistics such as date, time, venue, and food/beverages for the event. Event participants were recruited through word of mouth from community anchors and Citizens League, and via Facebook event invites from Citizens League. Registration was captured via Eventbrite and event participants were offered a $25 gift card for their time and up to $50 in reimbursement for childcare and travel expenses; they were asked to provide a completed *childcare/travel stipend information form*[3] along with a W-9.

DEMOGRAPHICS

We held a total of nine community conversations throughout Minnesota for this project. Participants were asked to fill out demographic information via a water engagement handout[4] but completion was optional, so demographic data was not collected for all sessions. However, the following estimates are based on the interpretation of the facilitator and should be taken as an overall snapshot of each event. Although many folks did not complete the gender identity section, it is important to note that there was a relatively even distribution of men to women in almost all community conversations. Notes from each session can be found in Appendix E.

[2] Appendix B

[3] Appendix C

[4] Appendix D

Community conversations occurred in the following communities:

1. City of Nashwauk; age range 40 – 70 years old; mostly White participants
2. City of Grand Rapids; age range 40 – 65 years old; two American Indian and six White participants
3. City of Virginia; age range 25 – 70 years old; two American Indian, one Black/African American, and four White participants
4. City of Perham; age range 30 – 80 years old; primarily White participants
5. City of Worthington; age range 18 – 60 years old; diverse group of BIPOC, Hispanic/Latinx, Black/African American, Native American, and White participants
6. High schoolers at Plymouth Christian Youth Center (PYC), Minneapolis; age range 14 – 21 years old; primarily Black/African American and Hispanic/Latinx participants
7. Young adults at Juxtaposition Arts, Minneapolis; age range 16 – 23 years old; diverse group of BIPOC, mainly Black/African American, few Hispanic/Latinx, Native American, Hmong and White participants
8. Hmong community members in the city of St. Paul; age range 30 – 40 years old
9. Latinx community members in the city of St. Paul; age range 25 – 60 years old

A high level overview of the community conversation demographics can be found below. Citizens League spoke to roughly 101 people about their drinking water.

- Age range for participants was not collected but the age range for participants was from high school students (14 to 21 years old) to retirees (+65 years old).
- The racial identity of participants varied but the greatest number of participants identified as White (Caucasian), Black/African American, Hispanic/Latino, Hmong, and Native American/ Indigenous.
- Most participants lived in the city where the conversation was taking place or in a neighboring city.

KEY FINDINGS

The key findings are a summary of high level themes that emerged from the community conversations. Notes from each community conversation can be found in the appendix.

Key Finding 1 – Uncertainty about where to get answers to questions about water.

There was a range of responses about where to go if someone had questions about their water/water quality. Some communities were more familiar with the resources available to them and the agencies they could go to for answers. However, the responses were varied and there was uncertainty about which agency could provide answers about water. There were other communities that had no idea where to go if they had questions about their water. These

responses often came from BIPOC communities, showing greater need for water experts and government officials to make a concerted effort to get information out to Minnesota's most marginalized communities.

Participants also spoke about the difficulty in understanding the information being presented in water quality reports and/or language barriers that prevent them from utilizing information and resources that are currently available.

Interpreter: *[Resumes conversation, addresses the group] Ok, the third question is: If you were concerned or had questions about your water, who would you contact? Who would you go to?*

Audience: *The city, where you pay the water bill. [Laughter]. But no one here has done it or contacted them before.*

Interpreter: *Why not? How come?*

Audience: *It doesn't seem like such a big deal sometimes. And the language. And the time. One doesn't know where to go.* - **Latinx Community Conversation**

Often answers are not clear or helpful – **Nashwauk Community Conversation**

Key Finding 2 – Concerns about quality of water and standards set to treat water.

Every community that participated expressed concerns about water quality and potential contaminants that were going into the water. The most frequent sources that were cited for potential contamination of water sources were:

- Lead in pipes—this concern came up the most. Communities wanted to know more about what is in the pipes, how they're monitored for safety, and when they'll be changed to prevent lead contamination
  - » There was specific concern about water quality and lead contamination with folks who are incarcerated in Minnesota jails and prisons (this concern was primarily raised by young people at PYC and Juxtaposition Arts)
- Plastics and danger of using plastic bottles (i.e. pollution)
- Opioids being flushed down toilets
- Air pollution impacting water quality
- Animals and bugs (drinking from and being in water sources)
- Arsenic and nitrates
- Run off and manure from farms
- Corporations polluting water (e.g. 3M PFC Settlement)
- Algae

Failing infrastructure and bad pipes (rust, lead, zinc) – **Virginia Water Conversation**

People act different because of drinking water – impact of chemtrails and opioids – **Water Conversation at Juxtaposition Arts**

The most common factors that led to concerns about water quality include:

- Water being visibly brown and looking "dirty"
- Water smells when coming out of the faucet
- Descriptions of water tasting different when coming from the faucet (in a negative way) as opposed to bottled water
- Concerns about safety of lake water – stories of people getting sick from the lakes

There was a lot of discussion around the testing and standards set to determine water quality, regardless of source. Community members wanted to know how the standards came to be, who set and enforces the standards, what things are allowed in water based on those standards, and why the standards have changed over time.

Testing of water should be done and shared more than 1 time per year – **Worthington Community Conversation**

Frequency of testing? Who's responsible for testing and who monitors that? – **Hmong Community Conversation**

During the Perham water conversation, it was discovered that most participants with wells did not know that their well should and could be tested. There was a local well tester there who was able to provide more information, but several participants mentioned that their families have used these wells for generations and did not know this information.

Key Finding 3 – Perceptions of inequity and distrust of local government officials.

Many participants talked about the inequities that communities face based on race and income, and how this leads to differences in access to resources and information. They also talked about feelings of distrust of local government officials and how those two things intersect.

Different groups and factions are doing this work and these events are usually only with white people—encourage them (folks hosting events on water and local government officials) to go to "underserved" communities because people in poorer communities do care. – **Hmong Community Conversation**

If you're poor, they (local government officials) don't really care if you have drinkable water – **PYC Community Conversation**

Wealthier towns have cleaner water. Truth? Hard to swallow – **Perham Community Conversation**

There is inequity in water – some people pay for water – **Grand Rapids Community Conversation**

Key Finding 4 – Communities want to be involved in the protection of drinking water.

Every community that we connected with spoke about the opportunities to protect drinking water and the role that they themselves want to play in that. The most common solutions were:

- ***Make information about drinking water more accessible*** – communities talked about the difficulty in finding, reading, and interpreting the reports that are already available. Our recommendation to the collaborative is to work towards making available information more known and accessible to communities who are not yet accessing it, as well as translating documents into the languages spoken by communities who are most impacted by systemic barriers to ensure equitable access to available information.

Hazardous waste: public opportunities to dispose of hazardous waste should be more frequent, low cost to the public, and accessible. We need to make it easier to do the right thing. This applies to disposing of extra prescription drugs too – **Perham Community Conversation**

- ***Education and Public Awareness*** – All of the communities we spoke with wanted to learn more about drinking water and the ways they can protect their water. By providing more education and public awareness about the risks to drinking water, Minnesotans can feel empowered to protect their water.

Education and awareness around how people impact the water – **Worthington Community Conversation**

- ***Start young*** – Everyone spoke about the importance of educating children and youth on water at an early age and wanting to do so in order for them to be informed and empowered about what they're consuming and as a prevention method to stop water contamination or misuse from occurring.

CONCLUSION

It is critical that communities are engaged as partners, walking side by side with 'water experts' in the work to protect Minnesota's drinking water. Through Citizens League's work of engaging communities in conversations about drinking water, it is apparent that communities do not know where to access information about water and/or how to interpret available information, that many have fears and concerns about the safety and sustainability of their water source, and most feel a lack of trust with local government officials. However, there's much room for opportunity and hope – communities want to be involved and engaged in protecting Minnesota's drinking water. It is recommended that on-going conversations with communities in Minnesota be considered essential to the success and viability of protecting water sources in the state and that solutions co-created with community members, especially young people, have the greatest chance for long-term sustainability and support.

APPENDIX

Citizens League
Common ground. Common good.

Citizens League Proposal:

EXPLORATORY PHASE I PROJECT

Environmental Initiative (EI) has been selected by the Minnesota Department of Health (MDH) to receive a grant to facilitate the development of a state-level plan for source water protection across Minnesota. To inform a new, robust state-level plan, a network of community partners will participate in ongoing collaboration and collective learning with MDH and EI, potentially forming a Minnesota Source Water Protection Collaborative. Community partners will be diverse base of stakeholders representing various needs and viewpoints that will support state-plan implementation and ongoing partnership. EI has consulted with Citizens League to explore a possible sub-contractor partnership that will address the development of community contact points through direct community engagement sessions. EI plans to hold parallel engagement sessions with technical experts and planning/land use professionals. Ultimately, EI seeks to highlight how activities on privately held land impact source water and facilitate alignment between MDH and land use/planning agencies with regulatory authority.

Partnership Goals

- Identify stakeholders in 10 Minnesota communities (including Greater Minnesota locations) who can tap into broader community to host discussions on water quality issues that may be related to source water protection problems. Special attention should be paid in identifying stakeholders who may not be aware of their existing immediate connection to source water protection issues.
- Develop relationships with identified stakeholders to create ongoing connection points for Environmental Initiative and/or Minnesota Department of Health for future collaborations based on community agency.
- Catalog questions/concerns from community members that illustrate their own understanding, priorities, and perceptions of source water protection issues for further study.
- While land use and source water protection is the goal for this project, the Environmental Initiative (EI) and the Minnesota Department of Health (MDH) is open to the Citizens League collecting information about the community's general knowledge on water.

Out of Scope

- Waste water issues
- Transcripts of community conversations

Proposed Approach

Citizens League will collaborate with EI to produce a stakeholder map that will guide identification of target community members. Citizens League will conduct one-on-one and/or small group

listening sessions and/or interviews with those community members in up to 10 communities identified by Environmental Initiative as high interest areas. The duration of the listening sessions/ interviews will be 30-60 minutes and may include facilitated conversations. Questions to guide the interactions will be designed in consultation with Environmental Initiative and will include inquiries into additional community contact points and interest in further participation should a Phase 2 study materialize.

Deliverables

The deliverables include conducting conversations in up to 10 communities, to better understand different cultural norms to help inform baseline understanding and possible behavioral changes the partnership will need to consider and identify community leaders to further engage through the partnership. The Exploratory Phase report will catalog conversation summaries per community, depending on the number of communities visited. The report may also identify community priorities and generate questions for further study. The report will include a stakeholder map and full list of partners and their communities which could be used in future work as part of a potential partnership in Phase II to guide the development of the state-level source water protection plan.

Phase I Objectives

- Identify barriers to and gaps in knowledge around source water protection
- Understand current perspectives, cultural norms and opportunities for change
- Expand the breadth of individuals and organizations interested and able to engage in source water protection
- Determine preferred mode of engagement for each community

Citizens League 2019 Water Project

PARTICIPATION STIPEND INFORMATION FORM

We will provide community anchor's a lump sum stipend of $500.00 per session to be used toward time spent informing about and recruiting community members to the water conversation(s). Please provide your name and current address to ensure that your stipend check reaches you.

COMMUNITY ANCHOR:

WATER CONVERSATION SESSIONS:

Mailing Address For Stipend Check:

_____

_____

_____

_____

_____

I confirm that I accept the stipend of $500.00 and that the address listed above is where I would like my stipend check sent.

Print Name: _____

Signature: _____

Date: _____

Citizens League 2019 Water Project

CHILDCARE/TRAVEL STIPEND INFORMATION FORM

We will reimburse childcare/travel for participants **up to $50** so that they may participate in the Citizens League water project, a project in partnership with the Department of Health and the Environmental Initiative. Please provide detailed receipts, your name, and current address to ensure that the reimbursement check reaches you.

Mailing Address For Childcare/Travel Reimbursement Check:

_____

_____

_____

_____

_____

I confirm that I participated in the Citizens League water conversation and that the address listed above is where I would like my reimbursement check sent.

Date and location of the listening session: _____

Print Name: _____

Signature: _____

Date: _____

Citizens League 2019 Water Project

WATER ENGAGEMENT HANDOUT

When you think about water in your daily life, what feelings, images, or thoughts come to mind?	If you had a question or a concern around water/water quality, where do you go?
What are some of your concerns related to drinking water?	Where are the opportunities to protect drinking water?

OPTIONAL - Please provide any of the following if you are willing:

Your Name: _____

City where you live: _____

Tribal affiliation: _____

The following ethnicities represent self-reported data we have received in the past. Which ethnicities below do you identify with? Listed in alphabetical order (check as many as apply):

- □ Asian Indian
- □ Black/African
- □ Black/African American
- □ Black/Caribbean
- □ Chinese
- □ Cuban

- □ Filipino
- □ Guamanian or Chamorro
- □ Hmong
- □ Indigenous/Native
- □ Mexican, Mexican American, Chicano
- □ Native Hawaiian
- □ Puerto Rican
- □ Samoan
- □ Vietnamese
- □ White
- □ Another ethnicity (please specify): _____
- □ Prefer not to say

Please select your gender identity (check as many as apply):

- □ Female
- □ Male
- □ Non-binary/third gender
- □ Prefer to self-describe: _____
- □ Prefer not to say

Additional Comments:

Citizens League 2019 Water Project

COMMUNITY CONVERSATION NOTES

City of Nashwauk Water Conversation Notes

Date - August 9, 2019

Total Participants – 7 people

QUESTION 1 - When you think about water in your daily life, what feelings, images, or thoughts come to mind?

Fishing, waterskiing, BWCA, home, cabin

QUESTION 2 - Where does your drinking water come from?

City, well, artesian, ground water, aquifer, mine pits, water coolers at work, whole home water filters, under the sink water filters, bottled water, and natural water springs

QUESTION 3 - If you had a question or concern around water/water quality, where would you go?

City Hall, County office, County Commissioner, Environmental Services, often answers are not clear or helpful, water test are available, but seem confusing, notifications around water concerns come only after something bad has happened.

QUESTION 4A - What are some of your concerns related to drinking water?

Well water can be polluted, plastic water bottles got to landfills, things have been buried in the ground that have not yet reached water tables, so we don't know the full effect of things from the past, trash on lakes, trash on ice and put down ice holes, fecal matter, mercury, chemicals from Dow and 3M (non-stick skillets), lead pipes, dead animals in the water supply, sulfide mining, farming runoff, tractor and car runoff, lawn service chemicals, golf courses, dumping meds down the toilet, waste water treatment facilities cannot remove chemicals, water sources are a high value terrorist target, waste water treatment facility is 100 years old, aging infrastructure and lack of resources to address, especially in small rural communities, septic systems are overflowing near lakes, chemicals such as fluoride and chlorine added to city water- is it necessary?, State mandate on chemicals added to water needs to be re-investigated, algae blooms in lakes, bacterial matter in water making people sick, corporate interest in water, water is a right, not privilege.

QUESTION 4B - Where are the opportunities to protect drinking water?

Education, youth engagement, continue having community conversations, food, childcare, transportation, gift cards are a nice incentive to thankless work or for those who would not otherwise be able to attend, do not have political appointments to serve communities, keep political and/or personal agendas out of the plan as much as possible, find people who care about water and their community.

