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## Breakout Session Notes and Comment Sheets

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## Document Overview

This document contains notes from the Governor's Water Summit, held on February 27, 2016 in St. Paul, MN. The notes are from discussions in nine concurrent breakout rooms. Each breakout room was focused on a different aspect of water quality. There were two breakout sessions during the Summit: one from 9:45 AM to 10:55 AM and the next from 11:10 AM to 12:20 PM.

Each breakout session began with a short presentation on the topic, followed by a facilitated discussion. In order to hear from as many attendees as possible, there were 3-4 discussion groups in most breakout rooms. Each discussion group had approximately 20-30 participants. The exception was the breakout room focused on rural issues, which had 12-15 different discussion groups. There was a facilitator and a note take for each discussion group.

Breakout discussions were focused on the following four questions:

- What is already working in this area that could be scaled up or enhanced?
- What barriers still exist and how should we address them?
- What can the Governor and this administration do to advance this solution?
- What role do you see for your constituency and the sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?

Participants were also offered the option of leaving written comments on comment sheets that were available in each breakout room. Those written comments are also included in this document.

## Breakout Topic 1: Aquatic Invasive Species

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### Session 1:

#### What's working that needs to be scaled up or enhanced?

- Counties are getting funding
- watercraft inspection program
- Local level participation, townships mentioned specifically, important to keep it local
- Research can work it has worked, it can be local and address a specific problem, needs to be strong push to fund work at MAISRC
- Train the teachers program in the classroom
- Educate people about how AIS spread, more awareness and cultural motivation to prevent other than regulation
- Concept of prevention, working with the resorts, preparing brochures and info pieces targeted to their users to hand out and get people to understand why
- Value of the free volunteers in many cases, real purpose of those at the access is education, people want to do the right thing

#### What are the barriers that need to be addressed?

- Challenge in public education especially in urban communities is how to get your arms around that audience, more obvious in a smaller community, but urban issue is important because those users are traveling the state
- People feel this issue leads to a restriction of freedom, biggest hurdle
- Ignorance about the issues and the idea that we can't do anything about it so we will just accept it
- Idea that when zebra mussels get in a waterbody they clean it vs. they sterilize it, studies in WI showing property values rising
- Gun flint trail participant, live on lake would like to have access to equipment that would allow him to monitor his lake
- Finding money, for instance the amount of money available for them (IAPM grants) has gone down this year, everything takes money need priority on funding
- Insufficient enforcement and fines for violations, legislative issue, so there is effective enforcement and motivation, raise fines to create motivation make comparable to western states
- Volunteers don't have authority to enforce things, is there value in that if you are counting on the user to respond nicely. Legislation to give them authority
- Some of the ways statutes are written, should allow trained inspectors at private accesses "can't put an inspector at a non public access – thought we couldn't add them due to case numbers
- No inspections taking place at night, difficult to inspect your own boat when you are coming on and off at night

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- Asking people to change their individual behavior for the public good, when we've had success it has been due to good education and enforcement, need good research on what that education should be, do education in a way that makes a difference. Work done in some areas that we could learn from. If we want to do public education need to invest money in it
- Starting in the schools
- Mistake awareness for education
- Water quality realm deal with this all the time, awareness vs. education
- One example is recycling
- Are we sharing successes between counties?
- Being able to certify that something has been decontaminated

**What might the Governor and the administration do to advance this?**

- Education, recycling example, gradually making behavior change through education, public engagement, another example is seat belts, look back at those campaigns and use that info, every person has a motivation, all those motivations are different, children or grandchildren are motivators once they have learned about the issue
- Focus on proactive motivation to get people engaged vs. regulation and research
- Work with the DNR to ramp up enforcement, stop giving warnings, give meaningful dollar amount tickets, fines should hurt, out west they take your boat, appropriate to the damage being done to the resource
- Problem of AIS has not been adequately presented in the state
- Get the consequences out there, in MN good at doing that (smoking, 2<sup>nd</sup> had smoking)
- Look at the funds that went into those campaigns, but we don't have cigarette companies to sue
- Get the counties to really engage, they aren't willing to invest scared funds will dry up
- Role of the DNR focusing on prevention management and research, DNR can't be out everywhere, with new funding does that imply the active management has moved to the counties, should funding for enforcement go to the counties? Personal awareness, pride in your own lake, maybe that is where the enforcement dollars go and let the counties determine that
- Are all the counties using the funding well? Does the county just hire a coordinator and it dead ends there? It's inevitable that more lakes will become infested but what if we can raise an effort to keep as many lakes as possible AIS free so research can find more options. Attitudes changed around smoking, no one would smoke in your home now, concept of individual motivation backed up with funding, all MN who use water would say it is my job to keep this lake uninfested, would ask neighbor about where their new boat lift came from and make sure it was cleaned etc.
- If you try to change individual habits it takes lifetimes, need to streamline \$ to the source which is finding biological sources that can knock out the AIS. Send the money to top line echelon research and get something that can knock these buggers out
- Are there 80 counties out there operating in silos, is there a mechanism for them to communicate
- Enforcement issue, she has heard that some of the reluctance in giving tickets is that the county will have to put in \$ if someone fights the ticket, something needs to be done so that people aren't able to work the system that way, needs to be meaningful

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- Part of the challenge is that only enforcement can write tickets, inspectors should be able to write tickets
- Speeding tickets affect insurance, would be great if these tickets could impact something too
- Take a look at what other states are doing, learn from other areas, Utah its 10,000 if you have something and they quarantine your boat for a month
- Mindset that there is a right to public access all the time, Koronis has starry stonewort, should be quarantined
- Huge amount of wildlife work funded on excise tax on equipment, do something similar for watercraft, dedicated fund
- Public access mindset, priority for DNR to allow access over protection, get emphasis shifted so that protection of the resource is over the access at all cost,
- Partnership with industry and recreation conversations, boat manufacturers for funding
- People will be interested in the messages coming out of the Summit today
- Push watercraft design, legislative push to make watercraft be designed to make them less likely to carry AIS
- Regional decontamination stations, Governor needs to influence, put with roadside check stations

**What role do you see for the constituency and sector that you represent in the implementation of this solution?**

- AIS form of pollution, have PCA have greater role in partnering with DNR
- MAISRC other universities have their research activity be published across US
- U of MN has engineering collaborations with other industry, push a collaboration with boat designers and manufacturers. College graduate had to do a Sr. project, one of the schools could have a project that required them to partner with MAISRC and create these projects.
- Clarify DNR and others roles, DNR, Counties etc.
- Collaboration with different entities (army core) resort study is an example. Reach out to other entities to try to work together. Out of the box solutions
- If counties have products that are working do train the trainer
- Have way to show watercraft has been deconned

**Harvesting Key Themes**

- Education as part of getting people to willingly want to fund the research
- Long term funding not only for the research but for the county programs, assurance we can continue them without them disappearing overnight
- Funding for genomic research
- Raising consciousness of the issues
- Educating people about AIS, make sure you have quality people at the accesses and give them the tools to defend the issue, give an incentive to say you are going to bringing in a “secret diner” to check on them
- Enforcement and larger fines
- Greater collaboration and connectivity whether agency or others

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- Training of staff is beyond education of the public, doing decon is challenging, training needs to be much better
- Inspectors need current information

## Session 2:

### **What is working that could be scaled up or advanced?**

- Duluth area, one of the things that has worked well is the ballast water exchange, has really improved # of species coming into Duluth harbor
- Money from the state to the counties, keep it up
- Curly leaf program was working until you cut some funds from it, still working but less resources
- Close the lock and damn at .... Should help restrict the flow of invasive carp up the Mississippi
- Watercraft inspection program is working
- Funding for MAISRC will be able to get more research, outreach component
- Are we tracking this from an ecological perspective? Are we really making a difference?
- Tracking the #s of invasives found in Duluth Harbor, since ballast water treatment there has been a downward trend
- The decontamination concept, some of the counties now have decon units, implementing in different ways, could be enhanced but working
- One thing that could be enhanced, common carp research shows 3-4 spots in the life cycle that could be used, need research on life cycle of the other AIS too
- Research on invasability is lacking, seemed to be big a few years ago and now haven't heard much, have lakes up north that are non- infested and this is important
- Research in general, more research on life cycle, how they spread etc., invasability, could use more focus
- National caucus of environmental legislators (where she was from) pointed out that we have sources of funding that other states don't
- Containment strategies could be scaled up, for Mille Lacs for example they have a lot more decon units around that area so folks could decon as they leave, scale up would be making it mandatory, restrict access to ensure they get deconned
- Within St. Louis River harbor estuary great collaboration between agencies and states, could never have moved forward without that collaboration

### **What are the barriers that need to be addressed?**

- Relying way too much on a hope and a prayer that people will do what they are supposed to do, trying to educate but just feel good stuff
- Lack of access and availability to the right resources to clean your boat, need much more enforcement, he has only be stopped once since the drain plug law started
- Lack of buy in if you don't live on that lake you aren't as worried as if you did live of that lake
- Lack of funds
- Duluth superior harbor probably the source of a lot of our AIS over the years, has gone down with ballast water exchange but need ballast water treatment for all watercraft coming into the

harbor, lack of regulatory requirement to do water exchange, no requirement for lakes, unsure of requirement for salties, its multi-jurisdictional

- Don't know where all of the metrics are in tracking the progress, need leadership to say we can actually stop this, need to message/vision that we can stop it
- Lack of education to all citizens about the message
- A lot more species than we can address and a lot more coming, barrier is funding and research and education
- Barriers to education, so many target audiences each has value and would need specific marketing, time efficiency funds
- Messaging- lack of support from the top or cultural norm that we can't stop it, we need to focus more on the positive solutions, audience needs to have faith that their actions will make a difference, need to tell the positive stories
- Lack of tools, don't have a lot of great ecological research, hard to manage in a cost effective appropriate way
- Deciding what the impacts of an AIS are and keeping that message the same, focus resources on that species that are the most problematic
- Applied science through the research center, have hands on really test so we know if something could work on the landscape, barrier is we are theoretical vs. applying
- Sense of entitlement that you can't tell me what to do with my boat, I can go on that lake if I want to even though the boat is contaminated
- Sheer number of AIS and the fact that we get new ones each year, takes away the effort of stopping one when a new one is coming in
- Lack of coordinated effort to develop a strategy to stop invasives from reaching the Duluth superior harbor, somewhat of a turf ware among the agencies involved, break through that and realize that once they are in the harbor they will go all over. Deal with it up front saves time and effort later on
- 12,000 lakes in this state and substantially short staffed to deal with the resources

#### **What might the Governor and administration do to advance solutions?**

- Boat owners should have to choose to keep boat only infested waters vs non infested waters, would have different colored licenses and could only change through a decon process
- Larger fines
- Enforcement and education, get penalized and then education on the issue of why they shouldn't transport AIS
- Investment in developing tools and research associated with that, automated boat screens see if they are effective can be applied, tools for prevention and management
- Require boat manufacturers to manufacture boats docks lifts etc. so they are less likely to transport AIS, make a boat that sheds AIS vs carrier them
- Work with other states, provinces, fed government to streamline the ballast water process
- Implement the laws that some of the western states have for people entering the state
- Increasing research at MAISRC exploring if they have a weak link
- Increased funding for monitoring and inspections, limit the ability to move watercraft in and out of lakes without decon

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- Focusing on identifying the pathways in which new species are entering the state and focus funding and research on those
- Close accesses on Koronis due to starry stonewort until we know how to control and eliminate it
- Reduce the number of accesses on lakes and close excess accesses so you can focus on one public access.
- CLP is not a prohibited invasive species, should be recognize it as prohibited and should sign accesses for it
- Have two diff types of licenses one for boat that stays in same lake, one for boats that move
- Checklist on jet ski for when it can be used etc., create a boat sticker with info on how to inspect
- When utilities are being installed the machinery can transfer invasive species, make sure this doesn't happen
- Look at how AIS impact overall water quality

### **The role you see for constituency and others to implement solutions?**

- Some partnerships with county state etc., if there were some way to create a more equal collaboration, more authentic partnership, complying vs them being self-motivated, then reward it when it exists
- National caucus of environmental legislators working across boundary lines, cooperating with our neighbors
- Who is in charge of implementing some of these things, some clarification of how it gets managed and who is responsible and who is really going to be in charge, entities aren't working well enough together
- Working with the constituency groups, will go over better if you work with the sportsmen
- Engaging the kids in 4H, train dogs in AIS partnerships, youth
- Is there a statewide group of lake associations, MN COLA but not everyone is a part of that. Lack of funding associated with those groups
- Bay lake success story, need to get those positive stories out to help combat the feeling that it won't work
- Education in schools, really turned the situation for smoking, may be some models that could be followed
- After school programs, work with a group called conservation conversations, no time in schools with common core, testing etc.
- Clearer roles and responsibility amongst the agencies, federal state local to work on the ballast water issue
- Different groups that could come together, one around aquatic IS and one around Terrestrial

### **Harvesting Key Themes**

- Education across the board, several topics
- Education at multiple levels
- Decontaminating boats at contaminated lakes, make sure no one leaves the lake carrying anything
- Connecting these IS to water quality goals so more agencies feel like they have a reason to combat AIS

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- Dealing with the issue at the sources, at ballast water so we don't need to deal with new species coming into MN
- Research development of tools to prevent and manage AIS more innovation
- Getting serious about enforcement
- Engage the citizens, help each person see what their part in this is, play to their values
- Highlight success stories and developing the models of success

## Session 1:

### **What is already working in this area that could be scaled up or enhanced?**

- County money is working, but need more funding and need to better talk about successes at statewide level
  - One county mentioned giving grants with their funding
- Increase in watercraft inspection
- Boat design improvements
- More inspectors
- Better enforcement to interrupt pathways
- Clean/drain/dry campaign and partners effective, use of well-known personalities to deliver message
- Private sector - boat and bait sales being part of solution very important
- Moving docks needs to be more regulated
- Could boat design strategies also apply to docks, lifts etc.
- Now that public awareness has grown, need to keep momentum
- Need more outreach to out of state visitors
- DNR grants for plant control working; others agreed that grants were working but program has to be sustained

### **What barriers still exist and how should we address them?**

- Clean/drain/dry message is difficult to implement in MN because it's not a regulatory requirement to "dry"
- Lack of knowledge impacts our ability to prevent and manage, so we can target activities to be more successful (so we need more research/knowledge)
  - Research has to happen at state level [not at more local level]
- Barriers to watercraft inspections - inspector hiring and training can be difficult (the hours of the job are not appealing, it's a seasonal position, makes recruiting and retaining good workers difficult)
- Enforcement can be limiting because of its focus on regulation - need to also create a positive ethic
- Need coordination and communication between counties
- Sustainable funding for research etc.
- Apathy [about this issue] a problem for funding and for public support
- Need more interstate communication

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- Need to better regulate fishing tournaments, may require working with the legislature?
- Look to other states like Colorado for regulations
- Need stable long term funding
- Need national campaign with consistent communications to change behaviors – like Smoky the Bear, or campaigns for seat belt use, drunk driving, smoking, etc. A national campaign would also help with interstate communication issues. Agencies should work with tourism.
  - The “pull your plug” message doesn't explain *why* it's important. Need to explain that combating AIS is not a sprint, it's a journey, water is essential, and we need to protect it from everything [AIS and other threats]
  - Need to educate and present the facts; for example, inspections actually don't take that long, and emphasize the investment in the lake
- Make public the location of decontamination units [DNR mentioned that we have a website with locations of units that started summer 2015]
- Create a “showcase” – like used to see improvements across a number of waters with nutrient management issues
- More communication with fishing and hunting licensees
- Barrier to dealing with starry stonewort was that DNR accesses are difficult to close and we don't quarantine lakes. Need to be more nimble to address new threats
- Access infrastructure [how accesses are actually built] limits where inspections and decon units can be
- Funding could come from special license plates, or a special boat sticker to raise awareness and funds

**What can the Governor and this administration do to advance this solution?**

- Look at current situation, ID top-of-watershed, pristine areas and take unprecedented action to protect those waters (as with BWCAW, Voyageurs)
  - Consider idea of Peter Sorensen - freshwater protected areas, designate areas with a higher level of protection
- Secure funding for MAISRC and for DNR, maybe increase boat license surcharge by 2 or 3 times
  - Make sure people really understand the importance - helps with funding
- Use resources that exist- stop carp coalition, build partnerships to leverage existing resources
- Build proactive systems that can stop the arrival of AIS, work in state and with surrounding states
- Have to focus and prioritize research- for example on species like zebra/quagga mussel, starry stonewort, and carp. Need actionable research
- Need to maintain resilience of existing ecosystem. DNR was supposed to revisit shores and rules and that did not happen under previous administration. Governor could reinstate that effort
  - Others agreed - we are working under 1969 shoreland rules.
  - Critical to buy in, if people buy in to shoreline protection they will also see value of AIS

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

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- State should recognize how much work local lake associations do to protect public waters. A few years ago did study of private investment, and it's over \$10 million. Need to engage lake associations, keep them doing that work
  - Others agreed, it is lake associations that do a lot of the work
- Engage private sector and businesses bait shops, etc. because they benefit from keeping AIS out of waters
  - US Coast Guard Auxiliary does work with boat builder and other businesses
  - We don't have good info about benefits to private sector of protecting public resource because we don't know impact of AIS on tourism and recreation
  - ID businesses, property values (and LGU budgets), that are impacted by AIS
- Like with zoning, everyone has something different they want from a resource but not everyone can get everything they want
- Boat buyers demanding AIS-friendly boats could move market, like demand for energy efficient appliances