Other comments?

Differences in generational understandings of water, medical bills decrease with good, clean drinking water, filtration systems are expensive- the rerun on investment vs. initial investment may be prohibitive (reverse osmosis system $200+, filters, etc., especially for lower income, bottled water is just tap water from somewhere else, longevity issues related to future generations and effects may still be unknown from things that are happening right now or in the past, people can trust the water here generally, people respect the water here generally, people police each other on trash sometimes, it's easier to stop water pollution at the source than to clean the water later (i.e. don't put oil down the storm drain in the first place, dispose of things properly), we can choose somethings, but cannot choose water-it is needed to live and survive.

City of Grand Rapids Water Conversation Notes

Date - August 9, 2019

Total Participants – 8 people

QUESTION 1 - When you think about water in your daily life, what feelings, images, or thoughts come to mind?

Quality of life, peace, fishing, traditions, growing up on the river, sitting on the dock, family and friends, kayaking, quite time, swimming, "it isn't recreation, it's a way of life", water feeds the garden and where food comes from, cultural stories, lakes, rivers, streams, rain, and ricing.

QUESTION 2 - Where does your drinking water come from?

City, well, artesian, ground water, aquifer, mine pits, water coolers at work, whole home water filters, under the sink water filters, bottled water, and natural water springs

QUESTION 3 - If you had a question or concern around water/water quality, where would you go?

If you don't know the right person, you don't get help, lots of misunderstandings, no clue where to go, not friendly, very cliquey, there is a sense of distrust, County, DNR, college does water testing, Public Utilities, City Hall, call the water driller, Environmental Services, Range Water (local business)

QUESTION 4A - What are some of your concerns related to drinking water?

Pollution downstream, algae and weeds are getting worse, chemicals in the city water, well water is often lake water, water quality can be different even for next door neighbors whether individuals with wells or cities five miles from each other (wells drilled at different levels, cities have different source water), city water stinks like a sewer, people in Minnesota have never felt the impact of running out of water, storm sewers have direct access to Mississippi River, there is inequity in water-some people pay for water, maintain their systems, and others dump into lakes, pollute, etc. 40% of private septic systems are non-compliant, road treatment ends up in lakes, car washing ends up in lakes, soap has phosphorous, fish house and pollution, throwing things down the ice hole, garbage left on ice, Lake Minnetonka and dumping of sewage into the lake, erosion because grass goes all the way to the lake vs. buffered landscape and natural native plants with deep root systems, could Flint happen here, unfunded mandates, bureaucracy, funding isn't adequate

for infrastructure, education, community engagement, support, could Flint happen here, poverty creates different opportunities and barriers.

QUESTION 4B - Where are the opportunities to protect drinking water?

Could use beets instead of salts for roads as alternative to chemicals, more neighborhood meetings to discuss water quality annually or in a predictable way for community, education, tours of waste water treatment facilities, water summit day (Grand Rapids event), youth engagement, general info on wells, cisterns, city systems, etc. so people understand the interconnectedness of water and varying systems, cannot force communities to collaborate, but there could be incentives or policy to encourage communities to partner more, lift up models of collaboration, engage citizen groups and neighborhood associations, be inviting.

Other comments?

People would rather have a neutral party to go for questions, concerns, comments about their drinking water rather than local municipalities or PUC in small rural communities due to sense of trust and perhaps retribution for speaking out or speaking up, city water is tested regularly (is a benefit), but well water is not, general desire for communities to help one another, understanding that water is connected and so are communities, when one community or water system is not doing well, it affects the larger water system or community, community pride and acknowledgement that it's only a subset of the community that don't abide by laws or water protection, Grand Rapids has a public campaign on storm sewer grates that are painted on reminding people not to dump chemicals into them because it leads directly to the Mississippi and fish.

City of Virginia Water Conversation Notes

Date - August 11, 2019

Total Participants – 7 people

QUESTION 1 - When you think about water in your daily life, what feelings, images, or thoughts come to mind?

Beaches, fishing and being able to eat the fish, kayaking, hydroelectric dam that provides energy to home near Kawishiwi Falls/River, growing up on lake/river, easy to take for granted, especially in rural areas, calming, healing, small town with lake at the center that is well utilized by the whole community, lake smells good, rain water and gardening.

QUESTION 2 - Where does your drinking water come from?

City, well, artesian, ground water, aquifer, mine pits, water coolers at work, whole home water filters, under the sink water filters, bottled water, and natural water springs, glacial water in St. Paul, water vending machine, rain barrels for gardens, water filling stations on campus or at food coop and other public spaces, do not like plastic water bottles because plastic is toxic and little is known about effects of plastics on our biological systems, paying close attention to where bottled water is coming from (i.e bottled in MN or elsewhere), tap water tastes good in Minnesota vs. other states, only drinks bottled water and is afraid of tap water, well water with iron tastes good and fresh and is trusted, always filtering water to keep it clean, reverse osmosis changes the taste,

QUESTION 3 - If you had a question or concern around water/water quality, where would you go?

Public utilities, when you call someone at the city, you get a generic answer, MPCA sets standards, but these are not understood, reports are sent out on water quality, but renters do not receive them, reports are difficult to decipher or understand what they are even testing for or levels of compliance.

QUESTION 4A - What are some of your concerns related to drinking water?

Agricultural threats, mining, natural threats, discharge, sewage, well water isn't tested regularly, city water is tested daily, the average citizen doesn't feel knowledgeable if their water is good, water sources are open to terrorism, spraying for crops, insecticides, "we are all connected by water, locally, nationally, and internationally, whether we like it or not", failing infrastructure and bad pipes (rust, lead, zinc), kids at school couldn't drink their water and had to drink bottled water, steam systems of heating wastes water, rain drains off asphalt (petroleum based) roofs and used to put on gardens, skeptical about bottled water bc there are no standards for plastics, worry more about what we put in the water such as iron treatment with salts, copper pipes are better than plastic, lead or zinc, and gets rid of bacteria, deregulations are happening at alarming rates under the current Presidential Administration, sulfide mining is a huge risk and not worth taking, microbeads in beauty products, synthetic fibers in clothing, microfilm of plastic covering lake beds, plastic is in everything and virtually impossible to not use plastic, BPA is an endocrine disruptor, feminization of fish with birth control going into water systems through human urine, dumping in the oceans, water is so connected to our food systems and our health, watering lawns and golf courses, nonsense rules that prohibit water savings over cosmetic/superficial such as bans on clotheslines, EPA and scientific research is politicized, funding for research should be neutral, bacteria, chemicals such as chlorine, oils, companies/corporations making profits from dangerous chemicals that do horrific things, mindset of things being okay bc effects are not yet seen, population density will change with climate refugees, we will see an influx of people and that's not desirable, money is the bottom line, not truth, In the past, water issues were more visible like rivers on fire or dried wells, now it's less visible and more unknown with chemicals and plastics.

QUESTION 4B - Where are the opportunities to protect drinking water?

Scientists sharing facts without politicians involved, local, city, county, and others can help understand the story of water, education, schools can tie questions about water to STEAM curriculum, place based education, get young people involved, meet people where they are, social media campaigns, interactive engagement, not just meetings, in-person gatherings, hands-on activities to share perspectives, empowerment to speak up, correct tools, good information based in science, public casual forums for everyday people, mandated into curriculum that students engage with legislative process

City of Perham Water Conversation Notes

Date – October 29, 2019

Total Participants – 19 people

INTRODUCTION - Thoughts & Concerns Regarding Water

- Participants use both lake water, and private wells.

- A participant voiced his concern regarding arsenic in area private wells, because wells in this area have tested positive for arsenic in the past.
- Changes in agricultural practices have helped clean water on area lakes, particularly on Rush Lake water. Other lakes still have issues.
- Cattle grazing near lakes, rivers, remains a concern but Otter Tail County's leadership in creating buffer zones along rivers and lakes has helped tremendously. Compliance from farmers is near 95%.
- Participants voiced the need to protect water for all its area uses including recreation, farming, manufacturing, etc. Our area economy relies heavily on water—both surface and underground water.
- Detroit Lakes Water Utility Commission helped clean up water in lakes near D.L.
- Concerns of private septic's possibly affecting private wells
- One participant voiced his concern to not blindly trust our bureaucracy to protect our water. He believes lots of information is produced, but not all of it is true.
- One participant was concerned about the gravel pit near her rural property home, and the fact that the gravel pit had dug so deep as to hit the water table.
- Concerns about water quality for future generations

QUESTION 1- When you think about water in your daily life, what feelings, images, or thoughts come to mind? QUESTION 2- What does your drinking water look like?

- Fishing
- Clean drinking water
- Integrity of private well water
- River water impact—including visible signs of negative impact on wildlife
- Bathing, showers
- Colorado mountain streams appear so crystal clear. Southern Minnesota lakes are not as clear as ours. How do we keep our water clear?
- Algae bloom on Big Pine Lake is so murky, residents choose not to enter the lake.
- Agriculture has come a long way, but more to do – quality of water is better but still need to monitor water and algae growth.
- Weeds are growing in areas of the lake where weeds never grew before.
- Who determines acceptable levels of pollutants in water, and why has it changed over time?
- Concerns about the local economy because lake and rivers are a huge part of the economy but businesses cater to tourists.
- Food production facilities need water too.
- Ground water, soft water, surface water, drinking water.

- Is testing water important? Who decides levels of what's acceptable and are they qualified to do that - why don't we get honest feedback on what 'levels' are safe?
- Why is there such a distrust of government agencies?
- Lake algae blooms—and the frequency of them-- affect property values, and businesses like resorts/campgrounds along a lake.
- Detroit Lakes has a history of needing to fight with the city of water treatment effluent hurting the lake water quality.
- D.L. actually ending up creating a 'dead' lake. Lake St. Clair. 10-12 feet of muck at bottom
- Wayne Enger (retired soil & water): 1985 photos showed plume of weed growth in area lakes from run-off. Buffer zones created since then have helped clean those plume zones.
- Counties initially denied buffer initiative but have now implemented it.
- Perham has a wellhead protection zone surrounding it for 3 miles.
- Source of drinking water:
- Private wells: some need filters including arsenic filters
- City water: concerned about how that water is treated
- Realtor: water quality tests are conducted before homes are sold
- Private Wells: wells can be cleaned to protect water from coliform. Participants did not agree on how frequently private wells needed to be cleaned. One view: "a properly constructed well doesn't need to be cleaned". Cracked casings are the culprit
- Half of the participants used a private well for their home.
- Opinion: test private wells every couple of years
- Otter Tail County Soil and Water tests water
- R& B Labs in Detroit Lakes test water. Big lab. Apparently they can even test river samples and determine if excrement came from a beaver, bird, etc.
- Josh Hip tests wells.
- Important to learn from mistakes made and to educate folks in order to do things differently.
- Education in general is needed around how to take care of drinking water sources.

QUESTION 3 - If you had a question or a concern around water/water quality, where do you go?

- Google
- Local labs
- R&B lab in DL
- Kinetico

- Minnesota Department of Health
- Local free water testing at community center
- Lake Associations
- Minnesota Coalition of Lake Associations (COLA)
- Well drillers and hydrologists
- NW Aqua Solutions, Dan Welter

QUESTION 4A - What are some of your concerns related to drinking water?

- Arsenic
- City water has heavy sediment - Occurs as they flush the lines and water tower.
- What if something happens to Perham's aquifer?
- Is there another source for water in the area?
- Nitrates
- Bottled water: is it all the same? Is it safe to use? How long should you use reusable bottles? Concerns about plastic bottles being bad for the environment
- Tap water – people want to use it but questions about whether or not it's safe
- Wealthier towns have cleaner water. Truth? Hard to swallow
- Water test: what is stuck in the pipes affects the results.
- Animals: visible signs of wildlife getting sick. Is it from drinking the lake and river water? Are the water quality tests actually true and safe?
- People are concerned about swimming in lakes rivers
- Concerns around septic systems – what's going in there and impact on drinking water
- Concerns about dairy farm manure being spread by swamps and does it affect water

QUESTION 4B - Where are the opportunities to protect drinking water?

- County Commissioners have opportunity to help protect water
- Buffer zones
- Who polices the cows in the river/lake?
- Natural buffer zones needed along lake ---including where homes/cabins are already built (this will help with livestock getting into the rivers/lakes)
- Also include more restrictions on regulations and animals
- Does manure spreading near swamps affect ground water?
- Irrigation: can now spoon feed fertilizers, lowering over-use or over-application

- Hazardous waste: public opportunities to dispose of hazardous waste should be more frequent, low cost to the public, and accessible. We need to make it easier to do the right thing. This applies to disposing of extra prescription drugs too.
- Homeowner education is needed

LAST COMMENTS:

- No such thing as a free lunch. We need to work to protect our water. Can't just use it up.
- Minimize the cost.
- Currently we operate under a false sense of security in regard to clean water.
- We assume it will always be there.

City of Worthington Water Conversation Notes

Date – November 9, 2019

Total Participants – 18 people

QUESTION 1- When you think about water in your daily life, what feelings, images, or thoughts come to mind?

- Water buffer
- Water protectors
- Water is life
- Water design for quality of life
- Health
- Swimming
- Smell, algae, green color
- Concerns of leakage of sewer lines into water system and no one is fixing it
- Concerns about the color of the water – example, water from laundry is yellow sometimes
- Lack of knowledge – Examples:
  - » People don't know DNR codes and number of fish people can take (impact on lakes)
  - » Books are not in languages that people understand and information is not accessible

QUESTION 2- What does your drinking water look like?

- Public health nurses have recommended that mothers use bottle water but kids don't get fluoride
- Wells
- Water has a lot of iron in it

- Concerns with water quality – people use bottle water but are concerned about environmental issues with plastic and recycling issues
- Store water
- Culligan water

QUESTION 3 - If you had a question or a concern around water/water quality, where do you go?

- Don't know what to do when questions come up
- Don't know and questions get swept under the rug by officials
- People who work at the water treatment plant

QUESTION 4A - What are some of your concerns related to drinking water?

- Concerns about the smell and color of water
- Who pays for educational awareness materials?
- Concerns about water quality from what's not easily seen by the eye
- Immigrant residents think that because it's the US the water is safe to drink
- Concern with the amount of chemicals in water
- Concerns of people and kids getting sick from the lake water when they're swimming in it or drinking the water
- Concerns with lake water
  - » Getting rashes from going into the lake
  - » Lack of accessibility to a local pool
- Are the fish safe to eat?
- Public health officials don't provide enough education and awareness of drinking water
- Water pipes are old and rusty and need to be fixed
  - » Public works tries hard to improve the water systems but who's responsible for funding it? The responsibility to fix pipes shouldn't be on the local level – the state should fix water quality issues (ex- pipes)
- People are getting dry hair and skin from the water
- Lack of recreational activities for folks in community who don't have means and money
  - » (Lake often only option)
- White calcium residue in drains – concerns around what that can do to people's skin
- Rental properties – folks have a hard time getting things replaced (things that have rusted) because they have to wait on their landlord to fix it
- Concerns with washing white clothes because of yellow stain from water

- Testing of water should be done and shared more than 1 time per year
- Education and awareness around how people impact the water
- Rushmore City – water is killing plants and people in the city don't want to drink the water because of this
    - » Fear of this happening in Worthington too

QUESTION 4B - Where are the opportunities to protect drinking water?