### **Harvesting Key Themes**

- Funding- long term, reliable, sustainable, outside appropriations process- research and count funding and enforcement/inspection
- Messaging from the top about why this is so important
- Creating an ethos, so all users see value of water from their own perspectives
- Update shoreland zoning rules - a few nods
- Consistent broad messaging, e.g., "Welcome to Minnesota, don't bring your nasties with you and don't bring ours home"
- Border protection/education
- This is a long game no silver bullet, short term solutions
- Infrastructure
- Boat design
- Access design

### **Session 2:**

#### **What is already working in this area that could be scaled up or enhanced?**

- Ballast water exchange regulations have slowed AIS in Duluth/Superior
- County money - keep it up
- Curly-leaf pondweed control [grant] program was working until funding cut
- Dam closure at Upper St. Anthony falls
- Funding for MAISRC- research and outreach
- How are we tracking progress? Do we have quantitative measures of success?
- Decontamination - counties have units
- Dr. Sorensen found key life cycle points for common carp to determine when they'd be most susceptible to control; apply that approach to more species
- Research on invasibility seems to have stalled

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- Research needs enhancement, but state is in good position
- Someone involved with the National Caucus of Environmental Legislators – commented that MN has a lot more (resources, focus on AIS, etc.) than other states
- Containment strategy could be scaled up – e.g., Mille Lacs decontamination units around the 4<sup>th</sup> of July
- St. Louis River estuary has great collaboration between federal/state/local organizations

**What barriers still exist and how should we address them?**

- Too much reliance on individuals to do the right thing when all it takes is one person doing the wrong this to cause problems
- Not enough enforcement
- Perception that people who don't live on a lake are less concerned about AIS
- Lack of funds
- Duluth/Superior has been a source for AIS - need ballast water treatment
- We can't stop
- Funds [need more funding]
- Messaging - need to tell more positive stories, make preventing AIS a cultural norm, people need to believe their behavior can be part of the solution to change
- Not a lot of tools for lake management, MN is ahead of the curve but still need more research to manage AIS effectively
- Need to better understand the ecological impacts of AIS to prioritize species; for example, what are the real impacts of curly-leaf pondweed or invasive carp?
- People's sense of entitlement or rights – e.g., I can go where I want with my boat, don't tell me what to do
- New AIS can eclipse old and shift resources/priorities
- Need an effective strategy for Duluth/Superior - because it's AIS source for so many lakes

**What can the Governor and this administration do to advance this solution?**

- Regulate boats so they can either be in “dirty” (with AIS) or “clean” lakes
- Increase fines
- Improve boat design
- Close water accesses (e.g., starry stonewort response)
  - Lakes with multiple access, close excess accesses, so we can prioritize resources at one access
- Confusion about what species are invasive here or cause a lake to be listed as infested – curly-leaf pondweed lakes aren't “infested waters”; Elodea (Canada waterweed) is not invasive here but it is in other states
- Implement a checklist on boat sticker with inspection checklist or on boat license
- Utilities and construction companies can move purple loosestrife
- Use Clean Water funds for AIS

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

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- Lake Associations, townships, counties - need to collaborate on more equal footing, more authentic partnerships
- Cooperating with neighbors
- Confusion over who is in charge of implementing - responsibility limbo- lake associations, cities, watershed districts, etc.
- Working with anglers, sportsmen
- Engage children in 4H, dog training
- MN Coalition of Lake Associations
- Bay Lake is a success story of managing milfoil - communicate positive stories to counter despair
- Use education in schools, create a norm with kids like with smoking
  - Barrier-getting schools to adopt those curricula
- More collaboration across agencies on ballast water

### **Harvesting Key Themes**

- Education at multiple levels (K-12 to public)
- Decontaminate boats at contaminated lakes
- Connecting AIS to water quality goals so more agencies see their role in the solution
- Dealing with the issue at its source (Great Lakes, Duluth/Superior)
- Need more research and development of management tools but cost benefit isn't spurring that yet in private sector
- Getting serious about enforcement because prevention is cheaper
- Help people see their role in the solution
- Highlight success stories

### **Session 1:**

#### **What is already working in this area that can be scaled up and enhanced?**

- Money that Ann is talking about that went to the counties is putting activities directly to local areas. This is working – people are able to go out there and ensure they're not spread around. Need more messaging, governor needs to say 10 million is working so people of MN know that this is working and the money is being put to good use. Messaging from the top can be very helpful. – Barb
- Number of inspectors have increased dramatically – getting one on one interaction, working really well – Barton
- Anywhere we can interrupt pathways – St Anthony Falls closure, need to figure out for the Minnesota R. Better enforcement, at access or on the road, wherever possible.
- Extent that the private sector – boat sales and bait sales, people engaging directly with users are being part of the solution by providing education. Gabe Jabbour is very proactive with the boat manufacturing.
- Clean Drain Dry campaign has been very effective – partnerships with tournament folks, speaking highly of that program and speaking highly. Using personalities outside of the state agencies who are pushing the message as well. – Jason Dinsmore

- John – boat design and trying to minimize water – pontoons have been redesigned. There are other design changes that could be made, any way we can facilitate that would be positive. Could also be transferred to dock equipment – anything that goes in the water. Craigslist docks are a huge risk.
- A lot of public interest in preventing the spread – wellspring of public interest. Has to do with enforcement – most people are trying to protect themselves and need others to help buy in to prevention when they may not have a vested interest.
- Weed control – boat design and inspectors – people from out state coming in with watercraft and may fish in MN once a year may not know the rules here, may be bringing in a variety of species, big problem is informing interstate travelers.
- DNR grants for EWM and CLP have been successful – would like to see the funding stay up.
- Live on north center and grants have been very successful, at one point you couldn't boat on that lake and the grants need to be sustained, need to stay on that project.
- In Itasca called community action projects – small grants using county aid to do additional inspections, redesign boat accesses, etc. not as widespread as hoped but thinks it's starting to grow.

#### **What barriers still exist?**

- Barb – going back to clean drain dry – barrier that exists is we don't have dry in statute – it's recommended but it's a shortfall because it's not required. Could make a big difference. Being able to do what it takes – have to beef that up – can have all the inspectors but we know AIS can enter a water at any time, not when inspectors are present. Getting the message out that we're going to be impacted in order to protect public waters – everyone will be impacted and they're going to need to see behavioral changes to protect those waters. Need to take a close look at that part of the equation.
- Barrier – lack of knowledge – don't know enough about many of these species to control after introduced – short on how they're moving around – docks, lifts, etc.? What can we do to target our prevention activities, what can we do for rapid response. Need for research and education of general public – John
- Research needs to be done at state level, money to counties isn't efficient. Inspector training – found it hard to get enough training to do the prevention work. Inspectors is kind of a goofy job profile – summers only, could be late at night, kind of weird and makes it hard to get good people.
- Enforcement can be a barrier too in some ways for prevention of AIS – looking back to Gov comments; we need to develop an ethic. If we rely on inspections and enforcement we're always limited by that. Creation of an ethic statewide may be more useful ultimately.
- Communication between counties – geographically share a lake – one county may have more funding where they can buy a decon unit, inspectors on other side of the lake don't know there's a unit available. Better communication between counties.
- State level research needs – comes down to money – sustainable funding sources over time – have done a good job on the front end here over the past few years. Apathy can creep in to these discussions regarding long-term maintenance. Can't just do that for one year and be done. Need to maintain funding over time and the public's willingness to engage. ZM may figure they're always going to be there when maybe you could maintain a lower level of infestation.

- Interstate transport of boats – need to reach out to other states and tell them what’s going on here and how fast zebra mussels are spreading. Inform boaters as they come in from Iowa. Needs to be interstate.
- Work with legislators on regulations on different types of things. Most boating traffic comes from a local area in this case except when tournaments arrive – no restrictions on tournament boaters and not always aware.
- Look to other states like CO where you can’t put your boat in immediately, certain dry periods, look to other states for models.
- Lack of long term funding – for research and management.
- Consistency in the messaging with \$ from counties they’re developing their own messages – surprising that statewide and nationally we haven’t agreed upon one thing like Smokey the Bear – being at the access is a good way to do that, but inspectors and accesses here we’re not getting all the boats or accesses. Agency can get together with tourism groups – not to scare away from MN – but want to let them know what they bring or take might diminish the resources – TV ads – seatbelts, smoking, drunk driving, not about AIS
- So often we say pull your plug, do this do that, but what is missing is why this is important. Could do lots in terms of education – get out to the people to explain why. This is a long term project not a sprint and we need to protect it from a variety of issues. Highlighting the benefits of this work – you have to be a part of the solution.
- Education and presenting the facts – look at report – that number of minutes you’re inspected is under 3 minutes, not a sig time impact to people using the landing – drying and cleaning is more time but the emphasis should be on the emphasis of the lake not on the amount of time or energy.
- Decon sites weren’t being advertised publicly – concern that public at large may choose to go to another place. It would be good to know in advance – if there’s an online app or interface for those who do the right thing.
- Have projects in scattered places but don’t have a collective effort to show a real reduction in a stream or river but don’t come together – identify interconnectivity of efforts and highlight successes
- Wondering if there’s an op to do more education during boating and fishing license registration. Opportunity to send a lot of info
- Can look back to EWM when it first came in to Minnetonka – what have we learned from that situation that we’ve applied now some 20 or 30 years later. With Koronis and starry stone wort it’s new in the state, there’s a barrier that because there’s a DNR access there that it can’t be closed down for an emergency situation. Sometimes the access of the water is paramount over the protection of the water. Are we doing the right thing if we quarantined a lake to get our hands around it? It’s probably not the best but what’s the risk factor if we don’t. EWM is very expensive to treat - looking at our options because times have changed and maybe we’re not nimble enough with the new threats we’re facing.
- Infrastructure of boats themselves, but also access infrastructure – not set up in a manner to do inspections. Certain number of accesses where decon units can even go. In the future we should be planning for inspection areas – build it in to the access. Because of the way our state rules

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are set up it's a permitted use to put an access in as long as you follow guidelines – should consider the private ability to create accesses and cut off vectors of introduction.

- Awareness and funding – have had success with license plates on cars – if you pay extra like that – could do that with boat registration and provide optional extra pay and would provide funding – boat sticker would stand out and be different.

#### **What can the Governor and this administration do to advance this solution?**

- Need to look at where we are today – know there are some areas at the top of the watershed that are still pristine – maybe take an unprecedented look to see what you can do to stop any new things from entering. Sake of protecting the resource that is essential. How do we protect a watershed – e.g. boundary waters, voyagers, etc. how do we expand that model.
- Mention by peter Sorensen about freshwater protected areas, iconic waters, long term problem, climate change, new AIS, can we designate areas to get a higher level of protection to go forwards.
- Funding is a major barrier – need to develop a sustainable long term funding solution for UM research center. If lack of knowledge is a barrier we need to fund research center for the long term – incorporate into general fund? Same is true for DNR – huge problem of funding – discussion of increasing boat license surcharge – double or triple could be something that gov could help through legislature.
- Make it seem important enough – sustainable funding – really making certain people understand the gravity of AIS prevention and education.
- Building partnerships and increasing partnerships and bring them to MN – invasive carp stop carp coalition. Get the most bang for your buck – provide resources, borrow additional sources of revenue.
- Talked a lot about reactive approaches, but need to focus on proactive and how to set up systems that will stop the problems before they get here. Know lakes connected by rivers, stop at one source but connected. Bilge water dumping in Superior – not strong enough action.
- Research and sustainable funding – hard to get quality researchers w/ o funding. Critical to focus on ZM quagga, ssw, carp. Prioritize the threats in terms of what they really mean. Need actionable things that will produce results.
- Major issue is on impact to ecosystem itself – one way to address is to create resistance within the system – even a few properties along the lake that mow to the edge that there's negative impacts on fish. DNR zoning rules was killed by previous governor – could look into that issue and bring it back to help build resilience. We're working on 1969 rules for shore land.
- Promotes buy-in by people who live on the lake – take ownership by taking on shore land restoration.

#### **What role do you see for your constituency?**

- Work a lot with lake associations – having agencies and at governor level recognize how much LAs do to protect these resources. Homeowners, local money, levies, watershed districts. Acknowledge that while they're public waters the locals do a lot to protect for public use. Engage them more to get them to continue that work.

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- Reps a lake and seconds above – people like us are trying to do education. Land owners, cabin owners – not a business coming to tell us what we need to do , just doing it on our own. Desire to keep it clean.
- How can we engage the private sector more? There's public money but how do we get support from private sector to contribute funding. Businesses restaurants, boat manufacturers, bait shops.
- At coast guard – regularly interface with outreach to bait shops – can't get to all of them need more volunteers. Boat show support has been essential.
- Have groups that are interested in protecting waters – need to do more to talk about value of them – a way to engage industry is to demonstrate the actual value of protecting the resources. Lake associations have interest in protecting the waters but there are others who don't agree with that level of protection. More looking at use only. Don't talk about clearly demonstrating what happens with rec use and monetary use when resource declines and what benefits there are in protecting that resource. Might be something at a state level rec and tourism is huge in MN.
- Get all sectors involved and get industries, employment, etc. that would be impacted if waters decline.
- E.g. shore land rules are benefit to fisheries. But developing a shoreline they see native veg as being in the way and want beautiful views – dichotomy there and need to bring values back and if you develop an area along the lake you won't recoup as much value as what you're doing. Everyone has a different idea with what they want from that resource and there's limits – tragedy of commons.
- Constituency groups – energy appliances as example – if boat buyers demand AIS friendly boats they can drive the process. Need to drive the marketplace.

### **Harvesting Key Themes**

- Money – funding – long term sustainable funding. Inside and outside the appropriations process.
- Funding – research is critical, but money to counties is also very important. Enforcement as well (this includes inspection).
- Messaging from the top as to why this is important and what's involved. Will be inconvenience but is greatest resource of the state. Really need the governor to let people know that this isn't going to be easy.
- Update shoreline zoning rules to help build resilience to AIS.
- Something at borders that alerts interstate travel – maybe stationary inspection
- Consistent message, and make sure it gets out of the state as well.
- Infrastructure (boat manufacturers, boat accesses, etc. – long term )
- Coalescence of values from different perspectives to see value of water.
- Private sector involvement – bait shop, etc. make sure everyone knows the rules and how to take care of the boats etc.
- This all needs to be long term

## Session 2:

### What's working?

- From Duluth area – harbor sit – ballast water exchange has worked well, slowed number of ais coming into harbor – not perfect but is better than before
- Money from the state to all the counties – keep it up
- CLP program was working until funds cut – still is, but need more resources
- Closure of lock and dam at S. Anthony
- Watercraft inspection and education program is working
- Funding for MAISRC
- Are we tracking this in any way to see if this is working? Is there a payback for the investment?
  - Have heard they're tracking the numbers of AIS in Duluth and have seen downward trend with ballast rules
- Decon concept – some counties now have units and it can grow but it is working
- Enhance research on common carp lifecycle - research specifically on the organism's life cycle to enhance control
- Research on invasibility – lots of lakes in northern area that could be barriers naturally
- Research is working but needs more investment – how they spread, life cycle, etc.
- MN fortunate with LCCMR, legacy amendment, other states don't have that source of funding.
- Containment strategy could be scaled up – e.g. Mille Lacs, have more decon units around 4<sup>th</sup> of July – more opportunity to get deconned - scaling up could be mandatory – eliminate public accesses if necessary
- Within St. Louis R – great collaboration between agencies and states – never would have gotten as far without that type of collaboration.

### Barriers to be addressed

- Rely way too much on hope and prayer that people will do what they need to. Feel good stuff – we're trying to educate but it only takes one person who hasn't emptied or cleaned.
- Lack of access and availability to address concerns from previous comment – no one enforcing it. No enforcement – stopped one time at boat ramp since plug law was enacted.
- Lack of buy in if you don't live on that lake – you're not as worried vs. if you live on the lake
- Lack of funds
- Duluth harbor – source of a lot of AIS – ballast water exchange – would like to see ballast water treatment on all ships coming into harbor. Lack of regulatory requirements to do it. No requirement for lakers to treat, and unsure on salties.
- Multi-jurisdictional – on comment above
- Tracking the progress – we don't know where all the metrics are. Leadership from top down saying that we actually can stop this if we can prevent water from going from one place to another. Mgmt focus but we can stop it
- Lack of education on everyone – most people who care know the rights and wrongs but they're all in this room.
- A lot more species than we can address and a lot more coming. New to this but that's my impression. Funding, resources, research – all barriers.