- Provide multilingual resources – especially in areas of high risk and areas with immigrants and new Americans
- Cities should have buffer zones and more funding for ways to collect storm water
- Consider ways to clean algae – example) use bacteria to clean lakes – similar to what Bioverse did with ponds.
- Ways to fund environmental studies – without placing cost on homeowners
- Find other models of environmentally friendly efforts (example- solar panels)
- Implement policy stating that landlords and realtors have to provide information sheets to tenants and buyers about where their water is coming from
- Education and awareness that's accessible to everyone

LAST COMMENTS/RECOMMENDATION:

- Include representatives from all communities we've been to on the coalition

PYC Water Conversation Notes

Date – December 6, 2019

Total Participants – 14 people

Introductions

- Introductions of students and grade
- Amanda explains what Citizens League is
- Discuss work in class around climate change
- Amanda discussing drinking water project

QUESTION 1- When you think about water in your daily life, what feelings, images, or thoughts come to mind?

- When filling water container - Notice water is gray when coming out of the faucet and therefore don't want to drink it
- Feelings that Brooklyn Park water is trash

- It's hard to get hot water when it's winter
- Concerned because people pee in the lakes
- Student got an ear infection swimming in the lake
- Swimming in North Commons – some love it and some say it's salty
- Water used as vaporizer
- Some won't go near the lakes because they're dirty (ex – Webber Park)
- Fear of leeches when going into the lake
- Some people from the South come to MN and say how great the water is in MN
- "If you're poor they don't (water experts and elected) really care if you have drinkable water"

QUESTION 4A - What are some of your concerns related to drinking water?

- Possibility of getting sick from the water if it's contaminated and if there are parasites or bugs
- Scared to turn on the water and see yellow stuff come out
- Worried that their water will be like Flint, Michigan and that they'll get rashes, diseases, etc. and that the hospitals are not invested in helping them
- Question about whether or not the water is better in prisons compared to the water the public drinks
- Someone mentioned that the water in Stillwater prison looks like coffee and they use socks for filters
- Comments that water at Henry HS is disgusting and that the water at North High has lead in it
- Concerns that it's hard to stop/contain water (Mississippi River) in order to clean it

QUESTION 4B - Where are the opportunities to protect drinking water?

- Provide more filters to clean the water
- Provide more packaged water
- Students discussed wanting to take a tour of the filtration center
- Many students talked about wanting the pipelines to be changed in a safe way
- Students want people to stop dumping trash in the lakes and rivers
- Pay people in the community to help improve the water
- Clean the swimming pools
- Provide more environmental jobs for teens
- Want to learn more about the cleaning (filtration) process
- Clean the water in the prisons and put filters on the pipes and/or faucets

- Provide money for the city to clean the pipes
- Provide educational opportunities for students/teens/young people to learn about water and what's in it and how it's cleaned/filtered
- Make pollution illegal
- Educate teens about lead

Latinx Community Water Conversation Notes

Date – December 7, 2019

Total Participants – 14 people

Audience: (Female) I don't know where my water comes from either. Maybe I'm ignorant but I don't drink it confidently because I don't know where it comes from. It has a different flavor. And when I drink bottled water, not only does it taste differently, but it also tastes better than tap water that tastes like chlorine.
(Male) Sometimes water has a different smell. I've also noticed it smells like chlorine.

Interpreter: [Interrupts the audience to let the interviewer know what is being said]. So that the scent or that they don't know where the water is coming from. They can taste the chemicals in it, it tastes different from the bottled water. And it's just that level of unsureness of where the water is coming from.

Interviewer: [Addresses the interpreter] Ok, perfect. Can we ask the group to just… [pause]. We have a couple of questions before we get into the concerns.

Interpreter: [Reports back to the group] Ok, we have questions here prepared before we start talking about concerns. If we could start there, then we'll get to that part where you can share concerns.

Audience: [Agrees] Ok.

Interviewer: Thank you, That's really good info. I want that. I want that later.

Interpreter: [Addresses the group] That's the info she is looking for. That's what she wanted to hear. [Addresses the interviewer] Should we start with the first question?

Interviewer: Yeah, that'd be great.

Interpreter: [Addresses the group] Ok, so we're going to start with the first question. In your everyday life, what feelings, images or thoughts come to mind when you think about water?

Audience: Life. To care for it. To take care of water because it's part of life.

Interpreter: To care for it because it's vital. It's necessary for everything.

Audience: It's needed for everything. If there were not to be water in the apartment you live in, it'd be very stressful. It would be chaos. Because you wouldn't be able to wash your hands, rinse the fruit you're going to eat or take a shower. It's essential in our lives.

Interpreter: It's very essential and you can't do anything without water—wash your hands, wash fruit. If an apartment were not to have clean water, or water, there would be chaos.

Audience: It's also a health matter. [Talking continues in the background.]

Interpreter: It can be good for you but if you don't know what's in your water, it could also be harmful.

Audience: There's clear white water and there's other water that is yellow, that looks like it's coming from a rusty pipeline.

Interpreter: Sometimes there is clear white water or there is yellow contaminated water.

Audience: [Interrupts] And where is the water that we're drinking coming from? Depending where the water is coming from, it can cause cancer too.

Interpreter: And that sometimes water in the plastic bottles can cause cancer.

[Pause. Quiet chatter in the background. Audience laughs].

Interviewer: Okay. Anything else?

Interpreter: [Talks to the group] Anything else that you'd like to mention? Not only about water at home, it could also be about lake water. Did you hear about the case of a lake here in Minnesota that was contaminated the day after July 4th? Where a lot of people got sick because they were swimming in the water?

Audience: [In agreement] Yes.

Interviewer: [Addresses the interpreter] Positive things that come up when they think about water?

Interpreter: [Responds to interviewer] Ok, I'll say that. But first, what we mentioned is that experience not only with washing water, washing fruit or drinking water-- but then swimming. (Like) The case in the Minnesota lake where the people were swimming after July 4th, and they got sick. [Moves on to address the group] The interviewer would like to ask you about good or positive things about water.

Audience: Hydration. It's good for everything. For health. Everything that's already been mentioned. Without water we wouldn't be able to live.

[Interpreter repeats and translates].

Audience: [continues] Is the purification system real? Because if water is being taken from the lakes, then that means there's animals, excrement and a lot of other things. So, we want to know if that water is really being purified and if it's good for us to drink.

Interpreter: Knowing whether the water that they're purifying, if they are actually cleaning it well. If they're getting the water from a lake, there's often animals, a bunch of debris or animal waste that's all in that and is it being purified? Is it clean enough to consume and drink?

Interpreter: [Acknowledges those are all good concerns. Suggests skipping question number two].

Interpreter: [Talking to the group] Just to verify that you don't know where water comes from. You may have an idea where it comes from, but do you know where the water you drink comes from specifically?

Audience: (Female) In my experience, no. I don't know.

Interpreter: [Reporting back to interviewer] No, not really. You can imagine where the water

comes from, but to really know where the water is --

Audience: [Interrupts] (Male) There must be a filtration center. There has to be a place where water is filtered before reaching our homes, right?
(Female) And though that may be true, there is sometimes people who use water wells. It doesn't always come from a filtration center.
(Female 2) From my understanding, I know that it comes from the Mississippi River.

[Interpreter translates. Room is asked to settle down a bit and allow one person to speak at a time].

Audience: [Conversation continues] (Male) Where I lived back in my home country, we would drink tap water all the time. We had a water well in our community, where we would manage our own water and bring tanks to fill them up. We knew the process well, how to treat the water and how it got to our homes. No one would buy bottled water, there was no need. And we drank the water from the well because we knew the ins and outs and we trusted where the water came from.
(Female) Do you know if that well was clean? Because in the ranch my grandparents were from, they would do something similar, but there were times where animals would also drink from that natural water. Unless it came from a cistern.

Interpreter: [Translates for interviewer] So they're saying that in their home country they knew where the water was coming from because it'd be a well or there's a place where they would collect the water from. A truck would go around the city and fill their jugs of water, so they would never have to buy bottled water. Where here it seems it's more obscure. There's not a clear source.

Interviewer: Did they feel more secure about the water when they knew where it was coming from? Do you know what I mean?

[Interpreter translates question to the audience]

Audience: Yes. In those places yes, because we knew that the water was clean.

Interpreter: It was clean and also the method that the water was being purified from was, like, the water was going through natural filtration versus chemicals.

Audience: (Female) I've heard here that water here is reused, recycled. That does cause concern to think it could be toilet water that is being treated and filtered again so that we can drink it.

Interpreter: She's heard that the water is recycled, so it makes her sick to think that it could be water from the toilet that is then being reutilized to drink.

[Pause in the conversation. Interviewer is writing things down before moving on to the third question. Group chatter in the background. Interpreter communicates the conversation has been helpful so far and that everything that is being said is being recorded to ensure everything is captured. New person arrives into the room. He is welcomed and is asked to sign in. Background noise continues.]

Interpreter: [Resumes conversation, addresses the group] Ok, the third question is: If you were concerned or had questions about your water, who would you contact? Who would you go to?

Audience: The city, where you pay the water bill. [Laughter]. But no one here has done it or contacted them before.

Interpreter: Why not? How come?

Audience: It doesn't seem like a such a big deal sometimes. And the language. And the time. One doesn't know where to go.

Interpreter: [Translates to interviewer] They assume it's not important. The language barrier. Time. Some people don't know where to go. The reality is they don't really know—they have an idea of where they could go but not ever gone and some don't even know where. Or where to call or what number.

Audience: It would be good that with our bill they also send information, at least every other month, about the water process and use.

Interpreter: [Translates] A guide that illustrates the process…

Audience: [Female interrupts and continues] At least in Puerto Rico, which is where I'm from, every three months we received information about the water process and if the water we're drinking was good for you.

Interpreter: [continues translating] So she's from Puerto Rico and that every three months they send out information on the water, the process of filtration, if you have issues where to contact and updates on the water quality.

Interviewer: [Acknowledges] Okay, that's great.

[Audience chatters. Noise in the background].

Interpreter: [Updates the person who joined the conversation late]. So, we are just having a community conversation about and around water quality. Or the theme of water, anything that really comes to mind with that. It's mostly in Spanish but I can also say the question in English and then do the Spanish, so that you can also chime in with your personal experience.

[Joiner thanks the group in Spanish and introduces himself. The group reacts positively and welcomes him. Sylvanus shares that he heard about the event at Clues and is very interested in the project because he's a counselor and most of his clients speak Spanish and/ or have a Latinx background.]
[Conversation resumes]. Question 4. What are some of your concerns related to drinking water?

Audience: That it's not clean and it has a bad smell. Sometimes in my house when you run the water, a weird smell comes out. Especially in the mornings. So, I just let it run for a while before I use it. Even when I'm just making coffee, I can taste the difference if I use bottled water instead.

Interpreter: [Addressing the interviewer] We already spoke a little about this, but that it is not 100% clean. That when they make coffee with water from the faucet that it tastes different than when they use bottled water.
[Addressing the audience] She would like to know more about your concerns regarding the pipes. What are your concerns about it?

Audience: Well, that it's dirty. Bacteria. Bad conditions. What are the pipes made out of?

Interpreter: [Repeats and translates] What is the composition of those pipes?

Audience: [Interrupts] It makes a difference if it's made out of plastic or if it's iron. Because the water may be good, but when it goes through those pipes...

Interpreter: [Continues translating] The water can be good, but if it's going through those pipes then it's not clean. It could get contaminated again or is getting contaminated again.

[Child engaging and participating in the conversation. Audience giggling and laughing.] [Conversation resumes]

Interpreter: The next question. Where are there opportunities to protect drinking water?

Audience: In the mountains. In our homes. When you're taking a shower or shaving.

Interpreter: Not wasting water. Being water efficient. When you brush your teeth, don't have it running.

[Audience chatters. Everyone is agreeing about not being wasteful with water. Cultural differences between water use in the U.S. versus in their home countries.]

Interpreter: Water is more expensive in their home countries and they're more likely to be wasteful with water here (in the U.S.) because it is cheaper.

Interviewer: I also want to know if they had a chance to tell policy makers what to do, what are the things they would like them to change based on their fears?

Interpreter: [Addressing the audience] In addition to being informed on what the water process is or having a water guide, do you have any other recommendations for legislators to consider? What else would you want them to know about? Regarding water and the filtration system.

Audience: Yes, the chemicals that are being used. One has the right to know if they are harmful.

Interpreter: [Translates] The chemicals that are being put in the water to clean them? Are they harmful? Cause we're consuming them. So, what's actually in there?

Audience: [Continues] Also, sometimes we recycle medication bottles or containers and we use water to rinse them. So, in a way it could be said that we are also contaminating the water when we do that.

Interpreter: Are they themselves contaminating water by just dropping things into the drain that could be harmful? Like medicine? And understanding what precautionary steps they can take to ensure that the water isn't being contaminated.

Audience: Yes, having that information. It'd be helpful to know about the chemicals in the water. For example, car oil—we can't dispose it so easily and we know that. And if we're taught what things we can recycle and what things should not be drained, then that's also a good option.

Interpreter: Having lessons to teach them what can be put in there and what can't. Like, car oil isn't something you're supposed to put in there. So, something to be more informed to ensure that they aren't contributing to the contamination.

Audience: And also, to ensure that this information is not only going to homeowners, but to people who live in apartments as well. That building owners are sharing that information. That'd be a good law.

Interpreter: Not just homeowners or those that own a building, but also sharing that with people who are renting.

[Audience speak more than one at a time].

Interpreter: [Continues] He's saying it's hard to say what to improve when they don't really understand what is even going on. And possibly having an explanation about what is going on with the process. What in general is going on and reflect on that.

Audience: If we could be better informed to learn how we can help and ensure our water is clean. What can we do? What should we do? Any recommendations for us? For example, cooking oil. I recycle it by putting in it plastic or glass bottles and throwing it in the garbage, but never draining it down the sink.

Interpreter: Since she came from Puerto Rico, she's accustomed to putting the oil in a container and then throwing that away rather than just throwing it in the drain.

[Audience chatter and noise in the background. Several people speaking at the same time.]
[Conversation continues] Another water concern is that in the future (in 2025) there's going to be a water shortage that is going to affect about a third of the population, leading to more illnesses that could potentially be deadly. And people won't question where the water came from or if it's contaminated. They'll just drink it due to the water shortage.]
[Conversation shifts back to oil.]

Interpreter: Is there a place to recycle oil, to not contaminate the water? Somewhere where they could drop it off? Someone mentioned that it costs money to recycle oil but if it's car oil, then they have to take that. Is there a law saying that people cannot charge to recycle car oil versus cooking oil? Is there a law that could be created to ensure that the oil is recycled so that it's not a barrier to doing that and ensuring that the water is clean?

Interviewer: That's a great idea.

[Audience chatter and noise in the background. Multiple speaking at the same time. Someone went to a local shop to dispose their transmission oil, but they didn't take it. Someone else shared there are several programs that exist in different cities.]