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- Education – barrier 1<sup>st</sup> one is that there's so many target audiences, fisherman, citizens, rec users, etc. have specific messaging needs – becomes a huge challenge – barrier is time, efficiency, funds. 2<sup>nd</sup> – messaging – lack of support from top, cultural norm from the top we can't stop it; it is what it is. We don't focus enough on the positive messages – behavior change – audience needs to have faith in the solution. We don't tell the positive stories instead of just the doomsday stories.
- Lack of tools – CLP – herbicides and removal – investment in research and MN is ahead of others but once the infestation is there there's no cost effective measure. Prioritization – all these species and try to understand various issues on each species – varying comments from internal DNR staff on consequences – what are the true ones so we can prioritize to make a difference.
- Applied science – through MAISRC – make sure that we have hands on and trying to do things and really testing so we know if something could work in MN northern and southern. – barrier is that we're not applying the science we're too theoretical.
- Sense of entitlement that you can't tell me what to do with my boat, I can go on this lake if I want, attitude that's too prevalent.
- Sheer number of AIS and the new ones year after year the old ones still remain a problem but we always focus on the "hot new"
- Lack of coordinated effort to develop a strategy to stopping AIS from reaching Duluth harbor. To the point that it's a turf war amongst the agencies – somehow need to break through that and realize that once they're in the harbor they'll go everywhere. Probably why SWF arrived in Namakon Lake in boundary waters.
- 12000 lakes in this state and substantially short staff to try and control all those lakes – not including superior. Huge task not sure how to find an answer

#### **What can the Governor and this administration do?**

- Felt that boat owners should have to choose between keeping a boat on a contaminated lake or keeping it on a clean lake, and can't switch before having it scrubbed – maybe 2 color licenses, etc. not good enough to hope that they do it good enough on their own.
- Larger fines – too low now.
- Enforcement and education – getting penalized for violations and highlight why you shouldn't move clp from one lake to another – too many people don't understand why? Governor could beef up education.
- Investment in developing tools – applied tools to prevent. Auto boat screens – eyeLIDS – tools for prevention and management
- Require boat manufacturers to manufacture things that are less likely to transport AIS or water – close all the ends so stuff can't get into the framework.
- Governor could take it upon himself to work with other states provinces feds to streamline ballast water process. Needs attention.
- Implementing the laws that the western states have – people bringing boats into state can't come in without being deconned.
- MAISRC – increasing funding – look at other species similar to common carp where there's a weak link that can be exploited.
- Monitoring inspections has had some success but funding is not enough to go around – increase funding. Actual limits on moving boats in an out of lakes

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- Focusing or identifying pathways that they enter the state and focusing funding towards those vectors.
- SSW – 2 lakes – close those accesses until we know how to actually control and or eliminate. Many lakes with multiple accesses that aren't far apart – close accesses so you can focus on one pwa – based on size of lake
- CLP is not recognized as invasive species – lake association that has to put a sign out – should have it recognized as an AIS. Elodea – some states it's invasive some it isn't.
- Increase license fees – two types of licenses – one for boats that stay on the same lake, one for boats that travel to diff lakes
- PWC – checklist of where and when you can operate – needs to be visible – something like that for what weeds are bad, how to dry boat, etc. have it with license and force people to have that on their boats.
- Utilities – machinery can transport pls – needs to be something more than telling them not to – needs to be a way to prevent that.
- Looking at AIS and how they affect overall water quality.

#### **What role do you see for other sectors to implement solutions?**

- Have a working model with lake associations, county, state dollars – some way to do more equal basis of collaboration. Not just doing it because DNR says to do it – if people would come together in an authentic partnership. Somehow reward that. – e.g. Hubbard County as a start
- Natl congress of environmental partners – ballast water came up 12 years ago – states further east started to implement – so cooperating with our neighbors.
- Who is really in charge of implementing these things – wq vs recreation issues – sometimes falls into a limbo between who is responsible. Some clarification of who should be responsible. So many groups not working well enough together.
- Higher fees etc. – working with constituency groups like fishing groups, etc. get the sportsman to the table instead of just a mandate from above.
- Engaging young children in 4H – dog training – train dogs in ais – partnership that way.
- Is there a statewide association for lake and river assns.? – Yes – COLA – not all associations are a member.
- Need to get success story messages out to the general public.
- Education in schools – turned corner for smoking – if kids are bugging them about inspections etc. really critical but also really difficult. EG project wet – but has been very resistant to accept it.
- Maybe do after school programs?
- Partnership and collaboration – groups could come together between aquatic and terrestrial
- Collaboration amongst agencies on ballast water.

#### **Harvesting Key Themes**

- Education across the board – several different topics – education at multiple levels
- Decontaminating boats at contaminated lakes – making sure no one leaves with anything
- Connect these to water quality goals so more agencies felt they had a reason to combat these issues.

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- Dealing with the issue at the source – at ballast water.
- Research for the development of tools for prevention and management. More innovation.
- Getting serious about enforcement – prevention is always cheaper and more effective
- Engage the citizens – helping each person see why they're a winner in resolving the issue.
- Highlighting success stories or developing the models for where we've been successful.

## Breakout Topic 2: Resilience to Extreme Weather

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### Session 1:

#### What's working?

- Upstream water storage is beginning to work (St. Paul person). I'd like to see it up scaled to smaller pieces of property if do-able/possible. People who do projects have a responsibility for storm water runoff – not just commercial projects, residential too.
- A lot has to happen at the citizen and local government level. See great case studies in municipalities and SWCDs addressing this. We need to encourage that – get the word out.
- Cross-jurisdictional planning and funding (watershed board) – inter-jurisdictional partnerships are effective in building resilient infrastructure.
- Met Council has done a great job in providing funding for local municipality prong rams. This has helped us reach out to our residents, conserve water, and projects that we would not otherwise be able to fund.
- Key piece is planning – local gov'ts can identify where to strategically fund to maximize our investment.
- More urban and suburban progress, but we also need to look at data to see how watersheds are responding to work/trends.
- Biggest thing that is missing is the will to implement. Talking about the 50% of state in agriculture. There's a lot known about how to manage water in the land, but it's not getting out there. Waiting for good information waiting to percolate, but nothing is happening. We need to get to the commitment and will to implement what we already know are good practices.
- In the urban area, there's a trend for shared/stacked infrastructure – BMPs that help. Trend as a development tool. It's moving in that direction. For example, the Ford Site, the stormwater feature to maintain and open space and capture rainwater.
- Rising role in for the watershed districts and technical people that can bring great information to local governments in doing there. Role as partners to plan and implement projects.
- The Minnesota River doesn't have watershed districts, and that's a flaw that prevents us from implementing solutions. That's what is needed to implement these projects in that River that is already polluted across the whole collection of Counties along that River.

#### What barriers still exist and how to address them?

- As we see infrastructure being redeveloped (destruction or end of useful life), state law and funding mechanisms don't allow to build for the future, only for what was destroyed. Recognize that the future is going to be different. That rainfall is different and will be increasingly be different.
- Dollar cost to storing stormwater upstream – the barrier is how is that cost meant, whether you are a real estate developer in the city or a farmer on agriculture. How do you deal with the water cost with slowing the water?

- We don't know what we don't know yet? IN Duluth, MnDOT realized that to replace these big stormwater pipes it's a 6-month wait to get projects to move forward. Forecast what is needed, and we don't want to have to wait for a big disaster to learn. Project the future event.
- Costs to storage, agriculture landscapes, costs are already high, we also have to build in design for ecological function in the landscape. That creates a difference between diversion and wetland reconstruction.
- Trend in using more groundwater than we should probably be using. Takes a long time to recharge groundwater.
- Tension to promote economic development, and redevelopment, and what we can do to promote water conservation. Local tension for cities, competing interests that cities are challenged with.
- So much of this is responsive, if we are going to respond to an extreme weather event. You can't leverage FEMA dollars unless you rebuild what existed. Is there a way to leverage those dollars to build something more resilient?
- Barrier in terms of people coming to grips with the reality of this. There could be 2 responses to replacing a road culvert. Replace with something larger, the other is to recognize that the landscape could hold/store water, could reduce a whole network and downsize the culvert. What is the response could be two different directions. My view is that we need to disperse storage across the landscape.
- Conservation and drinking water, most Minnesotans believe that we are rich in water, but we are rich in some places and not in others. There needs to be a change in attitude toward water that it truly is precious. IF we don't, we won't get that support. WBL and Pipestone are examples.
- We need to rebook at building codes. Like the stadium using grey water. But just in stadiums.
- Locally, building inspectors follow the building codes. They risk their reputation for doing something not in building codes. IT needs to be looked at more broadly.
- Making buildings more efficient in terms of water use, but also in terms of mitigation. We've been focused on the adaptation focus of water, but also mitigation is important in terms of using less, and the kinds of fuels that we use.

#### **What can the governor and this administration do?**

- Re-use. There is a working group looking at this. Taking seriously the results. Water reuse is great, but without treatment, there's too much salt in the water. Really need to tie in the data and science.
- Ties into the school discussion around building code. These things run together.
- Continue emphasis on regional planning in support of the Met Council and governance. The less there are of regional conversations, local governments will continue to be parochial.
- Ban surface tile inlets in agriculture. This practice exacerbates clean water issues and excess flow. Storm sewer in middle of field. At least buffer them.
- Dollar costs. The governor and the state needs to acknowledge the costs and figure how to deal with that cost of maintaining water on the landscape. How do we compare the dollar costs of water management on our different properties? Needs to be right up front. Clean water and how do we manage to pay for it.

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- At the state level, we can deliver a message to agriculture that there could be financial incentives to maintain environmental quality, including this. A badge of good citizenship and awards for environmental ethics.
- Whether the SWCDs have taxing authority or some sort of independent funding.
- To address issues around the state.
- LeSeuer watershed has a partnership model they've been implementing over the last ten years. Building a stewardship model for farmers and end users. Frosting a model in statute. Don't know how it would be structured, but a way to achieve multiple outcomes.
- Short of statute, we could always use that funding.
- Farmers have to be part of the fix.
- Providing economic incentives for other uses of land. Grazing, aspen, bio harvests, etc, rather than always row crop. U's work with test crops. Implemented in 7 mile creek area.
- Encouraging the use of cover crops in our row crop agriculture. Living cover is a practice that is recognized, but is not widely used. Cultural attitude that we don't do that. Leadership to roll this out across MN.
- Goes to the idea, we oils do this or do that, but there's a process on how to make this stuff happen. Public leaders need to increase their talk with water, and its intersection with climate and climate changes. We need more of these kind of leadership arose the diverse sectors of our community/state. Foster new leaders and champions in other sectors, particularly ones that you might be surprised by.
- State bonding – state builds a lot the self. They could model best practices. Our public infrastructure can show and apply these best practices to our own public infrastructure and our own buildings to model to very best. Use that as a teaching tool. Then we can say that we can model that in our collective activities. New standards that governor can do today.
- Tough though with requirements to go with contracting and bidding laws that might inhibit some of this implementation. Make this part of the bidding standards.
- This gets carried out differently by state agencies across the board. Not all are applying these standards. Some of this is changing, but it could be more consistent.

#### **What role for your sector to partner?**

- Capital Region Watershed. Working more closely with St. Paul on BMPs and in the planning process.
- Minnehaha Creek WD working in Carver Co and a couple of cities and the lake home association and two big farmers, US ACOE to address handful of BMPs and address carp infestation in a couple of different lakes. Going through the planning process right now. Similar in Hopkins and St. Louis Park with business to share funds and a shared planning process to ID common goals and achieve water quality.
- Key is to out water issue at forefront and plan around it,
- WBL have several WDs in their borders. Some of the MS4 requirements are increasing, that's a good thing. Makes us be responsive to those new standards and change how we staff around that. Responsive in our collaboration.
- Isaac Walton League – investment in doing this right is worth. Cost more in short term to implement it, but we are really to support that. Not cheapest today, but best in the long term.

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- University/Academia – lot of good work, but we need to ramp up how we get our research findings out better, especially to policy makers.
- U of M research we haven't talked about. How increased temps in winter and potentially in summer impacts our lakes, especially in our lakes. In our northern lakes, unique easy stems that our going to likely change.
- Friends of the MN River – recognition of search info for distribution up front. Meetings with them to ground the. In technical information.
- Carbon emissions training assistance – could this be used as a tool to help people, for example agriculture protocols that are now recognized as carbon emissions lowering could be eligible for revenue streams or financing incentives.

### **Harvesting Key Themes**

- Acknowledgement that this all costs something. Think creatively where to get that from and that it's worth it.
- Re-emphasizing the need to continue conversations like this. –statewide and locally – raise awareness. People will become more supportive of efforts, taxes, etc.
- Lot of tools in the toolbox, but we need to prioritize and coordinate them.
- Needs to be stronger emphasis in this. You can see the pollution in the metro as it affects the Mississippi River.
- Lot of our solutions involve the mindset of dealing with the water where it falls – urban and rural environment – rather than moving it downstream. A lot of solutions that fall under there.
- Our planning – we need to look ahead and not just design for today.
- Framing it as a cost issue –these are investments. But they have great benefits. Changing language to reflect investments and not just costs.
- Use ROI as a framing.
- When we focus on costs, we forget longer term costs. We need to do full-cost accounting. Benefits like drinking clean water, not having a flooded houses.
- Similar standards – should we be held to similar standards since this is a shared resource – agriculture, commercial, industrial, residential.
- If all of this works, how do we deny Iowa the benefits :)
- Be bold, it's only going to get more costly and more difficult. There is always going to be resistance. The best time to act was yesterday. The second best time is today.
- Benefits of partnerships. With major industries and producers. Demonstration as a model.

### **Session 2:**

#### **What's already working? How might we enhance it?**

- We have great system for data collection in the state with volunteer precipitation, snowfall, temperature network.
- Growing industry of native plants, more resilient in the landscape.
- Cover crops and planting natives makes the soil more permeable, so you get water infiltration and staying there rather than loss on runoff.

- Could be made better if we had a state-wide goal. Like 20% by 2020, then we could work out our own solutions to increasing cover crops and plant life.
- Great that there's a number of communities working on climate adaptation plans, thinking ahead, rather than waiting to see what happens and respond. We need to encourage more to do that and make sure there's adequate support and tools for that work.
- Encouraging people to have rain gardens. Could have more education.
- A lot of entities have cost-share programs for this work on rain gardens. What we have is adequate, but we could use more education to get more people excited about it.
- We have voluntary incentives, but we could use more excitement around it.
- Existing BMPs are adequate for today, but not going forward. Enhance reuse projects and development of regional storage. Need to replace existing BMPs with reuse projects so we are putting less water down the drain. Can't expect storage to occur on every development. Obviously we can't do this without money.
- People are addressing that there is a problem and people are looking for a solution.
- We had a very damaging flood in Winona County in 2007, a lot of the recovery did happen. Through volunteer efforts mainly and state funding for roads since we had extensive damage there.
- Cover crops – Farm service programs are starting to do some cost-sharing to help people with buffer strips and cover crops.
- Community participation for climate adaptation – communities should share their story of what they're doing so others can learn from them.
- Minnesota has a good history in being aggressive in clean energy policies. Need to be more aggressive going forward. We as a state cannot do it alone. We could strengthen energy policy and make it more aggressive.
- We need to increase our pasture usage in terms of animal farming.

#### **What barriers still exist? How to address?**

- Lack of knowledge about buffers and cover crops.
- We have aging infrastructure to deal with a lot of this stuff. Will take a massive amount of investment to upgrade to new standards.
- Federal farm policies don't promote a variety of farm usage.
- Public perception to move water away from us. Need to address water re-use and water re-capture. Helping the average citizens to understand their impact and why sometimes you want to move water and sometimes you don't.
- Watershed scale management needed. In some places this doesn't exist in the state, and this is a barrier to addressing this issue.
- Incentives for developers to install water re-use.
- Lack of investment until there's an emergency, rather than funding prevention.
- Our stormwater ponds in suburban areas are not reaching the end of their useful lives. Unfortunately sediments in those ponds are contaminated, considered hazardous waste. It's going to be really expensive to re-use those stormwater basins.
- Why would anyone change their practices? Nobody is addressing this. Why would you do it? Because you're supposed to or because you're required to. Address why people should do it.

Not knowing is a barrier. If there isn't finances there, people won't do it. It's for the next generation.

- The reason water ponds contamination is a problem, there haven't been any management and maintenance requirements. There hasn't been planned clean up.
- Eco-services valuation – true costs of the services provide by the natural environment.
- One River/ one watershed approaches, rather than piecemeal approaches. This needs to be expanded.
- Sense of aesthetics – pristine green lawn, nice tidy agricultural fields. These contribute a lot to unsustainable resources. So does our love of pavement. We are so invested in creating impermeable surfaces – creates a big barrier to dealing with water properly.
- Change public perception and public attitude and habits.
- Try to be the house that doesn't water their lawn in the summer.
- We see fewer people on the waterways enjoying the water – results in fewer people being connected with the water. Less advocacy for taking care of our rivers.
- True cost accounting when we are making decisions about investments. Externalities included when determining the cost of the project.
- Reactive instead of proactive.
- The change hasn't really been as apparent for a lot of people. There haven't been that many big storms so we haven't been as affected. So our behavior hasn't changed. If those things become more extreme and frequent, we will become more active. Until then, not a lot of movement from public to do anything.
- Not enough focus on water conservation. Even things like rain barrels.
- Being realistic, not idealistic. And know that it's going to take time.

#### **What can the governor and this administration do?**

- Set a goal rather than a mandate. Work toward strategies (multiple) to address those goals.
- Don't back down any further on buffers. Commitment to wetlands restoration is really important.
- Lead the charge to make significant investments in infrastructure restoration and improvements. Political will is weak to make changes. We are living off the investment of our grandparents.
- Time investment too. Volunteers can help too. Make this part of the strategy.
- Maintenance of existing infrastructure a priority, rather than new projects, a priority in the bonding bill. Bonding bill is key.
- IN the rural areas, small towns, there are an array of issues that are not being addressed.
- Watershed district and BWSR gave us a grant to investigate projects, but need money to implement projects. Sharing information is important, so is funding to implement projects.
- Love to see governor continue with his commitment to address climate change and creating policies to move toward clean energy and addressing climate.
- Promote education programs that reconnect people to their drinking water source. Understand the impact of climate hazards on their drinking water source.
- Place-based education to improve environmental literacy. Residents and agencies, across the board. The next generations, too. See how it works in their own communities.

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- Efforts to get grade school kids involved in monitoring streams, water levels, rainfall, etc. Hands on – citizen science. Being outside and doing this. Involved, and learning. Keep it in their mind.
- Be proactive vs. reactive. No one will want to give up what they have today. What happens when we have a drought, be proactive.
- Update flood maps for extreme flood events. Share the information.
- Invest in the development of new cover crops. Right now we are using food for fuel. What about native perennials for fuel? We still need to get food, prioritize keeping cover on the land to help keep water and soil where it should be.
- IN urban areas, encourage home owners to plant more trees, green roof, think about how they landscape and pave or not pave their driveways. There have been a lot of incentives to keep lawn, mowed short, etc.
- Regional water storage solutions.
- Design our buildings in a way to change the way we use water. State building code needs to be reviewed and modernized for that.

#### **Partnerships/collaborations? How to implement? Roles?**

- Dakota County – we have a really good story to tell about what we've been able to accomplish. It's not theoretical, it's real. Combination of agriculture and developing suburbs. People want to hear stories they can relate to. It's being able to share those success stories.
- Use watershed districts as a vehicle to deliver resources tools through LGUS.
- Non-profit – we do a lot of public education. That's an important role – being a trusted source of recommendations and public education. Also play an advocacy role.
- Extension service – used to be healthy in the state, but has been underfunded recently. Good resource to share U information and research across the state. We've eliminated offices around the state – we should restore funding and increase their capabilities.
- University involved in Forever Green Initiative – a long term research project that we need to ensure is carried forward long-term. It's already working, we need to ensure it's supported.
- Need for research, and also having research entities and agencies coordinating with each other to apply it and communicate about it. Maximize the impact of that research.
- Solar garden options have come through the County. We need to know that we are not each re-investing the wheel. There are commonalities among these efforts that we can learn from to make these projects more successful.
- City, county, and state coordination is important to remove barriers. Make sure there aren't barriers to clean energy implementation.
- Using resources to gain multiple benefits. They are not fully funded or incentivized.
- Local and state government need to be models of those kind of projects. Needs to be funding for that work.
- When an event occurs, and we fund the damaged repair, preventive improvements need to be a part of that, not just simply replacement.
- Universities need to all be brought into the system – some have sustainability goals, but haven't followed through on it. They can be models for doing this work too. EV installation, etc.
- Building trust. Have to figure out how to build trust amongst people and agencies (across). Won't work together unless they trust that the work will be done.

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- Need to look at the increased social vulnerabilities, too. Especially those who would be impacted by extreme cold, extreme heat, and other events. Make connections to other human services work and county and city services work. As well as churches and other non-profits that provide services to socially vulnerable populations. Look at how these organizations can work together to build a supportive safety net. Non-profits too.
- Make this real and personal to individuals tying into public health. For example, Blue Cross/Blue Shield pay for greenway planning – helps people be more active, but also provide natural habitat and address water quality. Multiple benefit projects. State should explore more non-traditional funding sources. Making connections among individual initiatives.

### **Harvesting Key Themes**

- Investing in maintaining our grey and green infrastructure. Built and natural environmental Substitute natural systems for the services provided by built systems.
- Tailor Buffers to fit the landscape. Different places have different needs. Still needs to be strong, implemented, and aggressive.
- Buffer plans and cover crops to prevent sediment and nutrients into the water. Urban landscaping also important.
- Set a state-wide goal on cover crops. Something we can work toward achieving.
- Educate future generations and make it sustainable.
- Research the financial part – what’s it going to cost to implement cover crops, where does the cost get passed to (consumers, farmers, etc.). Research and prioritize funding.
- Planning on a regional watershed district basis. Flooding issues are a watershed district. Need to do proactive planning on a watershed level – flooding or drought.
- Policy to create watershed districts state-wide. Currently only cover 30% of the state.
- No job is beneath you. If you see something that needs to be done, leadership implements it. Individuals can lead by example, too. Business can lead by example. Message.
- Continue to shine a light on these issues. Don’t back down on the need to talk about this. Work together to find solutions that can be realistically implemented on the ground.
- Opportunity for the government to meet with private industry. Real estate developer as an example.
- Incentives to reduce the use of water and to re-use water.
- Non-partisan public and private sector cooperation.

### **Session 1:**

#### **What’s already working?**

- Storm water for irrigation at golf courses. Don’t have to treat it. Money savings.
- U is starting research—ag drainage water in spring to irrigate in summer
- Storm water retention in general
- U of M has a dorm with a green roof—uses grey water for toilets

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- Soil carbon challenges, measuring carbon in the soil. Syncing carbon in the soil to reduce carbon levels in the atmosphere and to increase water soil storage.

#### **What barriers still exist and how to address them?**

- Plumbing code needs to be changed. Non-potable water can't be in a building and can't have a third pipeline.
- Use washing machine water to flush toilets.
- Urban sprawl is a big barrier. Restrict densities- fewer roads and parking lots. Met Council need to look at this to better control urban sprawl.
- In the spring there is no living cover. Increase living cover on the ground and water storage restrictions need to be increased. i.e. ponds
- Our aging infrastructure is a barrier.

#### **What can the Governor and this administration do?**

- Prioritize clean infrastructure and incentivize green infrastructure and practices.
- Incentivize formation of water shed districts throughout the state.
- Increase the number of jurisdictions. 1 watershed= 1 plan.
- Encourage the integration of water based discussions in schools to instill the water ethic.
- Encourage the evaluation of existing codes and revisit existing codes.
- Increase funding for living cover and water storage.
- Education initiatives and public outreach.

#### **What role is there for other sectors to play?**

- Use rain barrels and work with your neighbors.
- Look at triple bottom line analysis: economic, social and environmental.
- Use GIS tools at the U. That can help with water conservation and storage practices.
- Fields to Streams, just published at the U of M.

#### **Harvesting Key Themes**

- Organize, mandates, support watershed districts, \$
- Using and storing more water through living cover
- Provide education on good practices to the public and in schools
- Use of grey water and storm water
- Rural and urban infrastructure upgrades
- Development practices that aren't so extensive—less lawn, closer living, fewer roads, urban smart growth, walkable cities
- Revisit plumbing code

## **Session 2:**

#### **What's already working?**

- Research has started, but some of the projections can be improved on. Improving forecast science

### **What barriers still exist and how to address them?**

- Climate change is the elephant in the room. Chippewa 10% project. Chippewa Watershed District 10% more to continue living cover on the land. Addresses big problem of climate change. Cover crops increase water absorption and keep it in the soil. Both water and carbon. Is much better and contributes to healthy soil.
- Fields diversification, soil as a sponge rather than a hard rock
- Really innovative farmers, more perennials and cover crops on the land, pockets of them. Encourage and make it easier for farmers to do this.
- Multiple watersheds across the state that are putting cover crops in.
- In urban areas, more rain gardens in large population centers, helps water quality. Best management practices. Urban storm water, less pervious pavements.
- Projected rainfall probability for City of Minneapolis is needed. Public infrastructure for houses that flood, try to mitigate.
- \$3.5 million per year for 10 years for forever green research-this could take care of a lot of issues

### **What can the Governor and this administration do?**

- The Governor could set a statewide goal of 20% more living cover by 2020
- Provide Forever Green funding. Our weather is unique, can be tricky for MN. We need crops that can grow in the cold. Need to find these crops and markets to sell them in.
- Research needs to connect with what is already going on. Counties get told what to do and no funding. Soybean and corn associations are also looking at cover crops.
- Need an alternative to crop insurance.

### **What role is there for other sectors to play?**

- Crop insurance—increasing access to other crops and more flexibility when cover crops go in.
- NGOs to help with solutions. Include them with implementing community, farmer, landlord and government partnerships. A letter from Governor and Congressman Peterson on farm bill reform at the federal level, another approach at the state level.
- Funding for urban forestry legislation did not pass in 2015—multiple benefits.
- Educate residents on the importance of trees
- State and Federal to address crop insurance

### **Harvesting Key Themes**

- Cover crops/perennials-crop insurance flexibility
- More trees
- Value engineering in public buildings
- Urban rain gardens
- Forever Green- U of M funding
- Improve forecasting science—need good data
- 20% by 2020 cover crops
- Funding in partnerships, research, public education
- Canopy cover
- Environmental best value
- Expand mitigation strategies to slow down flooding

## Session 1:

### What's already working?

- Watershed districts-flooding is preventable
- Good watershed analysis can slow vulnerability to flooding
- Should be no surprises with flooding
- Cat tail fragments, growth in lake, spraying weeds with herbicide to control. Need way to remove cat tails without herbicide.
- MN has a strong volunteer weather observer network
- We need to continue to collect temperature and precipitation data across the state
- Local weather planning framework is good to build on, can be enhanced to include resilience and emergency planning as well.
- USGS stream gaging network needs to be continued and expanded to add more stations.
- Using rain barrels and rain gardens
- Updating infrastructure to adapt for larger flood events, particularly in northern MN, could be expanded
- Culverts and other infrastructure is too small and can't handle increased runoff
- Need to expand reuse of stormwater by facilities, individuals, etc.
- Low-flow toilets
- Renewable energy, more transit—mitigation can help address climate change and can help us slow down
- Education-understand groundwater, geology. The more there is an understanding of this the better
- Need more emphasis on understanding the science behind the solution
- In light of urban density, we need to develop alternatives to turf

### What barriers still exist and how to address them?

- Costs
- People who don't believe in climate change
- Need to do a better job of creating narrative to help people understand climate change
- Need to focus on the story
- Help people to understand implications of the science on our lives
- Learn from what's actually happened (use the historic data to tell the story, not the projection.
- Need to move from beliefs to understanding
- We need to show that there are costs of inaction (people currently focus on the costs of action)
- Need to look at sizing of infrastructure from a watershed perspective
- Lack of appreciation for cohesive watershed approach
- Community participation and understanding is needed and should be expanded

### What can the Governor and this administration do?

- Provide more public education on the web—top 10 things that individuals can do
- Need to also focus on what businesses can do
- Give more money to lake associations and watershed districts, they know what their problems are (cat tail reduction, holding water upstream and keeping it in holding ponds)
- Hold back water in holding ponds that release slowly
- Storing flow down

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- Capacity building funding, need base funding. Currently funding by grants, need stable base funding
- Help for small lake associations to handle challenges or a network approach, not piecemeal
- Need advocacy from the Governor and commissioners—emphasis on education, how are the parts related to each other?
- Support funding for local water management planning
- Hire a “water guru” and have them report directly to the governor
- Stronger buffer laws—holding water on the land
- State should publish more information county by county on the pollution of water bodies and where the problems are
- Governor should put out information regularly (4x/year)
- Regulatory barriers for aquifer recovery and storage

#### **What role is there for other sectors to play?**

- Build a speakers bureau to bring more awareness
- Vote intelligently
- One watershed, one plan (BWSR)
- Bring together all of the partners
- Watershed organizations need to reach out more to consumers, private entities, cities
- Can bring people in as partners
- Watersheds share good ideas with each other
- Need to cut administrative costs for watershed district projects
- Allocate money to get projects done
- Get grants
- Allow watersheds to become taxing districts
- Improve understanding of water organization funding
- Create short videos and Facebook updates on climate resiliency and water, make videos of state employees

#### **Harvesting Key Themes**

- Treating water holistically at a watershed level
- Treat water on a watershed level not a political level
- Slowing the flow of water, instead of sending it downstream
- Education and visibility is forefront to have support
- Understanding entities in water management and what their authorities are
- More money is needed
- Allocate money on a local level for projects

### **Session 1:**

#### **What’s already working?**

- Planning and zoning to move people out of the flood plain (Montevideo, Lac Qui Parle, City of Davison turned into a park) new appropriate use

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- Integrating more cover crops into corn soybean rotation. Helps to increase soil moisture in drought conditions. Cover crops also help with flooding. Less runoff and pooling of water, more infiltration.
- Conservation drainage- retaining water on fields can help with yields as well as flooding
- Water capture and reuse. Urban and agricultural.
- Dissemination of data is getting to local governments. Especially changes in precipitation. Atlas 14 instead of older data.
- A lot easier to keep up with information due to new technology.
- Increasing available tools about water data.

#### **What barriers still exist and how to address them?**

- No evacuation and abandonment plan for reactor sites
- Conversation is not sufficiently depoliticized
- Uncertainty is very challenging dealing with probability. I.e. extreme rainfall events. Through them and extreme weather forecasting.
- Lack of good communication around uncertainty.
- Data is abstract, not in the form of how it impacts people personally.
- Making data relevant to peoples' lives vs. charts and graphs.
- Uncertainty makes it hard to invest large amounts of money in water projects.
- People want good return on investments, hard to know if a project will give them a good return.
- Finding a good way to store water is expensive
- Updating engineering design standards for a changing climate
- For a long life cycle, building project
- Connecting land usage standards to pocketbook.
- Lack of planning tools for cities and development for land use that take into account projections of \_\_\_ and precipitation
- Continual deforestation and channelization makes it harder to adapt to climate change
- Barrier to capture and reuse--some approaches, like grey water, not developed in Minnesota.

#### **What can the Governor and this administration do?**

- Statewide water materiality study (plan)
- Vulnerability assessment
- Follow this with funding for local government implementation funding or training, technical assistance
- Update state building codes to account for extreme weather
- Need to be careful that reports are objective with minimal conflicts of interest
- Need informal debates by people who acknowledge their bias
- Need to increase use of grey water and remove barriers to water reuse.
- Continued investment in diversification of our agricultural systems and economics so that they are more resilient. i.e. cover crops , diversity, lower tillage
- Fund research at the U of M to do this
- Coordinate and support stormwater research at the state level
- Governor can call attention to the fact that climate change is a real issue that will affect the future of the state

#### **What role is there for other sectors to play?**

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- Hear more from farmers, can form farm community support groups
- Local county resource commissions to promote network, cooperating
- Groups can have united front to impact federal farm policy towards improving water quality
- Watershed districts are in a good position to coordinate multi stakeholder collaboration
- Remove cap on funding for watershed districts, so they are less dependent on grants
- Would help watershed districts to be less dependent on grants to increase their funding base
- U of M plays a role in sustaining ag productivity over time to sustain water and to make more resilient to change.
- U of M should lead by education rather than education (buffers should be site specific and performance based
- Be aware of our biases and not point fingers. We need to listen to each other to solve problems. We need to rely on data and a cost/benefit analysis.
- STEM (up front), attainability analysis, cost/benefit analysis, citizen buy-in
- Scientists and engineers should work with politicians to build solutions
- We all have different worldviews and for diverse voices to participate
- Less monoculture in agriculture
- Early participation goes a long way toward developing solutions including diverse voices

### **Harvesting Key Themes**

- Water capture and reuse—enhance opportunities, both in rural as well as urban settings
- Need to diversify agriculture more, provide research and incentives for this
- The future will not be like the past. Need inclusive language to articulate goals and how to get there.
- Be aware or wise—respect
- Be responsive and prudent to a large amount of uncertainty

### **Session 1:**

#### **What's already working?**

- Stormwater reuse is growing: golf course in Hugo, CVS field
- DNR flood mitigation analysis grants, helps plan in rural areas
- More flood control structures in upper reaches of watersheds. Small changes = big results downstream
- Incentives for agriculture to keep water on the land
- Use watershed approach
- WRAPS –only soil and water
- Keep control local, not from St. Paul!
- Watershed districts should control the work
- Buffers are key! But they need to be designed properly
- Diverse geography makes a one size fits all approach impractical
- Pervious pavement
- DNR grant for terrain analysis for landowners
- Using plants to help clean water-impoundments using cat tails to filter water

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### **What barriers still exist and how to address them?**

Barriers:

- Property rights
- Lack of funding
- Public attitude and awareness
- Jurisdictional conflicts
- Red tape
- Agencies not working together
- Landowner support
- FEMA help is inconsistent
- Township roads not recorded
- Fear of change
- Cost of fixing failing infrastructure
- Cost of flood insurance
- Misinformation/political agendas

How to address them:

- Money for ditch retrofits
- Support CREP
- IA model for seeds and DOT
- Staff training due to turnover
- State work with Feds/FEMA
- Local control by watersheds
- Statewide goals but local solutions
- Local power to solve problems
- Financial resources for small floods and small areas
- More information-e.g. Water Summit
- More/shared collaboration between watersheds, i.e. Red River of the North Basin Commission, every river should have something like this
- Cut red tape-IA app for cover crops
- State agency enforcement
- State-local collaborations
- Limit DNR veto power
- Limit MDH and MPCA veto power

### **What can the Governor and this administration do?**

- Governor must stop pointing the finger at ag
- Tell state agencies to work together
- Work with feds to be on the same page
- Stand up to the EPS "Waters of the US" position, join multi-state lawsuit
- Less process, more projects

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- Redetermination of ditches-legislation to make it easier to use new technology instead of viewers
- No statewide solution, local control
- Statewide performance standards with local solutions
- Give watershed districts teeth to enforce rules
- Work with neighbors on tiling-now inconsistent
- Have an annual water summit
- Red River Basin annual meeting is a good example, no finger pointing!
- Sponsor local events
- Treat storm gutters like streams! Buffers needed.
- Manage salt use, streets and water are suffering
- Problems are not all ag-related. Urban issues too.
- Funding for urban infrastructure.
- Address jurisdictional inconsistencies.
- We are all part of the problem and we all need to be part of the solution.