Interpreter: They wouldn't take his transmission oil when he went to go get rid of it, but then they didn't even tell him where he could go to recycle it.
There are programs where there's a day where you can recycle certain things. Like pills. Tires.

Audience: [Open conversation continues].

Audience: One of the things that really drew my attention to this topic was that a lot of us depend on the tap water, and I want to know if each county in our community, if there is a way to prevent people if water is contaminated. Is there a system in place to let people living in certain areas if the water is contaminated?

Interviewer: So, there are water protection plans in different cities and this project is going to try to help the Department of Health and other environmental justice organizations protect the water even more. So, the way it works right now, the Dept. of Health can't dictate the actual source, but they can dictate the filtration process after it's removed from the source. So, I think this project will inform how they better actually implement those protection plans to make sure that it doesn't get contaminated. And then if it is, that people are aware. How can they better communicate with community? Because right now they have room to be better at that. Does that help?

Interpreter: [Translated for Spanish speaking people. The audience would like to know if water is better in certain areas].

Interviewer: I think so.

Interpreter: [Addressing the group] Have you heard about Flint, Michigan? Where the pipes had led? So, there are areas were water isn't good and is contaminated. Specially if you are closer to factories or businesses that contaminate not just water but also the land, because it can be absorbed.

[Updating the interviewer] So, I just mentioned like Flint Michigan that the contamination with the pipes but then also areas that are close to businesses that not only contaminate water, but also contaminate the soil and air. And that seeps into the water.

Audience: (Female) For example, we once went camping and the water in the cabin was useless. We could not drink it; it had a terrible taste.

Interpreter: When they went up to a cabin, they couldn't drink the water because it was practically water from the lake. You could taste the difference and it didn't taste good.

Interviewer: Where was the cabin?

Interpreter: By Duluth.

Interviewer: Anything else? Anything that we didn't ask?

Interpreter: [Asks the group] That was the last question, is there anything else you'd like to add?

[Audience chatters. No further questions or comments].

Interviewer: Thank you all so much, I will send the notes out and then I'll send resources too about the questions that they had. Thank you so much.

Interpreter: Thank you for your time and for the work that you do.

Interviewer: Thank you. And I want to make sure that they get the gift cards.

Interpreter: [Addressing the audience] She will give you the gift cards.

[Audience hangs around. People say goodbyes. Conversation ends].

Juxtaposition Arts Water Conversation Notes

Date – December 11, 2019

Total Participants – 11 people

QUESTION 1- When you think about water in your daily life, what feelings, images, or thoughts come to mind?

- Life
- Fear
- Pipelines
- Tea
- Hydration
- How long until it's dirty?

- Dinosaurs
- Can we make more water?
- Proximity of bathrooms to drinking water
- Humans are 75% water and Earth majority water
- Shortage of fresh water and quality water
- Running out of water for us to drink
- Plastic creation uses water
- Work with Mississippi Watershed Management Organization (MWMO)

QUESTION 2- What does your drinking water look like / where do you get your water from?

- Natural spring in Eden Prairie—https://www.edenprairie.org/amenities/natural-springs
- Mississippi River
- Convenience stores
- Richfield relatives bring water with them when they visit
- Glenwood water

QUESTION 4A - What are some of your concerns related to drinking water?

- Concerned being lied to about water quality
  - » Stems from being lied to when problems have come up
- Human rights violated through drinking water in jails
  - » Lead in pipes in jail
  - » People have to buy their own water if don't want led in water
- Don't hear back when ask questions to commissioners
- Feels people act different because of drinking water
- When a water line breaks, takes a long time for it to be back up and running (St. Paul area)
- Concerns around cars, plastic, pollution (including air pollution), and chemical trails
- Example provided of 1 million tons of plastics disposed of daily in California
- Hard to know what to even be concerned about when it comes to drinking water
- Won't make changes until there is a panic
- What are the immediate issues? Where is this a problem?
- Concerns of lead in pipes in Hennepin County jail
- Water tastes like lead in northern suburbs

- Water freezes in pipes in winter in St. Paul

QUESTION 4B - Where are the opportunities to protect drinking water?

- Have meetings dedicated to talking about and understanding water
- Need money to change building infrastructure—target the Northside first for updates
- Need to let folks protest and protect water instead of being charged felony
- Create a feedback loop on data and information
- Work with young creatives to change the system
- Create something that youth can push
- Stricter laws to be able to protect water quality
- Make elected officials talk about water
- Require natural filtration along the river
- Do research on long-term impacts of water and share with community
- Transparency on how water is treated
- Make laws to protect water

Hmong Community Water Conversation Notes

Date – December 19, 2019

Total Participants – 7 people

QUESTION 1- When you think about water in your daily life, what feelings, images, or thoughts come to mind?

Air, water bottle and pollution, canoeing down river, life, water drop system, bodies of water, blue, people who know how to swim and those that don't and people who've died in water, manufacturing, natural resources, accessibility, water run off/drainage, sewage system and how it works, questions and curiosity about how water is treated.

QUESTION 2- What does your drinking water look like?

Tap water, city water (don't always trust – family bought purification system), Mississippi water source, people will pick a place to live based on water, don't know where it comes from but we trust that it's safe because we can bathe in it.

QUESTION 3 - If you had a question or a concern around water/water quality, where do you go?

Don't know but would look up where we pay water bill, Google concerns to answer questions,

QUESTION 4A - What are some of your concerns related to drinking water?

How do we maintain water, climate change and concerns of long-term impacts, concerns about

other places “stealing” our water, parents are still boiling water to purify it, concerns about health issues related to water and not enough evidence around autism being linked to “bad” water, water is life – fear it not being here anymore, frequency of testing and who monitors that, how do we protect ourselves from big corporation scandals (Example – 3M), perception that younger generation doesn’t care about water, high-income neighborhoods people talk about water and low income people are thinking about survival and may not have time to think about (or be engaged in conversations) water, different factions doing this work and these events are usually only white and encouraging them to go to “underserved” communities because people in poor communities do care, and a number of fishers and hunters going out and impact on water.

QUESTION 4B - Where are the opportunities to protect drinking water?

Adopt curriculum in schools early, not just in college, teach K-12 about environmental issues and water, storytelling – get folks who’ve been impacted by issue to speak about it, use films to educate folks, create graphics about water – education, education and awareness, partner with influencers who have massive media following, create policies that protect water.

End of Citizens League Report

Related Minnesota initiatives

"Future of Drinking Water" report[9]

This report has several suggestions for how to protect Minnesota's drinking water:

- Development of a state drinking water plan that is built on the ethic of providing safe and sufficient drinking water for all, while protecting the environment.
- When the system to be managed is so interconnected and complex, effective and trusted governance is needed. The authors suggest using a Governance Assessment Framework (GAF) as the basis for assessing drinking water management as it is now and setting timeline goals for future action. This includes making existing interagency cooperation more transparent through a statutory framework that lays out the connections between agencies.
- Small rural communities still face financial challenges, as well as difficulty recruiting qualified water professionals.
- Citizen engagement needs more attention, focused on empowerment, not just education.
- Citizen concerns need to be more explicitly taken into account by both suppliers and MDH when making and reporting risk management decisions.
- Equity consequences of decisions also need to be identified, considered, and made explicit.
- While private wells fall outside statutory scope of MDH the authors suggestions that a statutory requirement for well testing at property transfer

"Groundwater Management: Capacity assessment at the local level" reports[10]

In two reports, researchers explored the capacity of Soil and Water Conservation Districts (SWCDs) and local government units to protect ground water. For SWCDs, staff are aware of groundwater issues and feel responsible for its protection, but need additional resources and expertise to protect it, as well as the lack of:

- Organizations / groups that provide meaningful feedback on groundwater protection
- Organizational capacity to develop strategic, long term plans for groundwater protection, and
- Cross-jurisdictional / cross-sector groups to share data about and coordinate groundwater protection.

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[9] Peterson, Jeffrey and Peter Calow. "Future of Minnesota Drinking Water—A Framework for Managing Risk." University of Minnesota. February 3, 2020. https://www.wrc.umn.edu/sites/wrc.umn.edu/files/future_of_drinking_water_2020feb3.pdf

[10] Pradhananga, Amit, Mae Davenport, and Vanessa Perry. "Groundwater Management: Capacity assessment at the local level." Prepared for the Minnesota Department of Natural Resources. December 4, 2015. https://files.dnr.state.mn.us/waters/groundwater_section/gw-management_report_122315.pdf and

Fellows, Sarah, Amit Pradhananga, Holly Meier, Mae Davenport and Sharon Pfeiffer. "Groundwater Management: Capacity assessment at the local level—A survey of Minnesota local government units." Prepared for the Minnesota Department of Natural Resources. February 22, 2018. https://www.changinglandscapes.umn.edu/sites/changinglandscapes.umn.edu/files/mn_lgu_capacity_assessment_for_groundwater_final_technical_report_2018.pdf

The barriers for local government unit (LGU) staff is similar, but broader to the holistic needs of the communities they serve. The problems they identified are:

- A lack of trained staff devoted to groundwater protection,
- A limited number of groundwater protection grant opportunities
- Insufficient awareness and commitment to groundwater protection among local community members
- Other governance issues taking priority over groundwater protection.

Based on community member concerns, the needs identified by SWCD and LGU staff include:

- Information on local groundwater quality and quantity trends, such as a simple web-based map showing groundwater use and quality in their region
- Funding for groundwater best management practices implementation, including grant opportunities to fund groundwater activities in local plans
- Information on studies on land use impacts on groundwater
- Understanding of groundwater basics and surface-groundwater connections
- Assistance in identifying/prioritizing local threats to groundwater

Some of the suggested actions include:

- Tailored workshops to help strengthen technical capacity on and understanding of groundwater issues
- Support in building local capacity on and understanding of groundwater protection

Metropolitan Council[11]

The regional policy-making body, planning agency, and provider of essential services for the Twin Cities metropolitan region, the Metropolitan Council's mission is to foster efficient and economic growth for a prosperous region. The Metropolitan Council's Environmental Services Division (MCES) operates and maintains over 500 miles of regional sewers and treats up to 250 million gallons of wastewater daily at eight regional treatment plants for 108 communities. In addition to protecting drinking water from wastewater, MCES provides assistance for water conservation, water supply studies, and groundwater modeling. Staff in MCES are exploring the creation of a toolbox of engagement tools, information, and resources to better protect drinking water in the metro area. To be successful, the toolbox will provide tactics that connect land use planning, water quality management programs, property management, and more.

[11] "Local Planning Handbook: Water Supply—Assessing and Protecting Source Water." Metropolitan Council. N.D. https://metrocouncil.org/Handbook/Plan-Elements/Water-Resources/Water-Supply.aspx, and

"The Challenge: Drinking Water Source Protection." Metropolitan Council. March 21, 2019. https://metrocouncil.org/Council-Meetings/Committees/Land-Use-Advisory-Committee/2019/March-21,-2019/Drinking-Water-One-Pager.aspx

Minnesota Rural Water Association[12]

Minnesota Rural Water Association (MRWA) is a non-profit association that offers professional on-site technical assistance and training to water and wastewater system operators, as well as source water protection. MRWA's mission is to provide excellence in training and technical assistance to small municipal and non-municipal systems, rural water districts, and wastewater districts with populations less than 10,000. MRWA hosts the largest water and wastewater Technical Conference and Exposition in Minnesota. Some of MRWA's Source Water Specialists hold regional conversations around the protection of drinking water, and in early 2020, they hosted a state-wide meeting to talk about the actions that different organizations are taking that are meant to support the protection of drinking water.

Regional Conservation Partnership Program and Minnesota Board of Water and Soil Resources[13]

The Minnesota Board of Soil and Water Resources (BWSR) strives to improve and protect Minnesota's water and soil resources. In partnership with other state agencies and organizations, BWSR drafted a Regional Conservation Partnership Program (RCPP) proposal with the goal of protecting community water supplies through the introduction of continuous living cover crops in vulnerable source water protection areas, while strengthening supply chains and markets for those crops.

Regional Sustainable Development Partnerships and Institute on the Environment[14]

The University of Minnesota Extension Regional Sustainable Development Partnerships (RSDP) advance the environmental, economic and social sustainability of Greater Minnesota through community-University partnerships that form innovative solutions. In 2020, RSDP is collaborating with the University of Minnesota's Institute on the Environment to connect community projects to University research on three environmental impact goals. One of the focuses this year is on safe drinking water, "Ensuring equitable, sustainable access to safe drinking water for all Minnesotans through solutions that protect source water in a changing climate."

"Social Measures Monitoring System" report[15]

Prepared on behalf of the Minnesota Clean Water Fund (CWF) Interagency Social Measures Sub-team, this report provides methods to track community capacity to engage in water resource management. These measures work to provide answers to three overarching questions: (1) What drives communities to engage in sustainable water resource management? (2) What constrains communities from engaging in sustainable water resource management? (3) How can resource professionals, policymakers, and citizens build community capacity to protect and restore Minnesota's water resources?

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[12] "Minnesota Rural Water Association—About MRWA." Minnesota Rural Water Association. 2017. https://www.mrwa.com/about.html

[13] "RCPP Proposal: Continuous Living Cover Crops for Drinking Water Protection DRAFT." Minnesota Board of Water and Soil Resources. November 18, 2019. In print.

[14] "Submit an idea to RSDP." University of Minnesota Extension. 2019. https://extension.umn.edu/regional-partnerships/submit-idea-rsdp and

"Impact Goals RFP." University of Minnesota, Institute on the Environment. 2020. http://environment.umn.edu/impact-goals/

[15] Davenport, Mae. "Social Measures Monitoring System." University of Minnesota. 2013. https://www.changinglandscapes.umn.edu/sites/changinglandscapes.umn.edu/files/social_measures_overview.pdf

The measures suggested include:

- Change over time in individual capacity to be engaged in water resource protection and restoration
- Change over time in relational capacity to be engaged in water resource protection and restoration
- Change over time in organizational capacity to be engaged in water resource protection and restoration
- Change over time in programmatic capacity to be engaged in water resource protection and restoration
- Water resource management is perceived as fair and legitimate

Core indicators and methods of data collection are suggested to go with these measures.

Solar Energy & Natural Systems opportunities with Great Plains Institute[16]

The Great Plains Institute (GPI) is an organization of leaders and experts dedicated to working in partnership to craft nonpartisan, pragmatic energy solutions that benefit the economy and environment. Brian Ross at GPI has been holding workshops, including with the agriculture industry, to talk about the co-benefits between solar projects and natural systems. One of the questions GPI is trying to address is: "Can solar development serve to meet drinking water management plan goals that seek perennial ground cover rather than crops than pose a risk to public water supplies?"

"We Are Water" with the Minnesota Humanities Center[17]

The Minnesota Humanities Center collaborates with people, organizations, and communities to bring transformational humanities programming into the lives of Minnesotans throughout the state. One of their current programs is "We Are Water," which strives to deepen connection between the humanities and water across the state. Partnering with six state-wide partners, including three Minnesota Departments, this program sparks and recognizes our relationships around water, and expands local and state networks that can work toward a shared vision on this and future projects.

[16] "Ross, Brian and Katharine Chute. "Solar Energy & Natural Systems: Exploring Co-Benefit Opportunities." Great Plains Institute. November 21, 2019. https://www.betterenergy.org/blog/solar-energy-projects-natural-systems/

[17] "We Are Water MN. Minnesota Humanities Center. 2020. https://mnhum.org/we-are-water-mn/

Original combined themes list from EI conversations

What follows are possible functions of a drinking water protection collaborative based on what we (from Environmental Initiative) have distilled from the different conversations. A collaborative could contribute to several of these functions at one time.

1. Elevate public understanding of drinking water's value and risks

This is related to the different tactics we heard regarding public campaigns (billboards, newsletters, flyers), education (youth, adults within other sectors), and more, all aimed at increasing public understanding of the value of drinking water. This is different from funding and actions that change specific behaviors and land uses (#2 below), but it is related to it.

2. Support voluntary behavior changes associated with protecting drinking water sources:

a. Agricultural practices

b. Septic system maintenance

c. Turf management practices

d. Management of urban runoff

e. Small business and industrial land uses near wellheads (community, non-community, or private)

The audience for this would be those individual and groups whose behaviors you are trying to change. There are so many activities that are already happening, especially around agricultural conservation practices. How can these activities be better connected to each other, within and between these different sorts of land uses? Are there specific behaviors and land uses the collaborative should be focused on?

3. Catalogue and share information about policy options for protecting drinking water sources:

a. Land acquisition

b. Land use planning and ordinances related to land use change

c. Changing wastewater management through investment in public infrastructure or regulation

The audience for these policy and public spending options would be governmental entities. We will need to work with our steering committee and the eventual members of a collaborative/partnership to decide whether this is only about local policy options or if state policy options are on the table for this group to promote.

4. Building trust between people and government to better exchange information.

Coordination between state agencies, local government, and up and down the different layers

of government in an effort to better help people navigate the different policies and opportunities around the protection of drinking water.

The notes, below, are sorted into particular land uses and their opportunities and challenges. Following that are the actions suggested by conversation participants and who to ask to participate.

Opportunities and Challenges

Agricultural land uses:

- Changing agricultural practices
  - » Loss of cows
  - » Consolidation of farms
  - » Loss of perennials, hay
  - » Loss of crop rotations; more of the same crops (corn and soy)
  - » Increase in precision ag
  - » Increase in cover crop adoption
  - » Reduced idle land
  - » Fewer structural conservation practices
  - » More interest in field day tours
- Farm economy is tough, so more livestock operations and row crop
  - » County-wide there is less pasture and less farms that need hay. More row crops. Move a lot more water a lot faster.
  - » Need economically viable situations for farmers
    - ▪ Perpetual easements into grasses does not always pencil out
    - ▪ Working lands with alfalfa would help!
  - » What does this tradeoff in land uses have on drinking water protection? Anything? Especially with livestock more concentrated
- How do we still make a profit, particularly as farmers, while having safe water?
  - » What research has been done around this dichotomy?
  - » Policies at the national and corporate level are still barriers
- For farmers, one way to have a profit while protecting water, is through technology and new practices
  - » Cost savings through nutrient management
  - » Ag is becoming more precise, including planning in the dark, variable rate nutrient application, new software, which can reduce costs
  - » Problem is having the equipment to do this
    - ▪ Farmers switched during the ag boom
    - ▪ However, with poor farm economy now, how do farmers access this equipment?

    - » Concerns around ability to purchase farming equipment.
        - Costs 100k to have the appropriate equipment to do no till.
        - Most banks won't lend money for that kind of equipment/technology.
        - How do we get banks / lenders involved in equipment?
- Regenerative ag movement helping farmers with testing alternative crops (eg kernza)
- New markets for alternative crops
    - » Farming system challenges
    - » Cover crops, inputs, and nitrates, strip till—need new equipment to try new things
    - » Feedback is that manure management plans are too expensive, no one uses them
    - » Absentee landowners, problems of renting land—not farming for soil health
    - » Sustaining change beyond subsidies, and when people are no longer eligible for them
    - » Farmers in debt; can't pay for new wells
- Property tax rebates for farmers
- Root systems are needed to help with water and sequester carbon
- Provide support and education around no-till practices
    - » Pollinator habitat in corners of RDO center pivot fields
- Changes exacerbated by climate change
- Breakfast on the farm to showcase farmer and their equipment
- Demonstration plots help to show that something can "work here"
- Updates to farm programs
    - » Challenges with the lack of land in CRP (need more of this again), and concerns with CREP 3 compared to CREP 1 and 2.
    - » Need for permanent farm programs instead of cyclical money cycles
    - » Allow pasture and other sort of minimally harmful practices to make CRP more attractive.
    - » In South Dakota the rural water systems can use CREP and receive the federal program money. This is decided at a state level (no one knows by whom—FSA? NRCS?)
    - » Allow public agencies to put land into CREP or RIM to receive federal funds
    - » Farmers don't want to be paid to take ground out of production. It can be helpful to focus on getting people to change practices, rather than to not produce.
        - For example: easements costs $20k to clear 80 acres if putting that land back into operation.
    - » General lack of understanding about farm bill's source water protection details
    - » Macroeconomics through the farm bill are still barriers
- Subsidies that improve haying opportunities in state
- Farmers currently buying hay from S. Dakota because not enough hay within Minnesota
- Cost share for farmers

- Charge the nitrogen fertilizer industry for the pollution it causes (similar to smoking, opiate lawsuits)
- If looking to do land swaps, what will be best option for farmer?
- New ways to use manure, such as anaerobic digesters
- Changes that allow farmers the flexibility to plant crops other than corn and soy—a five crop rotation is ideal

Development of previously undeveloped land (urban sprawl), urban runoff:

- Changing of urban spaces
  - » Urban spaces are growing and sprawling
  - » Will need increased amount of water
  - » Growth of urban spaces in DWSMA has decreased nitrate levels in wells in Rochester
- Changes exacerbated by climate change
- "Country sprawl" as a land use can have impacts—how do you work to limit this? (Question from Perham)
  - » (Answer from Luverne) Can't build a house on a spot without a house already—or unless it is sited on highly erodible land if buying 80+ acres
- DWSMA overlay ordinances; review local zoning ordinances to control growth and development within their DWSMA.
  - » Feels there is low cost to gain ratio regarding land use decisions
- Land use changes and concerns
  - » City growing into DWSMAs, so unable to do RIM, conservation programs
  - » How do we ensure land use changes don't just change the contaminant concern (ex: chloride vs. nitrate as land becomes more suburban and less farm)
  - » Need to be willing to pay, buy land, especially outside of city boundaries
    - ▪ Compare costs of drilling new well with buying land.
    - ▪ Voluntary practices will not get us there.
- Have county wide zoning, or strategic long-term land use plans
  - » Maintaining undeveloped spaces as undeveloped
  - » Comprehensive plans for rural areas, like done for city level
- Limits on expansion of towns in boundary
- Limits on percent impervious surfaces in Rochester
- Wellhead protection plan working closely with city planning and zoning staff; want them to have water in mind as land use changes.
- Commercial building code now requiring retention of stormwater
- Regulate stormwater, require pretreatment, bring back wetlands

- Luverne will possibly be an MS5 community in the future, so need to start capturing runoff and find new ways to manage stormwater—be proactive
- Updates in town around raingardens
- Wildfire and forest management impacts to water quality

Lawn care / turf management:

- Tourism impacts around green lawns and the inputs used there
- Buffers for lawns around water
- Fertilizer application restrictions
- Landowners need to understand that they don't need the "perfect lawn"

Maintenance of septic systems:

- There have been county inspections of failing septic systems; large problem for lake properties
  - » What happens beyond inspection? How long does it take to fix problems once found?
- Control of septic and wells when property is sold
- Provides funding to change from septic systems to cluster / sewer; more centralized
- Septic improvements with cluster systems and centralized treatment/pumping

Industrial land uses:

- Aggregate mining ordinances
- Knowledge of old dump sites and being able to fund their clean up and find new buyers
- Mining
  - » Unsure of the location of old mine shafts
  - » Proposed mining north of Buhl could affect water quality
  - » Dewatering causes water supply challenges for communities
  - » Loss of Hibbing's Scranton Well will impact the PWS' water quantity
  - » Loss of groundwater table

Understanding and valuing (clean and abundant) drinking water sources:

- Value of water is too low
  - » Need to do better with finding the direct and external costs
  - » Are folks aware of the function of groundwater, and where their water comes from?
  - » Need for general homeowners to understand this relationship
  - » Water use has declined over the years but still water is cheap and not a lot of incentive to conserve - $1 gets you 800 gallons in Rochester.

- Water quality left unknown in private wells
  - » Cannot tell water quality just by looking at it or tasting it
  - » Infrequent testing
    - Access and convenience
    - Bias around regulation—fear of unfunded mandates
    - Shallower than municipal wells, so more likely to experience contamination first
  - » Need for practical advice about what to do with testing information
  - » Free testing—but how do you then have funding for treatment?
  - » Does have an interesting water testing program within the public school from the City and SWCD
- Need incentive and support first, then education and awareness, followed by community-wide effort to shift behavioral change.
- Show the value of water on tourism, medical center
- Economic barriers and pitfalls around value of water
  - » The economic importance of clean water and how it impacts major sectors of the economy (such as agriculture, residents, and tourism in Perham).
    - The tax base in Perham is around 200 million.
    - The tax base for the lake property is around 800 million in Pelican Lake township.
  - » Clean water has a huge impact on property values
- Dichotomy between cheap food and clean water—do not naturally go hand in hand. How do we find the balance between business, clean water, natural resources?
- Understanding supply chain economics and how to have more local sourcing
- One quarter of the population has a private well, and approximately only 30% of private well owners have had their well tested.
  - » Banks are requiring well testing with sales – arsenic, manganese, other issues.
    - Getting more wells with nitrates reported – however, there are more wells getting testing
    - Shallow wells are more commonly finding problems, but 200-foot wells can also have problems based on the geology
- What about people who are on own water?
- Work together between private landowners, farming community, lake shore, industry, and find common goals
  - » Community readiness program (MDA)—working to bridge the divide between farming and non-farming, even within small communities
  - » Continued finger pointing between farmers, pet owners, lake owners
- Cost of $3.5 million for treatment, but even that has caused more problems
  - » Lincoln-Pipestone had a treatment facility that had to go offline because of the problems around disposal

- Have decent water quantity because of good management but have the technology in place to over-pump. However, political pressure tends to supersede the ability to regulate. Awareness of the hydrology and the resource is an important part of getting in front of this.
  - The DNR is working with communities to use existing wells for observation wells to get the knowledge we need.
  - The public doesn't think about public health nor the cost. It's hard to appreciate the value of groundwater because we can't see what's under our feet.
- Show ownership over drinking water and where it is coming from
- Water testing—paired with helping people understand the tests
  - Creates a teachable moment
  - Popular at the county fair
  - Offering it for free helped
- Explain how turf grass is the largest crop in Minnesota
- Often have a negative perception about their water
- How do we work with residents to have them better understand the problem, and the solutions?
- "Neighborhood watch" for watering lawn and crop usage
- Would like more people to pick up dog waste in town and city parks.
- Peer to peer learning is important, whether it is lake owner to lake owner or farmer to farmer
- Demonstration projects help with community engagement and awareness.
  - There is DWSMA capture zone, high school and hospital storm water ponds and native plantings. Storm water ponds are proactive approach to MS4.
  - The city has raised water costs if more water is used than a certain amount (tiered cost structure).
- Partner with undergraduate students as resources
  - Community engagement
  - Collect data
- Lack of understanding around the health ramifications of nitrates
- Increasing involvement in protecting our drinking water sources
  - Start with voluntary actions first, reduce the threat of regulation
    - Fundamental change in the way that we practice volunteerism
  - Use the language "safe" water, and focus on the tap first and work backwards
  - Broaden the message by addressing multiple contaminants, not just nitrate
  - Engaging kids at school (Chatfield does education program)
  - Mind-frame; get children in on it early to change minds of parents

Approaches to protecting drinking water regardless of land use or risk factor:

- Use the protected areas for water (rather than just trying to protect the land around existing wells). There is a mechanism to do that now but that it's expensive and there is a lot of red tape.
- Green space in DWSMAs for public health—common space, space to gather
- Can a lawsuit be filed if groundwater is contaminated? liability for insurance companies related to water contamination would be a good incentive
- County gives $5,000 to seal wells
- Creation of a generic / regional EIS
- Well protection program funded by a sales tax
- Land acquisition is one way to ensure permanent protection
  - » Perham has done land swapping in their DWSMA for protection of nitrates.
    - How can this happen elsewhere?
  - » In Worthington, WPU partnered with those with money for each of the projects, in addition to receiving 50% from habitat license funds through a cost-share match
    - Worthington purchased over 600 acres and turned it over to DNR as a permanent easement (most vulnerable areas now protected over 90%, almost all of it transferred to DNR).
  - » All of the City of Luverne owns land around the wells, and now getting quite a bit of water from Lewis and Clark
  - » RR Water System also preserved over 300 acres with Pheasants Forever
  - » Yellow Book standard appraisal for land can hinder how to purchase land.
    - Only supposed to offer appraised value with government funds. The state has some rules to prevent collusion and protect the public, but these were a barrier.
    - Does anyone have a 1031 tax exchange program?
      - What does this even mean?
    - What can the government decide to pay for?
    - What is the drinking water protection worth? What is the value of water?
    - Are there other payment options?
      - Why not pay 10% more than what they made on their corn ground for providing clean water? But how could you budget for that given the variability in crop prices?
  - » Others have problems where asking for double assessed value and wouldn't take it because no other land to acquire.
  - » Water operators do not want to be seen as land moguls or compete with their customers for the sale of land
  - » Tap into the common goals with landowners when trying to buy their land
- Is it worth considering eminent domain to protect water quality?

- » South Dakota is doing eminent domain for wellheads—but do we want to go down this road
- » Rural water system is like a road to an extent—should it have right of way?

- Sealing monitoring wells
  - » Some areas do not have a good sense of groundwater; how can we continue studies without negative impacts? How does each additional well impact the water supply and contamination?

Effectiveness of government/regulators:

- Departments facing shortages in staffing, funding, and research
- Subdivisions looking to hook up to central systems, but MPCA won't allow it for some reason
- Too many regulations; shift funding to infrastructure
  - » Take regulation off the table
- Cronyism within regulatory system, allowing people to go beyond certain limits
  - » Dependent on local political culture
  - » Dependent on particular county
- Definition of surface water and groundwater and how they are regulated
  - » Very intertwined system in this area
- Lack of coordination between nonprofits, government when it comes to different projects
- Municipal governments
  - » Being able to identify and react to contamination
  - » Competing supply wells nearby
  - » Burned out from reporting and bureaucracy
    - ▪ Lack desire for more regulation
    - ▪ Different requirements between MS4, WHPP, Watershed, Fed
    - ▪ Overlap becoming overwhelming
    - ▪ All this work is passed on to residents through rates
    - ▪ Need consistent messaging for WHP, MS4
    - ▪ Time and effort to form wellhead protection plans.
  - » Source not being in municipal jurisdiction
  - » Public water suppliers often focus on changing sources, then treating, then a higher level of blending to meet limits—not necessarily protection
  - » Concerns with excess capacity in utilities; often designed to meet peak summer demand
  - » Areas that are most important for protecting water are often highest value properties
    - ▪ Acquiring land within wellhead area can be challenging; competing with developers who see an investment opportunity
    - ▪ How to manage zoning to make this land economically valuable and minimize impact on drinking water

- Money, finance staff
- Lack of experience with grant writing and challenges with competing for funding
  - Competitive applications for job creation and taxation goals
  - Limits on $ for large capital projects
  - Lack of technical capacity and time for grants
  - Paperwork is impossible to navigate and complete
  - High cost to protect and treat compared to size of the community
- Challenges of using social media in small towns
  - Who will be authorized to manage the site?
  - There are always negative comments, need to be able to respond.