### **Harvesting Key Themes**

- Process was productive
- Will we be heard?
- I want to see info. from the Summit in the Governor's agenda for the legislature and see if it is passed
- Be inclusive, include local organizations
- I want to hear the Governor change his language and not focus on ag as the problem
- Make state agencies work together
- Encourage local partners to work together
- Governors leadership is critical
- Be out there and listen
- Invite the Governor to events

### **Session 2:**

#### **What's already working?**

- Renewable energy
- Watershed districts increasing capacity to hold water on the land
- Cities have codes to preserve wetlands
- Dam repair and removal enhances flood control
- Cover crops and buffers retain water
- Large impoundment areas in the Red River Valley to store water and slow flooding
- Wetland protections are working
- Nutrient reduction strategies
- Toxin reductions

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- Education and information are good
- More rain gardens and rain barrels on private property

#### **What barriers still exist and how to address them?**

- Lack of systems to address new PH threats, mosquito born disease, HABs
- Public health awareness
- Health impacts of fossil fuel use
- Design standards built on old climate data (Netherlands 10,000 year flood data)
- Atlas 14 based on historical data, not projections, may not be accurate
- Cost of infrastructure and will to address
- Lack of community support, knowledge, denial
- Sense of helplessness to address it
- Disinformation campaigns
- Lack of political courage
- Lack of ownership by the public
- The Governor should champion a vision to address the issue
- Getting resources from a broader base or different sources to manage flooding
- Statewide and regionally, by watershed
- Work with all parties on solutions

#### **What can the Governor and this administration do?**

- State agencies need to be more flexible-DNR
- One watershed, one plan is not funded. We need to fund it!
- Statewide and equitable funding
- Need more consistency across the state in how watersheds are funded
- Education, information, awareness, best practices
- Different best practices based on sector or geography
- Prevention vs. mitigation costs
- Incentives for making the landscape more permeable
- Minneapolis charges more for impermeable
- Increase/use incentives for cover crops
- Research on cover crops for food, fuel, fiber
- Treat drain tile as a point source of pollution under CWA
- Support local decision makers
- Use county hazard mitigation plans (HSEM) for flood planning
- Expand resources of PFA to help
- State should lead by example and put plans in place at state facilities
- Cap and trade/carbon tax

#### **What role is there for other sectors to play?**

- Look for opportunities to collaborate with other organizations like the U of M
- Watershed Summit-Izaak Walton League
- Recognition of positive actions

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- Make connections between actions and benefits, with business community focus on economic benefits
- Ethic of going beyond standards to be innovative
- Take Water Summit to Greater MN
- DNR should lead by example on lands they manage
- Need to know what landowners are willing to do
- DNR regulates and promotes mining, need to move to another agency
- Build support for funding prevention, lie rain gardens
- Strategies to recharge aquifers-DNR
- Smart landscaping

#### **Harvesting Key Themes**

- Be proactive not reactive in flood management infrastructure, look ahead
- Need for local control with broader resources
- How can we build and share resiliency plans?
- Communities identify their risks and address them
- Increase renewable energy distribution smartly
- Agency thinking, be proactive

## Breakout Topic 3: Iconic Waters

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### Mississippi River Basin, Session 1:

#### What is already working in this area that could be scaled up or enhanced?

- Flood control – Fargo area and possibly in other areas in general.
- Cooperation amongst jurisdictions – more needed
- Sugar beet farming???

#### What barriers still exist and how should we address them?

- Agricultural drainage – especially recently. “out of control”
- Managing agricultural drainage
  - Cooperation to address
  - New technology? Perhaps regulations might not be in place
- Flood control money is limited
- Wind in area resulting in erosion. Could be addressed with wind breaks (more).
- Are septic regulations sufficient in the red river basin? It is noted they are different by county statewide
- Also noted – state differences on a wide array of other regulations. For example North Dakota regulations different than Minnesota.
- Wastewater treatment expensive as well. Funding limitations noted.
- Personal property right barriers exist. Landowner rights that might interfere with other individual property rights.
- Property rights versus public good.
  - Zoning laws may allow for some public goods to supersede personal interest.
  - Ex. Pesticide over spray affects pasture and livestock consumption.
  - Drain tile issues noted as well. – mostly the topic of laying drain tiles next to personal property

#### What can the Governor and this administration do to advance this solution?

- Getting the counties on the same page. County commissioners, other leaders etc.
  - Consistency amongst authorities would be helpful
- Don't point a finger at any single sector. Don't go along saying that you are the cause of everything (problems). Even cities don't want to hear that they are the cause of all of the phosphorus in the river. Don't over generalize contributions.
- Property point of sales – simple handouts developed which can summarize current laws, shorelines, best practices for SW, destructive practices, simple information . EX – woman's neighbor took down 60 year old oak tree in 2 years due to bad shoreline practices.
- Information concept would be generalized to other public education tools. – ex storm sewer stencils or other ways to show impacts.
  - Enhance awareness of impacts

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- Regulation without compensation
  - Ex – buffer law without compensation for loss of income on property.
  - You wouldn't want to lose 5% of income without compensation.
- Private interest vs. public good is the primary crux of the problem. People want to see waters protected but there are significant economic interests as well. But science shows that protections (regulations) are not good enough. So what do we do now?
- Water so important to state that compensation ...there shouldn't be unfunded mandates but Minnesotans should recognize funding
- Federal programs amongst others may not cover compensation of buffers – there is some but it isn't as much as rent.
- We are still the safest, cheapest food source/producers in the world. This doesn't happen in Brazil
- Are there other crops that could be grown in the buffer? – Opinion of another attendee that other viable crops aren't available. Drainage might help reduce runoff.
- Could we connect state and federal programs together to help pollinators. Pollinators thrive on noxious weeds, and noxious weed laws limit planting of pollinator crops.
  - Can't go by a book on every situation. Need regulatory flexibility
- Possible approach – whatever you do shouldn't leave your property (what happens in Vegas stays in Vegas). Do we put that kind of practice on lawns and not just agriculture?
- Everywhere – need to talk to all parties involved. Can't have a top down approach
- The flip side might be because more local work isn't happening – top down approach may be necessary.
- Governor can create the sense of urgency....Mayor of Mankato – if pollution issue isn't fixed Federal government will step in and take over.
- More access to water quality data for average citizens. If people could get to the data there might be more curiosity or interest in standards and current thresholds.

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Joel – works across sectors in collaboration. Sense of urgency because of debates around buffer legislation. This is a perfectly timed summit. It's a moment. This is the time to craft a solution. People need to abandon the dueling approach. There needs to be a commitment – to come together rather than fight. Commit to cooperate.
- Gap between ag land, organizations, and properties that are not officially ag. Smaller parcels – less than 50 acres, and parcels that are not eligible for standard programs. Nobody looks at these parcels as a solution. There are lots of smaller parcels that could be used to solve problem – maybe give these people (owners) a break on their property taxes? Give us (owners) some mileage.
- Public education. Lots of people just don't know what they can or should /could be doing.
- Cooperation between states, and nations – particularly in the Red River Basin.
- Need to take in to account changing environment – I can't control 3 + inches of rain that are going to happen. We need to be aware of the natural WQ issues associated with bedrock and soils. We need to be aware of potential environmental changes.

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- Wetland designations – could store excess water
  - If taken out of rotation – who compensates? Is it county, state, federal government.
  - Can we take advantage of parcel land opportunities to capture excess flow.
- If regulation not desired outcome, can interests be able to restore wetlands on private property, Could we evaluate total cost of doing what is necessary to capture water and fix water quality/quantity issues.

### **Harvesting Key Themes**

- Cooperation amongst multiple entities – individuals and multiple levels of government.
- Address and balance individual property rights versus the public good.
- Don't miss an opportunity for public education.
- Identify and go after low hanging fruit. (parcels of property etc.)
- Consistency and also flexibility. Consistency on goals, flexibility of implementation methods.
- We all want clean water. But even this term can mean different things to different people.

## **Session 2:**

### **What is already working in this area that could be scaled up or enhanced?**

- Some of the rivers in the basin are in good shape – the otter tail river and some other reaches
- Good local projects that have been implemented
  - Drainage management
  - Different practices etc.
  - Otter tail county
  - Local buffer initiatives
  - Recognition that good water quality is important. (Possibly more prevalent in lake-like parts of county)
- Major goal of drying to adopted distributed storage - goal off trying to reduce the 100 year flood y 20 percent through
  - North Ottawa flood control district – being looked at for other things as well. What can we do with this series of impoundments to improve water quality.

### **What barriers still exist and how should we address them?**

- Money – barriers to funding limited on how much can be accessed from PFA and other groups. Basic infrastructure is such a low priority issue. It simply isn't something that is politically
- CGMC suing for less restrictive standards – to achieve less restrictions because of money
- Clean water money (SWCD) is limited for grants. Those SWCDs with successful grant writers get priorities based on form and not content.
- Better explanation of the quality of tile water quality. We need more facts to better compare impacts and evaluate solutions. You need the support of urban people to get things done in rural environments. There is a lack of easily digestible information to promote initiatives. One problem is that research doesn't always align and data can be debated. We also don't have a shared vision. Ex. Flood control isn't a topic of agreement amongst people. We don't debate

well, we become divided because we don't have well facilitated debates on issues...and we just don't seem to move forward.

- Wraps plan – one watershed plans – tons of plans with funding requests. Maybe we need to look at coordination of plans and funding. It could be one process rather than having a competitive thing.
- Siloing of agency – Minnehaha creek watershed district and several state and federal agencies but the tangle of requirements is confusing. We need better coordination between agencies to make compliance easier. How to solve - could we have one permit rather than 6? It is confusing. Wetlands is one example of multiple agencies with different rules. Compliance on wetland issues is confusing.
- Are we spending too much time and money on point source issues? Can we take that same effort on nonpoint sources?
- One challenge is managing our expectations. It may take years and years for certain practices to pay off. Groundwater moves very slowly. What can we expect to see with clean water money? How do we get there – education and outreach. But citizens don't want the burden of having to hear that they need to change or do something. A lot of education and outreach needs to be directed at regular citizens so that they can better understand the outcomes of their actions. Education is huge.
- Polls say that nobody wants regulations. But regulations allow us to know what to do and when to do it. Regulations provide clarity
- What if we put a ban of septic systems?
- Cost associated with centralized systems is enormous.
- What do we do? – More education, funding. Better inspection procedures. Surprise inspections☺. To some extent this gets back to consistency of agencies and county requirements.
- On a local level many people don't even know what or where their problems are. What's actually happening and second, what can be done to solve the problem. The solution gets back to funding on research projects and science. We can't just go by perception, we need data. Then we need to get the education to local leaders. Civic engagement and outreach on a local level.
- Prioritizing – how do we prioritize? We are doing better at doing this on a watershed level, but we need to figure out how to better allocate resources.

#### **What can the Governor and this administration do to advance this solution?**

- Reorganize the agencies – or maybe making them work together so that they are more coordinated. What if there was a position or office that could translate between the agencies? No overlap between agencies. Or at least get different agencies to talk better.
- For contractors – there would be one person to get a single permit from. And that rules wouldn't be different between different agencies. Wetlands have 18 different rules between different agencies - -very confusing.
- Sustained stable funding helps the outstate organizations.
- Infrastructure funding - somebody has to start to make this a priority. Without the basic water infrastructure, you don't have anything else.

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- Beneficial to have governor look at connections beyond watersheds – state boundaries – to other nations. We need to know that we have a responsibility to downstream users - this needs to be a reinforced priority.

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Better cooperation among agencies – both state and local – too address overlap and coordination. Don't duplicate efforts. Sometimes there is competition between local and state agencies on specific topics.
- More of a focus on implementation. We have spent a lot of time on studies, we need to make some big bold changes. We need more implementation to achieve big changes. For example – if you look at agencies and how they are trying to implement CWA regulations. Water quality modeling – each agency uses a different model but they are looking at the exact same thing (Shannon strongly disagrees). One attendee believes that there are way too many models that provide similar answers. Seems like too money spent on too many models.
- Funding – more money – better coordination.
- Local capacity is difficult for outstate entities – cities are more competitive. Outstate districts do not have as much local funding support as urban areas. We need better support for smaller communities.
- Better education and outreach on civic engagement activities. But when we offer things people aren't necessarily receptive. How do we get people to participate. No controversy – nobody shows up. With controversy – people put up there guard and it is difficult to communicate. Start at a young age – kids affect parents.

## Rainy River/Boundary Waters, Session 1:

**What is already working in this area that could be scaled up or enhanced?**

- Composting human waste into manure like at Potter's Farm. See [Humanure.com](http://Humanure.com)
- Protected land for wilderness against mining
- International water body – International Joint Commission – binational – treaty
- CONTINUE TO BUILD AND STRENGTHEN PARTNERSHIPS
- Sustainable forestry land use that we don't see other places
- Land being used well for tourism and recreation
- Local efforts to do water monitoring, shoreline protection and engage homeowners
- Wastewater treatment working to decrease pollutant loads
- Developing a no tolerance policy

**What barriers still exist and how should we address them?**

- Need to expand protection zones – stop leasing lands for mineral development
- Binational treaty impedes progress
- COMMUNICATION needed
- Public perception – people don't understand science behind issues

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- Need more knowledge about the impact of climate change-nutrient recycling is example
- Sulfide mining proposed (copper and nickel) within a quarter mile upstream of wilderness
- Mining corporations have money but citizens do not. Some money is from foreign sources.
- Regulatory framework is lacking
- Standards differ in Manitoba/Ontario vs. the United States
- Minnesota more protective but Canada is not
- Less state control in Canada – more remote management of the land
- Nonpolluting outboard motors – exhaust and oil run into water
- Farms draining water and chemicals via runoff into lake – organic farming beneficial – need zero tolerance
- Not as much of a public focus since waters are in good condition – not a crisis
- Need to build a new narrative since we have better knowledge
- Need different venues to draw people – hold meetings at bars, other ways to have conversations
- Need moral courage to move conversations to get beyond usual issues of jobs. Listen to indigenous voices – Dakota and Ojibwe
- Cannot restore area if sulfide mining is allowed
- Use Clean Water Funding for protection
- Prevent invasive species on land and in water
- Lake and river associations work but difficult to form. Make it easier.
- Have not analyzed the impact of Polymet mine proposal – needs to be done
- Understanding of groundwater – surface water interactions
- State does not always enforce existing laws on mines
- Minn Tac mine has not had a valid permit since 1992
- Understanding that border lakes are manipulated for power generation – example – International Falls – U.S. and Canada
- Some pollutant sources outside watershed – mercury is an example
- Outdated septic systems – not fixed until property is sold – could this be subsidized to speed it up?

**What can the Governor and this administration do to advance this solution?**

- Vote no for any sulfide mining - Polymet is an example – this will set a precedent
- Increase Clean Water Fund bonding
- Establish topical teams to help governor with informed decisions – MPCA and DNR are already involved on teams but they could be stronger and include others
- Need understanding of ecological response times – lag time
- Serious investment in education – use shared values- grass roots level
- Reevaluate Clean Water Legacy Funding ensuring money goes to water
- Stop allowing state mineral leasing in the watershed – next vote is on March 3
- Evaluate regulations and enforcement and consider strengthening regulations
- Stop efforts to roll back water quality standards (wild rice). Referring to variances and Class 3 waters. MPCA is changing standards.