Ideas for Action

Following group conversations, participants were asked to identify their top priorities for action. What follows is what participants provided as their top ideas for action.

- Promote the positive activities that are happening in the area
  - Give help and funding to cities to run PR campaigns
  - In addition, work at local level to show benefits, including things that show benefits to neighbors (incorporate learning from each other, and showing how different practices):
    - Turf establishment
    - Updated agriculture practices (such as access to strip till equipment, precision ag equipment)
    - Drainage improvements
  - Providing funding at local area to give support to achieve goals, such as to SWCDs
    - Help SWCDs with understanding ways to fund these different practices
    - Help SWCDs with understanding the best land uses to promote and fund
  - Connect actions to 1W1P
- Target education based on land use and area vulnerability (through funding to SWCDs?)
  - Show the problems with complacency in dealing with complex problems
    - Education about interconnectedness of surface and ground water
  - How to make people aware of DWSMA boundaries and importance
  - How many emergency response areas are in industrial or rural areas?
  - Funding to educate city council members on the water lobbying paradox
  - Use common language; drop the jargon / acronyms
  - Including non-ag sector on water quality issues
    - Education to non-ag sector about ag sector concerns, farming, fertilizer use
    - Use social media around drinking water issues
    - Utility bill comparison
    - Use city / township newsletters

        - Help residents understand water usage on their lawns
        - Include fun events, like the River Bend Nature Center and CRWP put on
        - Show all residents about farming practices
        - Forums, working groups
    - Lake associations and surface water issues
    - Ag sector and new technologies, showcased through local demonstrations and farmer-to-farmer learning
        - Precision nutrient applications
        - Multipurpose drainage grants
        - Cost share programs for cover crops, seed, soil health
    - Explain when and what would happen if purification could be needed
        - Cost of treatment
        - Timing of when that might need to happen
    - Belief that you can't grow corn and protect water at the same time
        - —is that true? What would it take to bolster or disprove this belief?
    - Education for youth around watershed conservation
    - Work with MN GreenCorps to connect public health students from MN colleges to field projects, research, and campaigns focused on clean water for all Minnesotans.
    - Undergraduate internships and research
    - Online modules related to groundwater science
    - In person presentations about water use and quality at places like the state fair, including demonstrations
    - Make it humorous! Teach about importance of water supply by using water bottles for car washes, firefighting, etc., to show why municipal (and private) supplies are so important
- Education around the value of water
    - Don't take water for granted
        - Show the value of ground water and ground water as drinking water
        - Education materials or speakers to help people understand its importance
        - Work with young kids to impact values early
    - Teach people/change behavior around water waste – conservation awareness
    - Find ways to increase "ownership" over drinking water and where it comes from
        - How normal people can keep the ground free of pollutants—how they can change their land use decisions
        - Understanding of water's fragility
        - Learn where it comes from
    - Showcase how land use changes impact the aquifer
    - Advancement of groundwater science and data through county hydro-geological atlas
    - Clearer understanding of economic challenges around drinking water protection and food production

- » Increase the number of classes that can attend the Children's Water Festival

- Practical and useful tips for private landowners
  - » Increase water testing of water at the kitchen sink followed by practical advice about water quality
  - » Inspection of private septic/wells
  - » Test the water to see where the problems lie and address those directly
  - » Educate realtors, property owners about water softeners

- Prioritize protection based on vulnerable vs. non-vulnerable areas
  - » Limit statewide standards and requirements to target more specifically based on water suppliers and regions
  - » Have regulations in areas that are affected by contamination; but not in areas that are not (kind of like the Groundwater Protection Rule?)
  - » More treatment of stormwater in cities
  - » Continual progress toward wellhead protection

- Coordination and collaboration with others:
  - » Establish common goals between groups that impact water quality (septic, lake associations, farming, industry)
    - Identify drivers and actions to take
      - Example: farmers, economic and cultural, so use BMPs and incentives
      - Example: lake homeowners, cultural and social, so use social pressure from neighbors
  - » Visit with the Legislative Water Commission
  - » More support for small communities to make source water protection projects happen
  - » Coordinate with surrounding communities
  - » Connect all the players better
  - » Nitrogen rule rollout with local advisory groups
  - » Higher level of collaboration and resources; can't keep doing more with same resources
  - » Leadership from the farming community
  - » Coordination across political boundaries
  - » Partnerships with cities to specifically target landowners within DWSMAs
  - » Expand state initiatives like buffer setback and state mandates
  - » More collaborations with different stakeholders to talk about water efficiency, quality, and land use issues

- Continued changes in farming / land use practices (non-regulatory):
  - » Identify and remove corporate interests in the Farm Bill
  - » No nitrate applied in the vulnerable parts of a DWSMA
  - » Technical assistance around water quality protection based on land uses
  - » Precision agriculture

        - Use push pull nitrate / soil tests to determine areas to make changes
    - Increasing mandates and incentives for farmers to put perennial permanent cover around sensitive features and in karst landscapes
        - Funding for cover crops, perennials, to promote soil health
        - Permanent tax incentives for farmers that install permanent perennial buffers
        - Cost share for rotational grazing, settlement ponds, buffers
    - Create a market / buyers for perennial and alternative crops, and pastured livestock
        - Change the demand
        - Connect the buyer to the grower
        - Help the grower grow it (equipment, insurance, storage)
        - Help them grow where it makes sense (switch flooded land to natural land)
    - Farmer led council in Whitewater Watershed today
    - Better educating producers on regenerative ag
    - Manure alternatives
- Use of public land and land exchanges around DWSMAs
    - Use DNR property for a drinking water source
    - More county/zoning land use ordinances that have source water protection overlays
        - No nitrate application on bare soil in DWSMA
- Incentives for cities and public water supplies and private well owners
    - Allow public water supplies to enroll in CRP, CREP, RIM, and conservation easements
    - Funding for drinking water protection from the government since it is a public infrastructure
    - State revolving fund to purchase DWSMA land by public water suppliers
        - Allow landowners the opportunity to avoid capital gains when selling to PWS
        - Allow certain tax incentives for landowners to sell
        - Allow 1031 exchange for purchase price premium with state funded grants / loans
        - Convert DWSMA land to green space
    - Revolving funding to help well owners, or some sort of matching investment
- Review rules and fees to find places for updates that can provide more meaningful support and inspection

Potential Partners/Members

- Bankers
- Chamber of Commerce
- Existing partnerships of relevant organizations
- League of MN Cities
- Mayo and other health clinics around public health education

- Minnesota Department of Natural Resources
- Minnesota Department of Agriculture
- Minnesota Department of Health
- Minnesota Pollution Control Agency
- Minnesota Farm Bureau
- Minnesota Farmers Union
- Soil and Water Conservation Districts
- Watershed-based nonprofits
- Well drillers and septic industry
- Local storytellers
- Education experts

Notes from Perham

Small group conversations

- Farming system
  - » Root systems are needed to help with water and sequester carbon
  - » Soil testing every two years helps with determining fertilizer needs and set field goals
  - » Irrigation schedule based on rain gages, soil testing
  - » There is a learning curve for minimum or not till farming methods; opportunities for improvement
  - » Concerns around ability to purchase farming equipment.
    - Costs 100k to have the appropriate equipment to do no till.
    - Most banks won't lend money for that kind of equipment/technology.
    - How do we get banks / lenders involved in equipment?
    - It's not just a farmer's choice—story of a local farmer that had specialized equipment and his neighbors paid him to use it on their fields because they couldn't buy it themselves.
  - » Dichotomy between cheap food and clean water—do not naturally go hand in hand. How do we find the balance between business, clean water, natural resources?
  - » Need economically viable situations for farmers
    - Perpetual easements into grasses does not always pencil out
    - Working lands with alfalfa would help!
- Land use planning and swaps
  - » Low cost to gain ratio regarding land use decisions.
  - » Perham has done land swapping in their DWSMA for protection of nitrates.
  - » Review local zoning ordinances to control growth and development within their DWSMA.
- Economic drivers:
  - » Green space in DWSMAs for public health—common space, space to gather
  - » The economic importance of clean water impacts agriculture, residents, and tourism.
    - The tax base in Perham is around 200 million.
    - The tax base for the lake property is around 800 million in Pelican Lake township.
  - » Clean water has a huge impact on property values
  - » Quality is the concern, not quantity
- Main concerns around drinking water
  - » There have been county inspections of failing septic systems; large problem for lake properties
    - What happens beyond inspection? How long does it take to fix problems once found?
  - » Sealing monitoring wells:
    - Some areas do not have a good sense of groundwater; how can we continue studies

without negative impacts? How does each additional well impact the water supply and contamination?
        - The SWCD and watershed district have sealed about 100 monitoring wells.
    - The public doesn't think about public health nor the cost. It's hard to appreciate the value of groundwater because we can't see what's under our feet.
    - Arsenic is a bigger issue than nitrates in town. City has been forward thinking around land use.
    - Groundwater is available, but it is a finite resource
    - Septic systems vs ag
    - Lack of understanding around the health ramifications of nitrates
    - Peer to peer learning is important, whether it is lake owner to lake owner or farmer to farmer
    - "Country sprawl" as a land use can have impacts
    - Been talking about this for a long time, particularly within ag. How do we get others involved?
- Miscellaneous thoughts around water
    - Feels that there is a "neighborhood watch" when you turn your water on.
    - Pump a lot of water to produce gas and pollution.
    - One quarter of the population has a private well, and approximately 30% of private well owners have had their well tested.
    - Would like more people to pick up dog waste in town and city parks.
- Working together to protect drinking water sources
    - Purchase of land in the wellhead protection area, had a progressive council and used funding from CWA, legacy amendment, and city fund, more precision nutrient applications
    - Funding for education
    - Explain how turf grass is the largest crop in Minnesota
    - Show ownership over drinking water and where it is coming from
    - Work together between private landowners, farming community, lake shore, industry, and find common goals
    - How do we build on existing partnerships?
    - Community involvement and awareness, outside of City Hall
    - Demonstration projects help with community engagement and awareness.
        - There is DWSMA capture zone, high school and hospital storm water ponds and native plantings. Storm water ponds are proactive approach to MS4.
        - The city has raised water costs if more water is used than a certain amount (tiered cost structure).
    - Need more from well drillers and industry—not as involved as they should be
    - Cultural changes for different groups:
        - Ag—spending more time around management
        - Lake owners—understanding that they don't need the "perfect lawn"
    - Pollinator habitat in corners of RDO center pivot fields

- » Banks are requiring well testing with sales – arsenic, manganese, other issues.
  - Getting more wells with nitrates reported – however, there are more wells getting testing
  - Shallow wells are more commonly finding problems, but 200-foot wells can also have problems based on the geology
- » Buffers for lawns around water
- » Have county wide zoning, or strategic long-term land use plans
- » Farmers have volunteered to do things, because they don't want to have regulations
- » Lake Associations are getting more proactive than they were, which is a good thing

- Methods for sharing information and knowledge
  - » Use social media
  - » Extension service
  - » Letters targeting specific landowners
  - » Time and funding to make individual phone calls
  - » Breakfast on the farm to showcase farmer and their equipment
  - » Different vulnerabilities represent unique ways communities can help each other
    - Database with different sorts of solutions and the problems they worked toward?
  - » How to work with farmers when there is only one farmer in a DWSMA?
  - » There seems to be a relationship between # irrigation wells and poverty within a given county
- Barriers to acting
  - » Demonstration plots help to show that something can "work here"
  - » Mind-frame; get children in on it early to change minds of parents
  - » Tension between farmers and lake owners—blame game
  - » Macroeconomics through the farm bill and policies at the corporate level
  - » Cover crops, inputs, and nitrates, strip till—need new equipment to try new things
  - » Importing $234 million in crop inputs for dog food, etc. How do we get supply chains to line up together?
  - » Tourism impacts around green lawns and the inputs used there
  - » Challenges around working with private, lower income well owners
    - Free testing—but how do you then have funding for treatment?
    - Does have an interesting water testing program within the public school from the City and SWCD
  - » Value of water is too low
  - » Need to do better with finding the direct and external costs
  - » Are folks aware of the function of groundwater, and where their water comes from?
  - » Need for general homeowners to understand this relationship

Ideas for action

Following group conversations, participants were asked to identify their top priorities for action. What follows is what participants provided as their top ideas for action.