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- MPCA may not have numeric standards any more – may be moving to narrative standards – need numeric standards
- State funding of education – public education for kids and adults
- This is all connected – ecology
- Diverse economy needed – not just mining
- Huge need for high speed internet – state can help build up economy in rural areas
- Get kids real experiences in canoes and wilderness
- Senior citizens need canoeing and recreation too – Elderhostels
- Applaud Governor’s “no action” for Twin Metals until Polymet is resolved
- Governor’s work with federal agencies and tribes on science and decisions
- Governor’s staff do not meet with tribes enough
- Come visit the area – see the resources first hand

**What role do you see for the constituency and the sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Friends of the Boundary Waters want to expand/partner with others to bring more people there
- National Parks centennial – could partner with
- National Endowment for Humanities – Minnesota Humanities Center has water exhibit coming to six Minnesota small towns – wants to partner
- Watershed district regulations and working with developers in community on land use
- Minnesota Design Team dialogue
- Harvey at MGS is industry promoter – need broader perspective

### **Harvesting Key Themes**

- Prevent sulfide mining proposals and educate citizens and regulators on its impacts on water quality and ecosystem impacts and mining company histories (sulfide mining much more destructive than previous mining)
- Invest in diversity economically – internet and existing companies that are already there
- Invest in what is already working and celebrate it
- Binational management critical – strengthen science management
- Educate, prevent and enforcement rather than respond
- Enforce what we are not enforcing now using science

### **Session 2:**

**What is already working in this area that could be scaled up or enhanced?**

- Lots of interest - Lake associations, academics
- Need to capitalize on interest
- Canadian interest draws (BWCA) people from around the world
- Protection is working - needs to be scaled up - sulfide mining a threat
- Area is interconnected - one big ecology/ecosystem - worldwide
- Statewide awareness of mining threat

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- Disconnects between communities in rest of the state and this area - need education and opportunity to educate
- Unwillingness to have protection of environment vs. jobs
- Us (mines) vs. them (environmentalists)
- Local businesses value water - they rely on it
- Tourism is huge
- Local campaign to save boundary waters - going to federal level
- Already communication about what is happening
- Initiative - fiber optics - Lake County - Ely needs better internet
- St. Louis County needs better internet - this is an opportunity
- Two nations, provinces, state, tribes, boards, commissioners - collaborative efforts
- Also some things not working in some areas
- Young population in metro areas that enjoy area
- BWCA - baseline knowledge in Congress - Is Rainy River watershed being ignored?
- Lake Superior binational forum ended - maybe not part of this area
- We have good science - missing wetlands data - can be enhanced

#### **What barriers still exist and how should we address them?**

- Political - politicians behind on science - Tom Bakk (group recommended his name be included in notes)
- Interest is dispersed nationally
- Administrative barriers between local officials, national forest - ownership or lack of ownership
- Political pressures on agencies
- Native people being ignored
- Laurentian Divide - watershed split but governance crosses it
- Think cross watershed - no overarching stewardship - by comparison - think Met Council
- Largest population area in watershed cut off
- Remnant hard feelings about non-motorized area of BWCA
- Metro area is still controlling what is done
- Politics - Governor needs to get behind data Depends on who generates data - source/quality in question
- Finances are a barrier. Mining interests have money to persuade - others do not so mining perspective is skewed
- Mining easements are destructive and prelude other uses for decades
- Obstacle is finding a balance between conserving resources and growing the economy
- Balance - economically, environmentally and socially
- Blindness to potential pollution risk
- Aging population

#### **What can the Governor and this administration do to advance this solution?**

- Develop alternative non-mining job creation and economic alternatives - enhanced broadband, tourism
- Carefully establish ecosystem values

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- More opportunities for education north of Duluth - not many new perspectives
- Deny Twin Metals permit and Polymet
- Develop a MOOC (Massive Open Online Course) on water ecosystems
- Continue to fund Master Naturalist programs and other citizens' scientist programs - learn from St. Croix
- Determine quality of lakes in area
- Protect different types of wetlands and monitor them
- Fund and facilitate university based research into current and future mining practices not funded by mining industry

**What role do you see for the constituency and the sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Legislators that would partner with governor to stand up to the range
- Governor could take lead in stewardship and future state of water in basin
- DNR/PCA could do a better job with face to face communication in mining communities
- Ask legislators how they will vote at caucuses

#### **Harvesting Key Themes**

- Collaboration between state agencies (DNR, PCA, counties, watershed districts, Canada, tribes, provinces, industry and environmental organizations)
- Have Governor meet with people. People are not accurately represented by legislators
- Get the real science to preserve, protective and improve water [Sulfide mining moratorium was opinion of part of the group]
- Develop a vision for alternative job creation - use IRRRB for this
- Have a Summit like this up north 6
- Improve and increase educational opportunities in the region from grade school thru college (four year) - add in water curriculum so future residents will have educated knowledge of water

#### **Lake Superior, Session 1:**

**What is already working in this area that could be scaled up or enhanced?**

- AOC restoration work on the St. Louis River estuary. Interagency cooperation in AOC which includes the tribe is very strong.
- Keep funding with state money to get Fed money. Attention to AIS. Good progress on TMDL's waste treatment facilities. Build strong water science infrastructure, Tribal involvement.
- Great Lakes Compact.
- Areas of concern water science
- More cooperation among farmers and agencies.
- Protected public lands programs like TMDL's that will work to reduce pollutants, restoration funding for St. Louis River via GLRI and state funding.
- A diversified economy not including mining and excluding mining power rates subsidies at the expense of the diversified economy.

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- Protecting our public lands, national forest and Boundary waters.
- St. Louis River Area of Concern progress is fantastic keep funding this.
- Allow other unlikely lack of awareness vast to release mineral rights of county and state lands.
- The Cloquet valley state forest is threatened by mining it is north of Duluth and leasing of thousands of acres of mining rights is scheduled, stop the leasing.

#### **What barriers still exist and how we address them?**

- Rural broadband and alternative (non-mining), job creation especially tourist industry and agriculture.
- Don't approve the Poly Met FEIS, which will protect the St. Louis River watershed. The sandpiper/line 3 replacement EIS needs to be conducted by scientist independent of the applicant. Fight to keep crude oil shipment off Lake Superior and the other great Lakes. Protect Lake Superior and the other great lakes from water diversion.
- Polymet mines, diversions no crude oil on great lakes need to finish Mercury TMDL.
- Education-not understanding the dynamics of organization.
- Poly met has been center plated which harms St. Louis river restoration, no St. Louis county groundwater atlas
- Sulfide mining proposals stopping natural gas flaring in North Dakota will migrate need for oil pipelines, slow oil field development.
- Too often only white people in conversation
- Push to capitalize on NE Minnesota natural resources-including our forests, wetland and waters.
- Our area is hobbled to mining we need to liberate it from tis. As long as leasing goes to mining companies for long term leases the development and other uses are precluded.

#### **What can the Governor and this administration do to advance this solution?**

- The Governor should reject the Polymet FEIS. He should vote "NO" on water diversions. The Governor should direct the MPCA to use on land disposal for the U S steel contamination @ superfund side.
- Stop Poly Met and Twin Metals, deny the permits
- Keep water science in the school curriculum.
- Don't over regulate, don't point fingers at one sector
- Deny a permit for Polymet, MPCA work with EPA to relaunch the St. Louis River mercury TMDL. Work on ground water data for St. Louis County.
- Stop Federal Legislation to stop North Dakota flaring. Statewide moratorium on sulfide mining like Wisconsin, give no mining a chance
- STOP POLYMET!
- Stop Polymet mine, deny Polymet a permit to mine to protect the Lake Superior watershed.
- Honor and include and listen to those with longest relationship to the waters of Minnesota
- Stop the destruction of wetlands. Become aware of the difference between a bog, a calcareous fern and shrub wetlands and other types. Document them in detail

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**What Role do you see for the constituency and sector that you represent in the implantation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- More effective agency/citizen communication.
- Yes the several states and Canada that border Lake Superior, tribes. All parts of the state have a strong and persistent interest in the fate of the Northeastern MN.
- Common sense in implementation.
- We are done (Friends of the Boundary waters wilderness) Sessions on Poly met, St. Louis River, mercury, TMDL. We likely will work with agencies on issues to educate the public.
- To stay healthy mentally and physically without mining to enable us to make a diverse economy successful. Give no mining a chance. From 100 plus years of mining.
- Contract with businesses opposing pollution that set a good example.
- Protect the watersheds from future adverse impacts, support the Great Lakes Compact
- Starting with the indigenous in the conversations will change the conversation.
- Our organization is in touch many have businesses that depend on the healthy ecosystem of the region. Allow then to have the kind of help and long term leasing or deny it to the mining industry

## Mississippi River, Session 1:

### What is already working in this area that could be scaled up or enhanced?

- Conservation practices – agriculture
- Mississippi has national park
- Sewage treatment improvements – production
- Education on value of water – student engagement and studies
- Closing Upper St. Anthony Falls – invasive species
- Engage citizens and NGOs – already working on river issues
- Working river vs. protection initiatives
- Address Lake Pepin sediment issue
- Wealth of WQ monitoring data in many locations
- Recycle to prevent trash to river
- Personality responsibility
- River is drinking water source for 1M people
- Donation of development rights/conservation easements
- Lake Associations are active in Northern Miss. Basin (WQ and charity)
- Awareness of not “exporting” problems down river
- Land use zoning and enforcement
- Public-private partnerships
- Better community water stewardship plans are being developed
- McKnight Foundation Miss. River initiative
- Itasca headwaters are somewhat protected
- National and Minnesota policy acts – use tool effectively

### What barriers still exist and how should we address them?

- 90% of wetland drainage in agricultural areas – need wetland restoration
- Excess nutrient pollution – still conversion to row crops; more perennials and buffers
- Change ethanol standard to depend on cellulosic/perennial (50%)
- Drinking water source protection plan
- Long-term thinking on environmental protection
- Regulation changes for pipelines (Dept. of Commerce and PUC) --> move out and assign responsibility to MPCA and MDNR
- WRAPS implementation funding for protection strategies in addition to restoration funding
- Shut down nuclear reactors – threat to drinking water and not affordable; more reliance on renewable energy
- No locally-based watershed management funding mechanism
- Not all problems are agriculturally based. Urban practices also create problems
- Evaluate economics and cost benefits of green infrastructure vs. conventional
- Environmental review process is weakened when untrained staff are involved; need high quality professionals for MEPA evaluations
- Groundwater protection when infrastructure planning
- Water price doesn't reflect all costs
- Need to protect clean water – shift CWF to protection, esp. w/ drinking water dependence – especially in headwaters

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- Using science for decision making
- Better enforcement of existing regulations
- Oil pipeline route poses threats to clean water – comprehensive EIS needed
- Monoculture for agriculture – set goals for continuous living cover (20% by 2020)
- Cellulosic fuel (ethanol) standard needed
- Short-term thinking and economic outcomes are top priority
- Oil train derailments along the Miss. River

**What can the Governor and this administration do to advance this solution?**

- Clear commitment to oil pipeline EIS and evaluation of alternative routes
- Nutrient reduction strategy (45%) is achieved
- Create dept. for long-term thinking and policy development, including analysis of state-wide water risks
- Economic analysis tools are developed to aid long-term decision making
- Conflict of mission problem w/ Dept. of Commerce, which both promotes and regulates oil pipeline development – pass reg. responsibility to MPCA and MDNR
- Solutions to protect both land and underlying groundwater (synergism)
- Organizations w/ competing interests should talk – facilitate those discussions
- Use bully pulpit for clean water investment; bonding bill should invest in clean water; agency leaders need to follow governor's lead on clean water advocacy
- Natural ecosystem are a solution to healthy waters
- Invest time and funding to protect water resources
- Separate responsibilities of promoting and regulating mining
- Minnesota should be national leader in clean water – set lofty vision
- Moratorium on pipeline improvements until state identifies possible corridors w/ context of other natural resource concerns (renewable energy and clean water)
- Respect 1837, 1854, 1855 treaty rights, rather than acting as they do not exist
- Engage local NGOs as a critical part of the solution for clean water
- Forest land conversion to other uses should be evaluated and discouraged, require a higher environmental outcome when conversion occurs
- Tax credits for good land use practices
- MPCA suffers from corporate influence; not a good thing (regulatory capture) – examine acceptable level of risk for regulation (MPCA)
- Establish environmental justice arm of the governor's office
- More state and local NGOs implementing projects
- Balanced conversations w/ environmentalists, ag, and mining
- Tools to implement TMDLs, WRAPs, water plans (all water plans in MN)
- Voluntary ag BMPs are not working. Need mandatory rules for agriculture in impaired watersheds
- Minnesota Critical Area Act (1973) – Mississippi bluff lands and floodplains are a critical concern (Twin Cities to Iowa border) area
- Governor and U of M: identify and solve most complex problems; frame next generation of problem solvers
- Change Ag Certification Program to include nitrate-nitrogen
- MDNR is too greater MN-centric; more metro area engagement
- Greater emphasis on BMPs and linkage to NRCS (?)

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Not enough time to address this question

**Harvesting Key Themes**

- Invest in protecting state waters, not just restoring
- Total analysis of threats to state waters
- Disconnect between high level policies and actions to improve
- No good strategic plan
- Clarify and direct state departments on their roles in clean water
- Conflicts of interest between regulation and business
- Protect lands for waters' sake
- Public-private partnerships are important
- Headwaters and source water protection
- Address conflict between development for local economic benefit and natural resource protection
- Equity of all living things
- Long-term big picture planning

**Session 2:**

**What is already working in this area that could be scaled up or enhanced?**

- Federal Gulf Hypoxia Task Force
- No reduction in MNRRRA Critical Area; restore dedicated staff (MDNR); adoption of shore land management plans; rules in place for 40 years; don't reduce protections by MDNR. City of St. Paul needs shore land management plan; MDNR should not obstruct process.
- Cities are turning their faces to the river
- TMDL plans are working well; implementation is needed
- "State of the River Report" by FMR/NPS; need more sources like this for general public. Sept. 22 is release of updated report
- River gorge protected in Twin Cities
- Permitting agencies need to comply with federal and state laws
- City treatment plants are improving
- Communication needs to include all stakeholders and public; including individual decisions to protect water
- Ag Certification Program and urban redevelopment
- Initiative to restore river above St. Anthony Falls
- Water storage throughout the basin – need for improvement
- Loss of wetlands in metro area w/ replacement outside of metro area is a problem
- Partnerships, including youth involvement
- Closure of Upper Locks on Miss. River (proactive step)
- Statewide water education programs
- Water is surprisingly clear in Upper Miss. River
- Watershed districts are doing good work
- Buffer Initiative is a positive

**What barriers still exist and how should we address them?**

- Minn. River is a barrier to clean water in the Miss. River
- Better TMDL implementation is needed
- Not enough incentive-based drivers to improve water, especially for private sector involvement
- Using science to determine courses and solutions. Too much guesswork. Research money is needed
- How to restore natural Miss. River corridor in the Twin Cities
- Need invasive species protection for river below St. Anthony Falls
- Will to act on the problem. Public education is still a large need.
- Buffer Initiative implementation is still needed
- Ag not subject to Clean Water Act. No requirements to implement Ag BMPs, as compared to point source and urban BMPs
- Extend urban phosphorus application rule to ag practices (use only as needed, based on soil tests)
- More ground truthing of possible solutions; more measurement, less modeling
- “Monoculture is a very white group; no minority representation in conservation and work”
- Public education is a barrier, especially to support legislative work. Facebook posts on key water topics; also webinars
- Legislator interference w/ state agencies and employees. Data does not support what legislator wants; so undue influence on agency stuff.
- Boundaries between groups working toward common objectives
- Farmers do not pay the environmental cost of their practices; not enough accountability by farmers
- No air pollution enforcement by MPCA against GAF and Northern Metal along upper Miss. River
- Aging infrastructure in metro corridor of Miss. River

**What can the Governor and this administration do to advance this solution?**

- Enforce existing laws
- Laws: new, expanded, and enforced
- Robust EIS for pipelines by environmental agencies, not Dept. of Commerce
- Recognize that some farmers are doing the right thing (share this info)
- Develop good farming models (is this Ag Certification Program?)
- Large potential for public use of Metro Miss. Corridor
- Under-representation of minority populations
- Research-based solutions

What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?

- Not enough time to address this question

**Harvesting Key Themes**

- Laws: new, expanded, and enforced (strong EIS)
- Education – better at all levels
- Science-based decision making (more research, contaminants of emerging concern)
- Expand voluntary programs

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- Acknowledging changing landscape (land use, water flow) (climate)
- Limit to voluntary actions to improve water quality – may need more regulation
- Rules, staffing, and budgets should be aligned to meet clean water goals
- Engage minority communities
- Policy and process drive solutions; targeted implementation rather than broad policy
- Celebrating successes

## Session 2:

### **What is already working in this area that could be scaled up or enhanced?**

- Go over rules and permitting agencies EIS cannot bypass state and local and federal laws.
- Growing awareness of need to store water on the landscape in the basin.
- Above the fuller restoration and parkland planning.
- Plans to restore formerly industrial areas to protected natural shorelines and public shared trails and parks. (need implementation money). Enhance awareness of good river front renewal as a way to increase tourism and tax base development. (see Mississippi partnership )( [Mississippiriverfront.org](http://Mississippiriverfront.org)) for a great example.
- Recognize the many citizens and groups who are working on the river
- Highlight their work make support to bring them together.

### **What barriers still exist and how we address them?**

- State Motto “land of 10,000 lakes” is a barrier. It makes you think that water resources are unlimited and easily available where as it takes a lot to make safe water available.
- Legislative interference with state agency employees bypassing department heads.
- Large scale implementation of BMPS in watershed-funding and landowner adoption especially wetlands and water storage
- In metro area Mississippi river lots of alteration.
- DNR is to greater MN sees smaller but impactful opportunities in metro as “to small” “off mission” need to rebalance the focus. Too much city by city instead of overall drinking water protection for river. Farms in AG is less than 20,000 people –stop coddling old views of the family farm hold them accountable.
- We need to increase land in perennial cover and reduce the percent of land in corn. We can do this.
- Landscape changes-Stop cutting down forests for more row corn fields, overflow from drainage tile, flooding and drought is exacerbated, erosion, excess nitrate and nutrient pollution.
- Nuclear waste and pollution on the river
- Lack of understanding, calculation of green infrastructure system benefits and cost of these. They cannot be replaced except at great cost.
- Short term thinking immediate corporate profits and economic (local) benefit that risks water quality/quantity, future of state and planet, and future generations
- Address thru Omnibudman/guardian for future generations.

### **What can the Governor and this administration do to advance this solution?**

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- Should start an initiative to change the state motto to reflect this more complex dynamic, and use the opportunity to engage the public to increase awareness and generate community backing. 10,000 lakes 1 water.
- Legislators cannot threaten state employees.
- Support planning of restoration activities in the Mississippi river within the Twin Cities especially the Gorge
- A new CREP for wetlands and water storage in Minnesota River Basin.
- The polluter pays approach it like it is done in Superfund to help AG and business contributes money. Have DNR promote and assist cities reclaim river banks from industry and restore to recreational and natural parks ex: halls Island bond request DNR permits. Partner with national Parks service its Centennial celebration to increase recognition of the Mississippi river national park and its role as one of the world's greatest river. KEY- a drinking water source protection plan for all of Mississippi.
- Re-establish a strong MPCA board
- Amend the states Ethanol requirement to include a significant ( at least half) for perennial sources.
- More mandatory best management practice for AG.
- Implement great plans like Nutrient reduction strategy. (aggressive)
- Governor should-specific to the Mississippi River Basin –extend to critical area statues from Dakota 6 where it ends. Through the Mississippi and down river and coordinate efforts 9LGUS and through this area to 1A border
- Work to make oil/ethanol/hazardous trains safer if can't remove from river shores.
- Appoint Guardian of future generations humans, animals, plants etc. Water-air-habitable planet.

**What role do you see for the constituency and sector that you represent in the implantation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- a) Money is a tremendous influence along with politics have people who are a regulatory agency. Be thorough. The pipe used for pipelines is of inadequate design.
- a) The University of Minnesota is doing a study to examine the feasibility of restoring the Mississippi gorge.
- b) We are also looking at ways to store and treat farmland .....? And drainage in the Minnesota River Basin.
- c) Partnership with cities along the river and special Mississippi river city designation if plans are in place to reduce adverse impacts and increase engagement with the river. Partner with regional park system in Metro to add features, programs and natural restoration efforts that will engage the public in treasuring and protection the mighty Mississippi.
- d) Environmental groups support this-incentives are needed to make sure farmers are financially protected-now financial incentives for US farm bill reward corn monoculture.
- e) Also Governor can change the water quality certification program to include standards for nitrogen.
- f) Education of community, business and farmers
- g) Advocate for good policies at capitol.

- h) The citizens LGVs in this “critical” bluff land flood plain activated around protected rivers. It would be very timely to the critical area ... to extend this..... and support and help coordinate implementation and plans that support that are protective of the special qualities and infrastructure (green).
- i) Continue to advocate
- j) Work with other groups on issues.

## Lake Superior, Session 2:

### **What is already working in this area and could be scaled up or enhanced.**

- Cleaning up the St. Louis River Area of Concern is going along very well. Cleaning up and restoring habitat is necessary under federal law.
- Protecting national and state public lands
- Our economy is diversifying and getting away from polluting industries.
- Tribal governments care very much and can be a valuable resource.
- Great Lakes Compact – bipartisan cooperation to protect our Great Lakes.
- We are spending a lot of money on cleaning up the AOC. Upstream mining will pollute again. Have Governor stop Pollymet.
- Progress on some of the TMDLS.
- Progress on rural broadband leads to diverse economy.
- Building strongest water science infrastructure and workforce in the world.
- Wastewater treatment plans are doing a good job. More could be done.
- Great Lakes Restoration Initiative is good – Congress realizes the benefit. Keep it going. Get EPA out of it.
- TMDL’s – Mercury TMDL back on track
- Implement One Watershed One Plan state-wide so uniform and everyone on the same playing field. Money has been available for creating the plans. Not enough money to implement the plans.
- Wetlands – there are a lot of them so people do not think we need to protect them. But we do.
- St. Louis River Remedial Action Plan and Area of Concern work is working well and should continue – push for the bonding money to sustain that effort and get the work accomplished while there is federal money to match.
- Great Lakes Commission is working
- Great Lakes Fish & Wildlife Commission is working
- Great Lakes Water Quality Agreement is working
- Sea Lamprey Program works.

### **What barriers still exist and how should we address them?**

- Not working – EPA – the structure and way they have been managing. (Flint) Struggle and current administration was just fired in Chicago. Get rid of EPA doling \$ to non-profits
- Agencies have conflicting roles DNR- mineral leases vs. protecting the environment, regulatory vs. management vs. funding. Re-constitute agencies with a focus on roles – the Dept of

Commerce is doing the pipeline. Was put there for political reasons and they do not have the experience or expertise and have conflicting values.

- Polymet mine proposal should be denied. Must recognize the risk to Lake Superior.
- Balast Water and lack of effective leadership for freshwater research systems to prevent the spread of AOC. Must include lakers and ocean going vessels and enforce coast guard rules.
- Commitment and funding to roll out One Watershed One Plan using science based tools – watershed restoration and protection strategies.
- Implement funding to watershed plans that have been done. County staff are limited.
- How to break resources away from the rest of the state to protect water that everyone in the state loves.
- Forestry dept. at DNR not helping or supporting the water quality plans.
- Incompetence of environmental review. If not done right, makes MEPA irrelevant. Assign to the correct agency to protect the resources. (not Dept. of Commerce)
- One in ten babies have unsafe mercury levels in the St. Louis River area. Re-start the mercury TMDL in the St. Louis River.
- Climate change impact on watershed, rivers and lake . Continue to work with agencies and local interests for decision making – get stormwater, land use and climate adaptation information to local decision makers.
- Climate change was rejected by Dept. of Commerce in the environmental review process. Also look at what is imported. Needs to be done on a global level, not just a state level. Any environmental review, not just the pipeline.
- Integrated collaboration of fed, state, tribes on great lakes
- One Water One Plan working well, but need more funding.
- Need more Clean Water Funds going to protection vs. restoration. Keep high quality waters from being impaired.
- Don't have enough monitoring data on all of the watersheds yet.
- Need more system wide (not projects) – move from projects to holistic programs.
- We don't enforce permits – have many expired permits – mining permits. No numeric W.Q. permits and EPA is evaluating the MPCA on permitting right now.
- If have mining – put in closed water systems at each mine.
- Groundwater atlas for the state does not have a St. Louis County Entry. (This is an inventory and map of groundwater resources)
- Defend the Great Lakes compact and stop the diversion
- Make it a priority to keep water science is STEM
- Do placed based water education
- People take water for granted. Educate people (Flint. Mi.)
- Lack of watershed scale local management and water and LAND local management.
- Push to capitalize our natural resources. Protect what is here rather than extract the resources.
- IRRRB is a barrier. Senator Tom Bakk not protective of environment. We need to deal with jerrymandering that has created a caball.
- MN. Controls only 5% of Lake Superior Water so need to increase cooperation on Lake Superior.
- Too much mercury in St. Louis River. Finish the TMDL.
- Give no mining a chance. Let economy go without mining

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- Few ships test ballast water. Enforce rules.
- Reach out to anglers and duck hunters to let them know mining is a threat. To enhance state attention to re-localization. Transition towns model. More sustainability.
- This watershed is the terminus to the Sandpiper pipeline. Do not allow oil to be shipped on the Great Lakes.
- Long term mineral leasing shackles region to harmful industry. Stop leasing the mineral right.
- People think mining brings in so much money. But not true. Southern Legislature must say no to mining. But also invest in the new – like cell phone recycling on the range.
- Federal legislation – oil field conservation to prevent gas flaring.
- DNR and MPCA hand cuffed by political pressures so we as citizens need to elect legislators that protect water and allow agencies to do the work they are supposed to do. Enforce 30 year old taconite basins that are polluting.
- DNR is supposed to protect the environment – move mining responsibilities.
- There are 10 contaminated sites in the St. Louis River that need to be cleaned up. Pass the bonding bill.
- Climate change – support and go beyond the clean power plan. Look at climate change in environmental review. Tell EQB to do rule making.
- The lack of awareness of the vast county and state ownership of lands
- Encourage communication on data sharing between county and state and others.
- Lack of comprehensive data on water quality
- Fund consistent data collection and management
- Largest superfund site – cap and store pollutants is not okay at U.S. Steel. Put on land and not in water.
- Help coastal communities and industries understand the implications of lower water levels.
- Bring back MPCA citizens board with it's full powers.
- Wetland monitoring does not include detail. Floating bog does not equal a cattail swamp.
- Ecosystem valuation should be done.

**What can the Governor and this administration do to advance this solution?**

- Help find ways for industry and people to co-exist without good water quality.
- Copper nickel mining is inconsistent with clean water. Not okay to poison communities. Stop Polymet.
- Gove should lean on Mn. Geological survey to replace its director with environmentalist vs. known mining promoter.
- Continue his support for St. Louis River AOC partnership with MPCA and federal government – especially as money is available to do this work.
- Enforce legislation for preservation in addition to restoration.
- Direct Dept of Education to create learning centers for children at parks or community centers.
- Veto the Wakasha Diversion.
- Value the opinions of people in the region.
- Trust the agencies to do their job
- Should do a summit on Lake Superior – could invite the other governors.
- Dayton create a water coalition of pro water quality legislators to get power in this situation

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- Follow-up on his summit.
- Roll out One Water One Plan state-wide using WRAPS
- Exercise Veto on Wakasha diversion and enforce Great Lakes Compact
- Get a member of the Great Lakes Commission (direct engagement)
- Engage the entire organization in climate change - pressure from elsewhere in the U.S. – plan now vs. react later.
- Deny permit application of Polymet. Fire the Polymet state lawyer from DNR was active in the \_\_\_\_\_ EPA issue.

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across the sectors?**

- Hamline – trains teachers on water issues
- Mn. Sea Grant can bring water science to people who need it and create the science people need.
- Sea Grant could help with a 2017 Lake Superior Summit
- River Walks – S. Louis River, Mississippi, MN. River (NIBI walks) spiritual basis – need to consider this as well.
- Drinking water quality – tell people what they are drinking
- MEP – Great Lakes Cluster welcomes more people to participate.
- Support Gov's denial of Polymet permit, support agencies denial of EIS.

### **Harvesting Key Themes**

#### **Session 1**

- No sulfide mining in Lake Superior Watershed
- Need good data to make good decisions
- Support Bonding request and St. Louis River AOC work at 10 contaminated sites. Strong partnerships are in place. Make a high priority. Complete this restoration.
- Balance the economy vs. environment and account for environmental risks

### **Harvesting Key Themes**

#### **Session 2**

- Protect the water from new sources of pollution like Copper Nickel Mining And AIS.
- Protect Lake Superior through the Great Lakes Compact
- Provide funding for monitoring, planning and implementing watershed work
- Protect state employees when they speak the truth. Defend the agencies that speak the truth and support the scientific integrity and defend those that live to that.

## Governor's Water Summit Written Comments from Attendees of the Iconic Waters Session

### **What is already working in this area that could be scaled up or enhanced?**

- Rainy river phosphorus loads have been reduced since the 1980's
- Protected public land, buffer zones for mining exploration and development.
- Wilderness designation/protected lands. Mining protection no current sulfide mines keep it that way.
- Nature as it evolved has created the pristine wilderness as it evolved-clean water-tourism and local economy working

### **What barriers still exist and how should we address them?**

- Industry, especially mining interests dominate lobbying and revolving door regulators industry influence to rollback protection.
- Knowledge is needed to understand intake loading of phosphorus from lake sediment especially as climate changes, impact from climate change, atmosphere deposition of P & N.
- Urgent Threat, sulfide one copper mining ¼ mile from the boundary waters and directly upstream proposed by twin metals. Prospecting and test drilling. Southern Wilderness, border vulnerable.
- Many regulations not being enforced-i.e. Minntac
- Foreign dollars promoting sulfide mining-never done anywhere without serious depression.
- Too much shady money. Tell them to go elsewhere!

### **What can the Governor and this administration do to advance this solution?**

- Deny a permit for Polymet's proposed sulfide mine.
- Withdraw state mineral leases and expand mining buffer zones around the BWCA.
- Motivation (?) of the twin metals action until Polymet resolved.
- Stop sulfide mining
- Diversify economy to provide alternative jobs.
- Support permanent protection-no mining in the watershed of Americas most visited wilderness. Support federal process of review twin metals expired mineral leases and study what there sulfide mining is even appropriate in the watershed.
- Most not approve of any sulfide mining this water is rich and the environment promote more local business diversify the economy-enforcing existing regulations.
- Involve canoeists, snorklers, anglers, duck hunters, birders, etc. to further bolster the tourism industry.

### **What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- We advocate for the boundary waters and are bringing citizens voices to the capitol to pose for protection.
- Scientists need to better understand wilderness that affects nutrients and contaminate cycling, especially in the lake sediments and to better understand response times.

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- Overwhelming public support for the not allowing sulfide mining near the BWCA across many demographic regions including NE MN and nationally.
- Business outfitters and others who depend on healthy water and forests in BWCA and Superior national forest are strong spoke people against pollution destruction from proposed sulfide mining.
- Governor must not approve of any sulfide mining and in particular sulfide mining. Must work with existing organizations –agencies to enforce regulations-watershed, national parks,
- Natural environments. Find ways to get people –young and old into BW.

## Breakout Topic 4: Sustaining Our Water Supplies

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### Efficient Use and Pricing of Water, Session 1:

#### What is already working in this area that could be scaled up or enhanced?

- Appliance retrofits
- Colgate water use commercial in Super Bowl
- Food choices and water use
- Peer pressure is important for influencing water use
- Better information in water bills would be helpful
- Shaming works!
- Sending out leak notices
- Tiered water rates-rates are still too low and don't match the real cost of water
- High fixed rates can (base rate) cause low income users to be hurt
- Do higher rates influence conservation
- The next generation of people can change their behavior
- Watering days-odd/even is good?
- Is it really so bad to have brown grass in the summer?
- Odd/even watering does not help reduce water use
- Can we better educate people about their land use practices?
- We need to allow people to put in native plantings
- Municipal codes encourage a golf course mindset for lawn irrigation
- Need alignment between municipal codes and water conservation
- What about enforcement
- There is a conflict between revenue needed to maintain the water supply system and conservation
- The energy industry can be a source for methods to reduce water use

#### What barriers still exist and how should we address them?

- The plumbing code is a barrier to water reuse, as is difficulty in obtaining DNR permits
- Watershed district policies can inhibit water reuse
- We need better data on water use, easier to obtain
- There needs to be more money available for retrofits
- More water infrastructure is needed
- Communities are banning private wells, this could be a problem, perhaps private wells could be used for nonpotable use or even potable use
- But what about wellhead protection efforts with private wells?
- Water conservation messages are different in public systems vs. private wells.
- Need more incentives for water efficiency at home

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- Water bills need to be easier to understand
- Well interference in southern Minnesota (due to feedlots) is a big issue. Wells are going to dry and it costs thousands of dollars to drill a deeper well.
- How much do large volume users pay for their DNR permit?
- Production of cheap meat drives some rural water use
- Do some agricultural water users not have permits?
- Bank loan requirements sometimes require agricultural irrigation and more irrigation is occurring (SE MN)

**What can the Governor and his administration do to advance this solution?**

- Help encourage water reuse via plumbing code
- Help encourage inter-agency collaboration
- Promote education, irrigation, turn off faucets, etc.
- Dakota County example (Governor's remarks)
- Government facilities and grounds should be water efficiency examples
- Water messaging! Who is the lead agency? Who is carrying the ball?
- Grey water reuse is currently prohibited. Why?
- Who is working on the plumbing code issue? They need to reach out to practitioners.
- Support water recharge! Pump the treated wastewater back into recharge areas.
- Need incentives for homeowners/contractors to encourage efficiency (tax credits, grants)
- Add water utilization improvements to the MHFA loan program-stormwater reuse
- Penalties for those who use too much water
- Governor-take the lead on water before it becomes a political football
- We need to learn about conservation practices from other states
- Encourage the Legislative Water Commission

**What role do you see for the constituency and sector that represents in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Educate and get the facts out, make this Summit an annual event
- Private sector innovation/implementation is important
- Need the policies in place to encourage innovation, state and local
- Local government can shift the water culture, they could use some help in their efforts, starting with the Governor and Legislature
- Freshwater Society/Minnehaha CWD-Master Water Steward program could be helpful
- MN Irrigators Association is concerned about irrigation efficiency too, wants to be part of the solution/discussion
- Can we reuse the water being pumped down the river?