- Promote the positive activities that are happening in the area
  - » In addition, work at local level to show benefits, including things that show benefits to neighbors (incorporate learning from each other, and showing how different practices):
    - Turf establishment
    - Updated agriculture practices (such as access to strip till equipment, precision ag equipment)
    - Drainage improvements
  - » Providing funding at local area to give support to achieve goals, such as to SWCDs
    - Help SWCDs with understanding ways to fund these different practices
    - Help SWCDs with understanding the best land uses to promote and fund
  - » Connect actions to 1W1P
- Target education based on land use and area vulnerability, through funding to SWCDs
  - » Including non-ag sector on water quality issues
    - Education to non-ag sector about ag sector concerns, farming, fertilizer use
    - Use social media around drinking water issues
    - Help residents understand water usage on their lawns
  - » Lake associations and surface water issues
  - » Ag sector and new technologies, showcased through local demonstrations and farmer-to-farmer learning
    - Precision nutrient applications
    - Multipurpose drainage grants
    - Cost share programs for cover crops, seed, soil health
  - » Explain when and what would happen if purification could be needed
    - Cost of treatment
    - Timing of when that might need to happen
- Education around the value of water
  - » Don’t take water for granted
    - Show the value of ground water and ground water as drinking water
    - Education materials or speakers to help people understand its importance
    - Work with young kids to impact values early
  - » Teach people/change behavior around water waste – conservation awareness
  - » Find ways to increase “ownership” over drinking water and where it comes from
    - How normal people can keep the ground free of pollutants—how they can change their land use decisions
    - Understanding of water’s fragility

        - Learn where it comes from
- Prioritize protection based on vulnerable vs. non-vulnerable areas
    - » Limit statewide standards and requirements to target more specifically based on water suppliers and regions
    - » Have regulations in areas that are affected by contamination; but not in areas that are not (kind of like the Groundwater Protection Rule?)
- Establish common goals between groups that impact water quality (septic, lake associations, farming, industry)
    - » Example: farmers, economic and cultural, so use BMPs and incentives
    - » Example: lake homeowners, cultural and social, so use social pressure from neighbors

Notes from Luverne

Context notes:

- Larger employers include VA, factories, and new downtown development
- Protecting 1,000 acres of prairie within Blue Mounds area
- Many people don't want to check wells because people are worried about government regulations on fertilizer application. How do we address this as a collaborative?
- Compared to other areas in Minnesota, there is limited water in terms of quantity and good quality
- Livestock is best way to get into farming in this area
  - » $1 turns over 7x in a community for livestock operations
- Farmer led councils from Soybean: discuss ideas that work for them and bounce ideas around; work to secure funding for these ideas
- How do we get the right incentives for the "right" practices when the science can be so challenging?
- Easement process takes a long time and there is a problem with the taxing on this, along with landowner issues

Small group conversations

- How do we still make a profit, particularly as farmers, while having safe water? What research has been done around this dichotomy?
- For farmers, one way to have a profit while protecting water, is through technology and new practices:
  - » Cost savings through nutrient management
  - » Ag is becoming more precise, including planning in the dark, variable rate nutrient application, new software, which can reduce costs
  - » Problem is having the equipment to do this
    - ▪ Farmers switched during the ag boom
    - ▪ However, with poor farm economy now, how do farmers access this equipment?
  - » Edgerton has graphs that show the connection between different land use management and water quality in their municipal wells.
- Farm economy is tough, so more livestock operations and row crop
  - » County-wide there is less pasture and less farms that need hay. More row crops. Move a lot more water a lot faster.
  - » What does this tradeoff in land uses have on drinking water protection?
- Different land requirements and ordinances
  - » Can't build a house on a spot without a house already—or unless it is sited on highly erodible land if buying 80+ acres

- » Aggregate mining ordinance
- » Use the protected areas for water (rather than just trying to protect the land around existing wells). There is a mechanism to do that now but that it's expensive and there is a lot of red tape.
- » DWSMA overlay ordinances

- Updates to farm programs:
  - » Challenges with the lack of land in CRP (need more of this again), and concerns with CREP 3 compared to CREP 1 and 2.
  - » Need for permanent farm programs instead of cyclical money cycles
  - » Allow pasture and other sort of minimally harmful practices to make CRP more attractive.
  - » In South Dakota the rural water systems can use CREP and receive the federal program money. This is decided at a state level (no one knows by whom—FSA? NRCS?)
  - » Allow public agencies to put land into CREP or RIM to receive federal funds
  - » Farmers don't want to be paid to take ground out of production. It can be helpful to focus on getting people to change practices, rather than to not produce.
    - For example: easements costs $20k to clear 80 acres if putting that land back into operation.
  - » General lack of understanding about farm bill's source water protection details
- Prepare for future stormwater constraints
  - » Luverne will possibly be an MS5 community in the future, so need to start capturing runoff and find new ways to manage stormwater—be proactive
  - » Updates in town around raingardens
- Relate your solution to other's problems
  - » If looking to do land swaps, what will be best option for farmer?
- Concerns around land acquisition
  - » In Worthington, WPU partnered with those with money for each of the projects, in addition to receiving 50% from habitat license funds through a cost-share match
    - Worthington purchased over 600 acres and turned it over to DNR as a permanent easement (most vulnerable areas now protected over 90%, almost all of it transferred to DNR).
  - » All of the City of Luverne owns land around the wells, and now getting quite a bit of water from Lewis and Clark
  - » RR Water System also preserved over 300 acres with Pheasants Forever
  - » Yellow Book standard appraisal for land can hinder how to purchase land.
    - Only supposed to offer appraised value with government funds. The state has some rules to prevent collusion and protect the public, but these were a barrier.
    - Does anyone have a 1031 tax exchange program?
    - What can the government decide to pay for?
    - What is the drinking water protection worth? What is the value of water?

        - Are there other payment options?
- Why not pay 10% more than what they made on their corn ground for providing clean water? But how could you budget for that given the variability in crop prices?
    - » Others have problems where asking for double assessed value and wouldn't take it because no other land to acquire.
    - » Water operators do not want to be seen as land moguls or compete with their customers for the sale of land
    - » Tap into the common goals with landowners when trying to buy their land
- Water and its value
    - » Cost of $3.5 million for treatment, but even that has caused more problems
        - Lincoln-Pipestone had a treatment facility that had to go offline because of the problems around disposal
    - » Is it worth considering eminent domain to protect water quality?
        - South Dakota is doing eminent domain for wellheads—but do we want to go down this road
    - » Rural water system is like a road to an extent—should it have right of way?
    - » Have decent water quantity because of good management but have the technology in place to over-pump. However, political pressure tends to supersede the ability to regulate. Awareness of the hydrology and the resource is an important part of getting in front of this.
        - The DNR is working with communities to use existing wells for observation wells to get the knowledge we need.
- Education for residents
    - » Often have a negative perception about their water
    - » How do we work with residents to have them better understand the problem, and the solutions?

Ideas for action

Following group conversations, participants were asked to identify their top priorities for action. What follows is what participants provided as their top ideas for action.

- Continued changes in farming / land use practices:
    - » No nitrate applied in the vulnerable parts of a DWSMA
    - » Technical assistance around water quality protection based on land uses
    - » Alternative crops
    - » Precision agriculture
        - Use push pull nitrate / soil tests to determine areas to make changes
- Use of public land and land exchanges around DWSMAs
    - » Use DNR property for a drinking water source
    - » More county/zoning land use ordinances that have drinking water protection overlays
- Incentives for cities and public water supplies

  - » Allow public water supplies to enroll in CRP, CREP, RIM, and conservation easements
  - » Funding for drinking water protection from the government since it is a public infrastructure
- Coordination and collaboration with others
  - » Visit with the Legislative Water Commission
  - » More support for small communities to make drinking water protection projects happen
  - » Expand state initiatives like buffer setback and state mandates
  - » More collaborations with different stakeholders to talk about water efficiency, quality, and land use issues
- Education
  - » Showcase how land use changes impact the aquifer
  - » Advancement of groundwater science and data through county hydro-geological atlas
  - » Clearer understanding of economic challenges around drinking water protection and food production
- State revolving fund to purchase DWSMA land by public water suppliers
  - » Allow landowners the opportunity to avoid capital gains when selling to PWS
  - » Allow certain tax incentives for landowners to sell
- Allow 1031 exchange for purchase price premium with state funded grants / loans

Notes from Rochester

Small group conversations

- Changing of agriculture spaces
  - » Loss of cows
  - » Consolidation of farms
  - » Loss of perennials, hay
  - » Loss of crop rotations; more of the same crops (corn and soy)
  - » Increase in precision ag
  - » Increase in cover crop adoption
  - » Reduced idle land
  - » Fewer structural conservation practices
  - » More interest in field day tours
- Changing of urban spaces
  - » Rochester is growing
  - » Will need increased amount of water
  - » Growth of urban spaces in DWSMA has decreased nitrate levels in well
- Changes exacerbated by climate change
- Actions and opportunities
  - » Water testing—paired with helping people understand the tests
    - ▪ Creates a teachable moment
    - ▪ Popular at the county fair
    - ▪ Offering it for free helped
  - » Community readiness program (MDA)—working to bridge the divide between farming and non-farming, even within small communities
  - » Government ordinances and regulations
    - ▪ Limits on expansion of towns in boundary
    - ▪ Limits on percent impervious surfaces in Rochester
    - ▪ Control of septic and wells when property is sold
    - ▪ Commercial building code now requiring retention of stormwater
    - ▪ Wellhead protection plan working closely with city planning and zoning staff; want them to have water in mind as land use changes.
    - ▪ Fertilizer application restrictions
    - ▪ Regulate stormwater, require pretreatment, bring back wetlands
    - ▪ MPCA looking to regulate water softeners
  - » Financial support
    - ▪ County gives $5,000 to seal wells
    - ▪ Creation of a generic / regional EIS

        - Subsidies that improve haying opportunities in state
            - Farmers currently buying hay from S. Dakota because not enough hay within Minnesota
        - Cost share for farmers
        - Well protection program funded by a sales tax
            - Show the value of water on tourism, medical center
        - Provides funding to change from septic systems to cluster / sewer; more centralized
        - Charge the nitrogen fertilizer industry for the pollution it causes (similar to smoking, opiate lawsuits)
    - Alternative systems
        - Septic improvements with cluster systems and centralized treatment/pumping
        - New ways to use manure, such as anaerobic digesters
        - Changes that allow farmers the flexibility to plant crops other than corn and soy—a five crop rotation is ideal
    - Partner with undergraduate students as resources
        - Community engagement
        - Collect data
- Barriers and challenges
    - Water quality left unknown
        - Cannot tell water quality just by looking at it or tasting it
        - Infrequent testing
            - Access and convenience
            - Bias against science and regulation
            - Lack of government control over private wells
        - Need for practical advice about what to do with testing information
    - Behavior change and participation
        - Continued finger pointing between farmers, pet owners, others
        - Water use has declined over the years but still water is cheap and not a lot of incentive to conserve - $1 gets you 800 gallons in Rochester.
        - How do we get people to the table?
    - Regulatory and government challenges
        - Departments facing shortages in staffing, funding, and research
        - Subdivisions looking to hook up to central systems, but MPCA won't allow it for some reason
        - Too many regulations; shift funding to infrastructure
        - Cronyism within regulatory system, allowing people to go beyond certain limits
            - Dependent on local political culture
            - Dependent on particular county

        - Definition of surface water and groundwater and how they are regulated
            - Very intertwined system in this area
    - Farming system challenges
        - Feedback is that manure management plans are too expensive, no one uses them
        - Absentee landowners, problems of renting land—not farming for soil health
        - Sustaining change beyond subsidies, and when people are no longer eligible for them
        - Farmers in debt; can't pay for new wells
    - Lack of coordination between nonprofits, government when it comes to different projects
    - Land use changes and concerns
        - City growing into DWSMAs, so unable to do RIM, conservation programs
        - How do we ensure land use changes don't just change the contaminant concern (ex: chloride vs. nitrate as become more suburban)
        - Need to be willing to pay, buy land, especially outside of city boundaries.
            - Compare costs of drilling new well with buying land.
            - Voluntary practices will not get us there.
- Increasing involvement in protecting our drinking water sources
    - Start with voluntary actions first, reduce the threat of regulation
        - Fundamental change in the way that we practice volunteerism
    - Regenerative ag movement helping farmers with testing alternative crops (eg kernza)
    - New markets for alternative crops
    - Property tax rebates for farmers
    - Use the language "safe" water, and focus on the tap first and work backwards
    - Broaden the message by addressing multiple contaminants, not just nitrate
    - Engaging kids at school (Chatfield does education program)

Need incentive and support first, then education and awareness, followed by community-wide effort to shift behavioral change.

Ideas for action

Following group conversations, participants were asked to identify their top priorities for action. What follows is what participants provided as their top ideas for action.

- Drinking water protection through:
    - Continual progress toward wellhead protection
    - Water safety plans
    - More treatment of stormwater in cities
    - Zone land to protect drinking water
        - No nitrate application on bare soil in DWSMA
        - Purchase DWSMA land and conversion to green space

- Improved coordination (regional and statewide)
  - » Coordinate with surrounding communities
  - » Connect all the players better
  - » Nitrogen rule rollout with local advisory groups
  - » Higher level of collaboration and resources; can't keep doing more with same resources
  - » Leadership from the farming community
  - » Coordination across political boundaries
  - » Partnerships with cities to specifically target landowners within DWSMAs
- Revolving funding to help well owners, or some sort of matching investment
- Education activities
  - » Show the problems with complacency in dealing with complex problems
  - » Give help and funding to cities to run PR campaigns
  - » Funding to educate city council members on the water lobbying paradox
  - » Use common language; drop the jargon / acronyms
  - » More education on all levels (at MDA, MPCA, and public)
    - ▪ Include fun events, like the River Bend Nature Center and CRWP put on
    - ▪ Show all residents about farming practices
    - ▪ Forums, working groups
  - » Educational activities that show practical solutions, including both on the ground actions and policies. Give a policy 101 to help understand why we need policy.
  - » Education about interconnectedness of surface and ground water
  - » Education for youth around watershed conservation.
  - » Work with MN GreenCorps to connect public health students from MN colleges to field projects, research, and campaigns focused on clean water for all Minnesotans.
  - » Greater awareness of private well contamination
  - » Public awareness campaigns about contaminants (pills, chemicals, etc)
  - » Undergraduate internships and research
  - » Advertise through flyers, direct mail, advertisements, not just email
    - ▪ Infographics
- Changes to farming system, incentives, and funding
  - » More markets for alternative crops and pastured livestock and regeneratively farmed products
  - » Create a market / buyers for perennial crops
    - ▪ Change the demand
    - ▪ Connect the buyer to the grower
    - ▪ Help the grower grow it (equipment, insurance, storage)
    - ▪ Help them grow where it makes sense (switch flooded land to natural land)

    - » Identify and removal of corporate interest in the Farm Bill
    - » Permanent tax incentives for farmers that install permanent perennial buffers
    - » Increasing mandates and incentives for farmers to put perennial permanent cover around sensitive features and in karst landscapes
    - » Incentives for best practices, including cover crops, perennials, turf alternatives
    - » Funding for cover crops, perennials, to promote soil health
    - » Cost share for rotational grazing, settlement ponds, buffers. Peer pressure from farmer to farmer helped spur interest and participation in program
    - » Farmer led council in Whitewater Watershed today
    - » Better educating producers on regenerative ag
    - » Manure alternatives
- Practical and useful tips for private landowners
    - » Increase water testing of water at the kitchen sink followed by practical advice about water quality
    - » Inspection of private septic/wells
    - » Test the water to see where the problems lie and address those directly
- Can a lawsuit be filed if groundwater is contaminated? liability for insurance companies related to water contamination would be a good incentive
- Partner with:
    - » League of MN Cities
    - » MPCA
    - » DNR
    - » MDH
    - » MFU
    - » MFB
    - » Farmers
    - » Industry
    - » SWCDs
    - » Watershed based nonprofits
    - » Partner with Mayo for public health education
    - » Partner with climate change orgs and possible carbon offsets for crop changes, CO2 sequestration
    - » Bankers

Additional feedback from one participant:

- Need a unified message, especially across state agencies
- Do not focus solely on nitrate; there could be other health risk factors
- Continue to support proven strategies that work, like the SE MN Wastewater Initiative

- Agree to the reality of the situation, using facts from state agencies
- We have three options to address this pollution problem
  - » Voluntary practices, such as:
    - Education
    - Subsidies for farmers who use conservation
  - » Economic practices, such as:
    - Pollution fees to apply nitrate fertilizers in the state of Minnesota,
    - A tax on fertilizers
    - A fee on “bare soil” from Nov-April on farm fields
    - Rural stormwater fees
  - » Regulations, such as:
    - Government requirements on an industry, like the new Groundwater/Drinking Water Rule from the Department of Ag
    - County zoning that restricts fertilizer use on DWSMA land. That regulation, paired with subsidies to help farmers grow alternative crops
    - It would make sense to pair new regulation with a taxpayer subsidy. For instance, if we require farmers to plant cover crops, a taxpayer subsidy could cover part or all of that cost for a certain number of years.
      - For instance, if a regulation required each crop farmer to have 30% of his crop acres in cover crop by 2024
      - Create a fund to subsidize farmers to plant cover crops during the 2020-2023 growing seasons.
- Economic practices would be the best route to go:
  - » Voluntary conservation is often ineffective at the watershed scale (though it can be impactful in small DWSMAs)
  - » Regulations are difficult to implement and enforce

Notes from NW Metro

Small group conversations

- Concerns and barriers
  - » Development and its impact
    - ▪ Increased wastewater treatment
    - ▪ Increased impervious surfaces and stormwater runoff
    - ▪ Risk of hazardous spills in well field
  - » Private wells are big concern
    - ▪ Tests infrequently done
    - ▪ Only required private tests are chloroform and nitrate
    - ▪ Municipal wells are often deeper than private wells
    - ▪ Private wells often experience contamination first, but just don't know it
  - » Individual homeowner and landowner behaviors:
    - ▪ Lawn watering using drinking water
    - ▪ Few people care about protection—usually as a result of priorities
    - ▪ Cultural and behavior change difficulties
    - ▪ Salt use
    - ▪ Nitrogen application
    - ▪ Private septic systems
    - ▪ Farmers need fields to drain properly, but that fast draining can negatively impact water quality and recharge than if water were kept on the landscape
  - » Municipal governments
    - ▪ Being able to identify and react to contamination
    - ▪ Competing supply wells nearby
    - ▪ Burned out from reporting and bureaucracy
      - • Lack desire for more regulation
      - • Different requirements between MS4, WHPP, Watershed, Fed
      - • Overlap becoming overwhelming
      - • All this work is passed on to residents through rates
      - • Need consistent messaging for WHP, MS4
      - • Time and effort to form wellhead protection plans.
    - ▪ Source not being in municipal jurisdiction
    - ▪ Public water suppliers often focus on changing sources, then treating, then a higher level of blending to meet limits—not necessarily protection
    - ▪ Concerns with excess capacity in utilities; often designed to meet peak summer demand
    - ▪ Areas that are most important for protecting water are often highest value properties
      - • Acquiring land within wellhead area can be challenging; competing with

developers who see an investment opportunity
        - How to manage zoning to make this land economically valuable and minimize impact on drinking water
    - Money, finance staff
  - Messages and narratives
    - Social media can let one person or company control a narrative
      - Had a company that started a rumor about lead in water, though there is no lead in city water
      - Challenges to maintain and upkeep social media
    - Challenging and time consuming to reach the public.
    - Many duplicative messages; need to work together
- Current education, engagement, and project examples
  - Projects around shoreline protection upstream
  - Three Rivers Park District
  - East Bethel Water Resource Reclamation Facility
  - Groundwater video – durable, locally customizable
    - Use of pre and post watch surveys
  - Land acquisitions under the Legacy Fund
  - Brownfields redevelopment
  - Fish signs on stormwater grates to stop dumping
  - Children's Water Festival
  - Model filtration in 4th grade class, then travel to see water facility in St. Francis
    - Does St. Francis have a higher private well testing rate?
  - Water contest with blind taste test; info through AWWA to cities
  - Clean Water Fund for well sealing
- Opportunities to make change
  - Regulatory model can't get us to what we are looking for
    - What is the model that will?
    - Education does not necessarily change behavior, so pay attention to additional barriers to practice changes
  - The benefits to partnerships
    - Outreach and education have to happen at a smaller scale
      - Include people from different groups; messages are not as effectively if part of an outside group
    - Include metro watershed partnership
    - Great water resources outreach partnership in Anoka
      - How do you share these resources statewide?
  - Increase the number of classes that can attend the Children's Water Festival

» Changes in norms
    - Social norms around water use, lawns, salting, dog pick up
    - Water conservation, even in water rich areas
    - Infrastructure that can cope with climate change
» Education ideas
    - Educate realtors, property owners about water softeners
    - Connecting practices (such as salt use) to surface water to drinking water
    - Nitrogen management initiative—farmer works with an advisor to do side by side trials; sees change and adopts change
        - How can something like this work for residential customers?
    - Road salt, residential / business application of fertilizers
        - Are homeowner associations being approached to change habits around salt and fertilizer use?
            - Property managers workshop
            - Have contractors certified in BMPs
        - Connect with chambers of Commerce
    - Providing funding for education programs that have been proven to work (Morrison and MnDOT project?)
    - Awareness of nearby municipal problems alert private well owners to possible concerns—Ramsey and Andover municipal supply had issue, so had a spike in private well testing
    - Start with those who can make a difference in policies and planning
    - Youth curriculum through 4H and Extension
    - For residents on the impact of water usage and how their actions impact water quality for others
    - Conservation, well testing, ground water literacy, and understand where contamination comes from, vulnerability
    - Online modules related to groundwater science
    - In person presentations about water use and quality at places like the state fair, including demonstrations
    - Humorous! Teach about importance of water supply by using water bottles for car washes, firefighting, etc., to show why municipal (and private) supplies are so important
» Possible tactics
    - Have local land use plans that prioritize land use that protects drinking water, with an emphasis on natural solutions
        - Slow down development
        - Maintaining undeveloped spaces as undeveloped
        - Comprehensive plans for rural areas, like done for city level
    - Grant funding priorities and interest

        - Use infiltration basins to deal with pesticides and fertilizer
        - How to better utilize MDH $ for non-community systems?
    - Lack of interest in cost share
    - There are concerns—but hard to get buy-in from landowners
        - Data for informed decision making
            - Who retains well data from sales?
            - Test private wells while septic being drained?
            - How to protect liability for homeowners?
            - Do we have to force people to test, seal, and treat?
        - Take new council members on tours of plants and the process—can help with rate increases
        - Show water usage comparison to neighborhood and last year
        - More frequent billing can help curb high seasonal use and spread additional messages; but some municipalities don't necessarily have capacity in finance department to do that
- Messaging considerations
    - Some form of large distribution of information would be great, but not sure what it could look like
    - Ideas for language to use when creating messages
        - Minnesotans take pride in the water; focus messaging on that pride
        - It's a lot cheaper to keep stuff out; helping neighbors protect their drinking water
        - Connection to lakeshore and shoreline protection
        - Matching grants from OHF to do prairie restoration—how to connect these sorts of efforts to drinking water protection?
        - Need help with conspiracy theorists
        - You have to live with decisions on surface, BUT you then drink it, especially with groundwater
        - How do we get through the message that we undervalue water?
            - Speaker at AWWA conference helped with ideas for more effective communication (Melanie Goetz, Hughes and Stewart)
            - Have a water protection fee, using the real value in cents or gallons
            - "Water is our most priceless resource, and we pay for the infrastructure to access and treat it"
            - Should message come from DNR?
    - How to spread messages:
        - Use city newsletters to spread messages and information—BUT have a coordinated message
        - Utility bill
        - Social media (but can't be the only mechanism [Lino Lakes water tower example])

        - Text alert system for municipal entities
            - But would that muddy up AMBER alert system
            - What if it becomes too spammy?
        - Signs that say “Entering Wellhead Protection Area”
            - Signs add to clutter, possible safety concerns
        - Play flow of water on landscape and underground on CCTV periodically
        - Stormwater stencils in municipalities
    - People like to complain; hard to get feedback if something is successful
- Questions to address:
    - How can we finance solutions? How can rural communities handle this without resources that urban communities have?
    - Could existing unused wells be used for monitoring?
    - How do you balance conservation with revenue for utilities?
    - How effective are WHP plans?
    - How does reuse of runoff or greywater for lawncare and toilets help the protection of drinking water? What resources are available for this?
- Groups to work with:
    - *Need a convener, someone with a role but not a stake, with clear priorities
    - Involve well drillers in education efforts
    - MDH
    - MPCA
    - Existing partnerships
    - Experts in appropriate fields, including private sector
    - Civic organizations
    - Chambers of commerce
    - Planning entities
    - Policy makers
    - Connections to property managers
    - Private industry
    - Local government
    - SWCD staff
    - Consortium of metro cities (to come up with coordinated messaging)

Ideas for action

Following group conversations, participants were asked to identify their top priorities for action. What follows is what participants provided as their top ideas for action.

- On the ground activities

  - » Creating infrastructure to cope with changing weather patterns
  - » More funding to seal wells
  - » Ordinance / laws to make unused wells be sealed
  - » Help farmers access new technology for soil health
- Building relationships and sources of information
  - » Create private well testing system, similar to septic inspection and pump requirements; collect and map the data
  - » Create trusted relationships at local level to work together effectively and authentically
  - » Independent convener
  - » Citizen group empowerment
- Education and educators
  - » Firefighters as champions
  - » Create greater awareness on the value of water and how little we pay for it
  - » Youth programming, including Children's Water Festival
  - » Knowledge about where water comes from, how it's received, and how it is tested
  - » Change lawn maintenance practices
  - » Change contractor practices
  - » Use community spaces, like churches, library, coffee shops, to spread message
  - » Provide consistency in water messages
  - » Children's water festival

Notes from the Iron Range

Small group conversations

- Primary concerns
  - » Knowledge of old dump sites and funding for clean up
  - » Mining—for quantity and quality
    - Unsure of the location
    - Proposed mining north of Buhl could affect water quality
    - Dewatering causes water supply challenges for communities
    - Loss of Hibbing's Scranton Well will impact the PWS' water quantity
    - Loss of groundwater table
  - » Septic and storage tanks
    - Leaking and old
    - How to get folks to update?
  - » Financial costs of new treatment based on:
    - New limits being placed on mercury and sulfate may require additional treatment, and new intake and infrastructure in Ely (surface water)
    - New sources potentially needed because of PFAS
  - » Wildfire and forest management impacts to water quality
  - » Increasing subdivision of parcels
  - » How to make people aware of DWSMA boundaries and importance
  - » How many emergency response areas are in industrial or rural areas?
  - » Changing water patterns and quality with beaver dams and invasive species (especially at surface water intakes)
  - » Small cities feel like they don't get money so that they dry up and die
  - » Being stuck with mandates that are unfunded
- Different engagement strategies:
  - » Education efforts for community members:
    - Information on wells for private well owners
    - More education about salt impacts directed to private landowners
    - Multiple nutrient sources combine their impacts to water bodies
    - Leaking underground storage tanks (LUSTs)
    - Letters and mailers from Minnesota Rural Water Association, local government and utilities
      - Dumping and proper disposal of hazardous materials like oil
      - Newsletters are effective forms of communication, especially at the township level. (Council level can be more difficult)
    - Education centers like the one in Rochester
    - Supper and breakfast on the farm to show others in area what farming is like;

building understanding
        - Front page news articles help the most in places like Virginia, more so than newsletters and mailers
    - Funding for efforts through:
        - MDH has source water protection grants for local public water suppliers.
            - Has been used by towns such as Keewatin, Calumet, Bovey, Grand Rapids, and Winton
        - Clean Water Fund grants for SSTS upgrades; point of sale sewer inspections
        - Well sealing cost-share funds
            - Funding is available, but don't get many applications
            - How do we get more folks to use these cost-share funds?
    - Local projects:
        - U of M, MDH partnership to provide free water testing clinics
        - Brownfield sites coalition of Iron Range Cities using EPA grant funds ($700K and $550K) for site investigations and clean-ups
        - Cleaning up an old dump site in Ely near private wells
        - Storm drains labeled for drinking water protection
- Challenges faced with engagement strategies and major concerns:
    - Dichotomies of impacts of economy (and main sector) and public health
    - Getting people involved and engaged can be difficult
        - If we haven't seen the problem with our own eyes, why fix it?
        - Reaching rural landowners is complicated; how to better help SWCDs?
        - How do we get more folks to use well sealing cost-share funds?
            - Hard to get ownership buy-in on projects
            - Sometimes owners don't have the match to seal wells
        - Afraid to know what the problems are, especially around septic systems, because they'll be told to fix something they don't have the money for
    - Need more technical and financial capacity
        - Recognition that smaller PWS often don't have the staffing capacity to seek and implement MDH SWP or other grants
    - Lack of experience with grant writing and challenges with competing
        - Competitive applications for job creation and taxation goals
        - Limits on $ for large capital projects
        - Lack of technical capacity and time for grants
        - Paperwork is impossible to navigate and complete
        - High cost to protect and treat compared to size of the community
    - Challenges of using social media in small towns
        - Who will be authorized to manage the site?

        - There are always negative comments, need to be able to respond.
    - Even if brownfield is cleaned-up, still might not be purchased and developed
    - Often sharing bad news; hard to get the good news out there
        - Consumer confidence report not easy to read or understand
        - Share what PWSs are doing right on the front page of the paper too
    - Stop the 'One Minnesota' perspective as there are different issues statewide

- How to get more people involved in protecting drinking water?
    - Connecting general public to the problem
        - Connect the protection of water resources (like through 1W1P) to public health and drinking water
        - Have a list of ideas and examples of outreach efforts for how to target landowners who may be disinterested
        - Educate the public about the cumulative value in changing water quality standards for mercury and sulfates versus the value in SSTS upgrades
        - Iron Range Partnership for Sustainability- earth fest could be a great way to connect with general public
    - Have commissioners, local officials, and grant creators visit PWS to better understand the difficulties faced
    - Connect in partnerships to seek financial and technical assistance
        - Private/public partnership efforts to seek financial assistance (grants) should be weighted at a higher priority
        - Discuss the towns within county that have the highest pollution sensitivity
        - Develop a coalition to develop education and communication together
    - Work with fire department to sponsor awareness
    - Trainings for townships, states, municipalities.
        - Townships need to keep residents engaged, not just once a year communication.
        - Need to train residents to access and use information.
        - It would be helpful to have agencies create templates for townships
        - Workshops or peer-to-peer learning about grant process
- Additional funding in order to increase:
    - SWP grants for tank removals, well sealing, BMPS for farmers (manure pits and removal of unused manure pits)
    - Teach more about private wells

Ideas for action

Following group conversations, participants were asked to identify their top priorities for action. What follows is what participants provided as their top ideas for action.

- Build something that will be able to support unique challenges faced in different locations (particularly when thinking about small communities)

    - » Publish group resources online
- Build partnerships at the local level
    - » Increase collaboration with community and industries
    - » Build connections between small communities so they can pool resources, get grants together, etc.
    - » Partner with local partner groups, like IRPS, Natural harvest food Cooperative, Hometown Focus free newspapers for broader engagement
- Engagement with community members
    - » How do you get people to know what clean or acceptable drinking water is?
    - » Better understand what people know, in order to be able to help them
    - » Community education around funding, what it takes to get drinking water
    - » Public notification of land uses that will affect water quality and quantity
    - » Provide information in county newsletters
- Promote education efforts
    - » Education around private salt use
    - » Promote education through schools, especially 4th graders
    - » Surface runoff education and demonstrations
    - » Awareness campaigns
- Support for small public water suppliers
    - » Assistance with writing grant applications
    - » Additional support with developing and implement wellhead protection plans
    - » Brownfield funds for small communities, especially where match dollars are hard to obtain
    - » Social media educational measures
    - » Increase the amount covered by grants
- Different ordinances and enforcement at local level
    - » Point of sale testing of drinking water
    - » Land use ordinance to help guide development
    - » Enforcement on distances between water and sewer lines
- Review rules and fees to find places for updates that can provide more meaningful support and inspection