**Harvesting Key Themes**

- Educate to change individual behavior, tailored to constituencies
- Find balance between conservation and infrastructure financing
- Find regulations that interfere with reuse, eliminate them
- Plumbing code needs to be changed to better accommodate reuse

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- Agencies can set the example on efficient water use as can localities/cities
- Tiered pricing needs to be adjusted to influence water use
- Change codes in municipalities to encourage water efficiency
- State investment is important
- Agency collaboration is important

## Efficient Use and Pricing of Water, Session 2:

### **What is already working in this area that could be scaled up or enhanced?**

- Met Council/DNR is doing a good job of creating information that is useful
- MN Legacy Fund is funding good activities
- Many organizations working together on clean water
- Recent plumbing code changes are helpful
- Pricing structures that are designed to encourage water conservation are working well
- Eden Prairie has made innovative pricing/conservation efforts and it has been positively affected by their education program (begun in 1997) can this be emphasized more statewide?
- Local groups are doing a good job of communicating
- Groundwater/surface water interactions are being discussed
- Wellhead protection planning
- This Water Summit is working well!
- Connections between land use and surface water downstream

### **What barriers still exist and how should we address them?**

- Dodge County Concerned Citizens noted that there are several feedlots with no water appropriations permits
- Production farming-ethanol production is using a lot of water
- Need to change green lawn esthetic
- What is an efficient irrigation system vs. a cheap irrigation system
- Need to be innovative in capturing and using spring rain flows
- Lack of diverse living cover year round, too much corn, soybean, bluegrass
- “Water has to be cheap” is a mindset that needs to be analyzed. Why do local government agencies need to address this without sufficient funding? Need to re-prioritize this
- There is an urgency to water supply issues
- Industrial agriculture is using a lot of free water—make them pay for it.
- DNR-can they require conservation in order to change the appropriations permits?
- The operations and lifecycle costs of a water supply system needs to be part of education efforts
- Need buffer zones around lakes so lawns aren’t mowed down to the lakeshore-need more information shared about this
- Need well-documented available maps of areas with un-useable groundwater
- Manure management plans need to be required/enforced-MN has the equivalent of 50 million people in terms of statewide manure production

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- Manure application in winter is occurring –it can be damaging but it’s allowed by those who are governing, maybe by design
- Rural residents are suffering from too many feedlots, including retribution against citizens who are speaking out

**What can the Governor and his administration do to advance this solution?**

- Education on how to speak out and make their voices heard in rural areas
- Need to help people have opportunities to speak out and not be afraid
- Governor needs to demand/direct agencies to do their regulatory job
- Share examples of agencies working together
- Need to show examples of success in agricultural and urban conservation
- Could we have a better/more transparent source of information? Too many websites now.
- Governor/Legislators need to emphasize/develop/support water awareness to everyone
- Re-prioritize tax dollars toward education about water supply systems and their lifecycle
- A local aid program for water infrastructure
- Take this Water Summit dialogue to different parts of the state
- Conservation rates-the nonessential water use needs to be emphasized and focused on to reduce non-essential use
- The low hanging fruit is nonessential use
- Needs to be a statewide focus
- Big ag/Enbridge seem to get their way in permitting (EIS). Require the EIS (MPCA, PUC)
- Need more environmental review at the local level so that environmental reviews are actually conducted.
- The threshold for environmental reviews in water appropriations is too high
- Local environmental review may not be the best in some cases
- Need to support water education, the water system and pricing takes it into account. The governor could lead this
- Improve the water literacy of our children
- It’s so much more expensive to remediate than to make a clean water decision in the beginning

**What role do you see for the constituency and sector that represents in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- The conservation community can work with the source water protection community
- National Ground water Association-NGWA-Groundwater Awareness Week
- Department of Education should be involved in water education efforts
- 20% living cover by 2020 led by Governor, set a goal

**Harvesting Key Themes**

- Youth education on water use (to all)-Super Bowl commercial
- Compliance with existing rules/laws/regulations
- Coordination among agencies and environmental groups
- EISs on large projects (pipelines, agriculture)-new environmental laws
- Raise the priority of water via state funding

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- We need people to understand how much water infrastructure costs and how we pay for it (pay some now or pay more later)
- Separate nonessential water use-distinguish it, focus on it
- Nonessential domestic use needs to be segregated
- Require technologies to encourage water conservation
- Plan for the future of a one-year-old child

## Session 2:

### **What is already working in this area that could be scaled up or enhanced?**

- Water quality standards (construction, public health)
- Need to consider more communication/collaboration by state agencies. Are agencies siloed?
- Race to Reduce for K-12 education to affect long-term change. Youth aren't afraid to ask people to change the way older people sometimes are.
- We have a governor who talked about the ETHIC of taking care of water – recognize our obligation as a human to take care of water
- Pope Francis encyclical on the environment reflects recognition in many cultures to improve how we address the environment.
- Consider Dubuque, Iowa lawsuit against agricultural runoff to reduce nitrates. This raises awareness of the need to look at costs and who pays.
- Consider that 60% of MDA wells being monitored in central and southeastern MN have nitrate issues. Flint is an infrastructure issue – they are pulling water from a contaminated water source. Are our water sources also contaminated?
- Wellhead protection programs are working, but may be misunderstood to limit land uses or may be used as a reason to ban wells.

### **What barriers still exist and how should we address them?**

- Misunderstanding about wellhead protection program requirements, application of information
- Need to improve recognition of water-soil connections. Are agencies working across these disciplines in a way that reflects the interconnection of those systems?
- Need for more alignment among agencies on related topics (like soil, water, wellhead protection)
- Need better goal alignment among agencies, and goals based on science (not politics)
- Need to recognize the need to care for deep (bedrock) aquifers. Irrigation may expand to increase use of these aquifers.
- Lack of information about recharge areas for deep aquifers, to ensure good water recharges the groundwater system.
- Need to balance the amount of groundwater withdrawal with how much recharge is occurring
- Need to project recharge areas, reduce potential contaminants
- Concern with groundwater level decline due to over-pumping
- Increased use of feedlots in Minnesota (230 in Dodge County), with no information about their use of groundwater, because they don't require water appropriation permits

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- A barrier is lack of agreement on the facts
- Lack of information about how water is used by well owners pumping less than 10,000 gallons per day or 1,000,000 gallons per year (no water appropriation permits). Some categories of water use are poorly understood (feed lots, domestic)
- Private well owners don't have the same level of source water protection as municipal water supply systems. The onus for testing is on private well owners.
- K-12 MN school curriculum requirements limit what/how water education can be taught in schools.

#### **What can the Governor and his administration do to advance this solution?**

- Promote education, training that's fun and promotes attitude changes.
- Recognize long-term goals that can happen with behavior change by today's youth
- KEEP TALKING about Minnesota's water issues
- Water shouldn't be political. Embrace ways to get people talking and working together.
- All sectors should participate in conversation about "Do we believe in polluter pay, or not?"
- We need to change rules regarding graywater. Try to reuse and recharge treated wastewater.
- Municipal water infrastructure systems are very old and leaky. Money is needed to maintain infrastructure.
- "We need to keep water in our state and reuse it"
- We should be investing in upgrading our water infrastructure
- Send a message at the federal levels, to make sure we are investing enough in our water supply infrastructure.
- We need to manage aquifer recharge – we're already treating water to high quality. Why put this high quality water into a river and send it away?
- Research into reuse and injecting treated water into aquifers – build on a growing field of study out of California and the desert southwest.
- Encourage MN Department of Agriculture rulemaking for groundwater and water quality issues
- Allocate funds to make it happen, although most people may not be thinking of the topic.
- Rate structures could be changed to better reward efficient water use, not just penalize people for using too much.
- A huge education piece needs to be done across the state and country to raise awareness of 1) how much water we use and 2) the amount of water in the products we use.
- Ethanol has been an issue due to the amount of water needed to produce it.
- Support environmental education displays, field trips of water plant (example: Eden Prairie)
- Consider re-allocating some state tax money to have statewide education on water issues.
- (Question from an attendee to the group: "Can we do better with tools to inform people about how much water they use?")
- (Question from an attendee to the group: "Is there a way to simplify this topic?")

#### **Harvesting Key Themes**

- Educate the populace
- Educated people can make more informed decisions

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- Clear goal/vision: We want swimmable, drinkable water and we all have a responsibility to help manage it as a community
- Agriculture has a big role to play (write policy to reward good work)
- Work together to achieve common goals
- Water efficiency and reuse is important to address

## Water Supply Planning/Drinking Water Protection, Session 1:

### What is already working in this area that could be scaled up or enhanced?

- Social Science needs to be a part of the Water quantity/quality solutions.
- Education on conservation, H2O for Life has educational materials for K-12.
- Need more Surface water use for drinking water.
- Need to promote more sustainability at the business level, not just residential.
- Education on WHP areas.
- Need more education on contaminants of emerging concern.
- Water knows no political boundaries, need to manage water regionally.
- Using Nature to protect all waters.
- Water treatment is water wasteful.

### What barriers still exist and how should we address them?

- Plumbing codes prohibit the ability for reuse of water.
- Surface water treatment is very expensive, need to get treatment costs associated with surface water.
- The perception using surface water and need to educate people on the f drinking water sources. Where drinking water comes from?
- People don't understand where their water comes from!
- Regulations prohibit water reuse of wastewater and stormwater.
- Need to hold more water from reuse on the land surface to recharge aquifers.
- Unwillingness to regulate agricultural pollution such as drain tile and nitrates.
- Education regarding the fallacies of using bottled water.
- Public perceptions need to improve on water conservation an also regarding the source of the drinking water.
- Water is cheap, compared to its true cost.
- Pharmaceutical wastes need to be addressed and kept out of water sources.
- Water knows no political boundaries and should have regional planning with local control.
- Permits.
- Watersheds can work to protect groundwater with management plans.
- Product stewardship needs to be required.

### What can the Governor and his administration do to advance this solution?

- Product stewardship needs to be required of companies producing products in the waste stream.

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- Need product stewardship litigation framework
- Businesses expect government to pick-up the costs for clean water.
- Regulate water with a water utility commission level, an independent agency to manager water.
- Expand WHP, coordinate with watersheds and SWCDs.
- Water Treatment = a band aid on a sucking chest wound.
- Continue to talk about water protection of water resources, need more voices.
- Omit the revenue stream from providing drinking water.
- Deal with agricultural runoff.
- Bring education home with K-12 regarding water.
- People are inclined to act if they are part of the solution.
- Ethics of water is needed.
- Septic systems are a problem for private well water users.
- Need more education on bottled water as a source of drinking water.
- Increase the number of water bottle fill stations everywhere.
- The state is water rich, but not necessarily all is drinkable.
- Great Lakes should not be used for irrigation.
- MN needs “Waters of the U.S.”, there is misinformation out there and the Governor needs to weigh in.
- Department of Education needs to step up regarding the education of water resources.

**What role do you see for the constituency and sector that represents in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Yes!
- Talk about water management problems across all sectors.
- Funding is needed at the local level to address water issues, so it is easier to accomplish.
- Education of K-12 to work collectively on sharing of ideas on how to work together.
- Educate homeowners and adult users of water.
- Water rates are unequal in their costs to users, businesses are moving based on water costs.
- Can Engineers solve the problems?
- Energy use is a major factor in providing safe drinking water.
- Need to hold water on the land surface for a longer amount of time.
- Prevent pollution to the waters.
- Need more education, Kids listen.
- Frequent communication across government units, cities, and businesses such as the Water Summit.

## Session 2:

**What is already working in this area that could be scaled up or enhanced?**

- The city of Minneapolis needs a redundant source a backup system and the resources to create the redundancy.
- Current Wellhead Protection planning is working and needs to expand.

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- Wellhead Protection areas cross transportation corridors which can be vulnerable and community need the ability to isolate potential contamination.
- Increased awareness of drinking water to create a higher level of awareness.
- Met Council is working to get constituents together to talk about water issues.
- Are Agricultural BMPs working? How do we know they are working without enforcement?
- Ranking of areas to focus on Wellhead Protection on upstream protection.
- Funding for monitoring wells is working.

**What barriers still exist and how should we address them?**

- No authority to address systematic systems with jurisdictions.
- No regulations in place regarding the use of drinking water for residential irrigation.
- Inability to use greywater for lawn irrigation need changes to the plumbing code.
- Changes in the Plumbing Code to reuse water.
- Education on the costs of providing drinking water and also the costs of water for irrigation.
- Costs of nonpoint sources of pollution that cities incur, they are not recovering the true costs associated with providing safe drinking water.
- Water rates are too low and don't reflect the cost of providing water.
- Permitting is not working for appropriating the use of groundwater.
- Government is not considering local citizen input. LGU's are not listening to the citizens groups.
- Disconnect between the recharge area and the area of use. Not having recharge areas identified.
- The siting of mines without considering the water quality in private wells.
- Not allowing residents to use their own water supply wells when public water is available.
- No tracking of excess nitrogen applications and the levels in the groundwater.

**What can the Governor and his administration do to advance this solution?**

- Encourage SMART farming practices in groundwater recharge areas BMP's , more cover crops to reduce nitrogen losses to groundwater.
- Reform the plumbing code to allow reuse of non-potable water for other uses.
- Talk about interdependence of all water, manage wastewater as "all waters".
- Feasibility study on greywater use.
- Big "W" water.
- Support Forever Green.
- Look at how policies that could protect highly vulnerable recharge areas.
- Create more water reuse, reclamation of stormwater and wastewater.
- Not back- off in the Governor's proposals for infrastructure projects.
- Funding for prevention of contamination to groundwater.
- Don't let the buffer initiative get watered down.

**What role do you see for the constituency and sector that represents in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Resource sharing among entities.

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- Partnerships between upstream and downstream water users, (i.e. Iowa Watershed and city of Des Moines not litigation).
- Grants for educational practices at the higher education level.
- Land Steward Program and MDA should partner.
- Blue Green Alliance partners with others on solutions, in addition to adding environmental groups.
- Nature Conservancy working with WHP areas to protect groundwater. Work closer with NGOs.
- Need to work on the Farm Bill, cities don't receive any funding to treat water for drinking water.
- Need a user fee on nitrogen use.
- Need to attach a fee to the excess nitrogen loss as a source of pollution.
- Fund research on emerging contaminants of concern. Pharmaceuticals released into groundwater through septic systems.
- WQA-collaborate w local associations.
- Need to better track water use by water suppliers,(i.e. meters for water usage, and education on how to manage water use).
- Properly price water.
- Reuse
- Connect upstream and downstream.
- Multiple benefits approach to protection drinking water
- Need changes to the Farm Bill to eliminate payments for losses.

## Session 1:

### **What is already working in this area that could be scaled up or enhanced?**

- Invest in more surface water use for drinking and other uses, versus groundwater
- Invest in clean energy (solar and wind) to use less water for power
- Curb irrigation use
- Invest in reuse that matches water quality to use → don't spend money to treat water to standards that aren't needed, reduce stress on natural groundwater and surface water
- Expedite the plumbing code review and revision to support reuse of groundwater (purple pipe)
- Expedite work to reduce barriers to reuse – reduce extra cost, charge for water that reflects true value
- Metro wastewater should not be discharged to rivers – redistribute across the region

### **What barriers still exist and how should we address them?**

- Where do we get money to do this? Ex: retrofit toilets
- Incentives, disincentives for developers in cities. Example: disincentivizing stormwater reuse, providing revenue sources that support desired choices (Example, Hugo)
- Should the focus be on household use, or should the focus be on power or other big uses?
- Residential use is important, city rebates for efficient fixtures, youth education, general education on water
- Need a better word for conservation, that doesn't imply "give something up"

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- Change takes time, cultural changes takes time. What can we do to make it easier? How to curb irrigation? Increase water rates, change frequency of and access to water use data at home
- Focus on system change to make bigger impact, remove choice in a way that doesn't make it harder
- Move to pollinator friendly lawns to reduce water use, get multiple benefits
- Water for Life Race to Reduce education is embedding conservation in public school education curriculum
- Infrastructure aging – leaks – are an issue. How to pay for maintenance, specially by small public water supply systems? Also leaks in homes.
- Need to identify all the key causes to water supply issues. We may waste resources if we miss a key reason for the issues.
- Sometimes, the same barrier affects multiple potential solutions
- Farming option/issues: drought tolerant genetics can save water, but anti-GMO opinions limit this option for water savings in agriculture. Agricultural tiling can capture and stormwater

#### **What can the Governor and his administration do to advance this solution?**

- Follow-up on this Summit. Maybe have a meeting next year talk about progress.
- Agencies to legislature: identify barriers in state statutes that are implementation challenges. Consider ways we can review and maybe revise pricing structures for water
- Any new large projects should consider long-term growth plans when choosing sustainable sources
- In rural areas, land is being purchased for water protection. Could that money be better spent in the metro area to support infrastructure changes?
- The Legacy Amendment spurred land purchases in rural Minnesota, which is driving up land costs and make it harder for farmers to by land to expand their businesses. "We're competing against our own tax money"
- Is this an opportunity to look at the possibility of Executive Branch management of groundwater?
- Consider water appropriation fees for the statewide management of groundwater
- Allow for aquifer storage and recovery in Minnesota
- Concerns about contamination related to aquifer recharge using treated wastewater – not all potential contaminants are taken out in wastewater treatment
- Governor, improve your tone with farmers and business groups. Work on a more collaborative approach.
- Acknowledge the existence of and limits of programs used in rural areas to reduce the amount of fertilizers being used – such as through the Conservation Stewardship Program
- Agricultural conservation programs need to be better promoted, advertised, and success stories shared
- Buffers have a good use, but it feels like a taking to many rural property owners. Can buffer areas be taxed differently? Or, could buffer areas be allowed to be widened and used for grazing?
- Use of buffer grass could be used differently – "smart buffers" that allow property owners to still get some value out of the buffer land

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- Clearly, no one size fits all
- Expand the groundwater level observation well network
- Improve how people can see the information about groundwater changes, water use
- Let's find key issues and focus on 1 of 2, then build from there
- Focus on 10 solutions, observe how well they work, then improve as we learn.
- Need to promote behavior changes, message our goals in a positive way.

**What role to you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Get education and information out there about what agricultural programs exist. Don't let a few bad apples shape the interaction/conversation.
- Work is needed to address agricultural and drinking water in vulnerable areas like Dakota County and Hastings. Farmers can't eliminate nitrates, even with best management practices, in that vulnerable geologic setting. What to do? Consider increasing soils (more livestock might help), funding living cover, using cover crops for tillage, consider new markets to shift crop types, consider fertilizer/pesticide schedule restrictions
- Collaborate with local knowledge among property owners, subregional groups
- Consider an environmental tax credits for individuals' choices that support water sustainability, like those used for new windows and other practices that conserve energy

**Harvesting Key Themes**

- Collaboration between cities and state, and among property owners
- Funding to remove barriers – change statutes, revise the plumbing code, implement incentives
- One size does not fit all, in terms of solutions. Need to target and customize solutions.
- Stop pointing fingers – highlight the good that's being done.
- Education needed to share information in a way that is easy to access and promotes behavior changes
- Identify key causes to help focus education on key solutions

**Water Supply Planning and Drinking Water Protection, Session 1:**

**What is Already Working?**

- Race 2 Reduce program, Patty Hall explained that their education and conservation programs are working very well. They have two pilot school districts they are currently working with and have plans to expand to additional areas and make the new curriculum generic enough that it could be used statewide. They also have a "Fix A Leak" program that works well.
- Wellhead Protection Program – the efforts of protecting and recharging well water is working well. However, in some cases there is not enough under us and we need to supplement with surface water. Also we need to educate the public more. We need to figure out how to prevent contaminants of emerging concern.
- White Bear Lake – the business communities are being educated and they are part of the solution. We need to document more what is being accomplished. Water conservation can be implemented similar to garbage and recycling programs.

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- Watershed District Laws – these are working in MN and the United States should follow this model. It is a significant step to better management.
- Invest in Nature – Doug Shaw, from TNC, observed that water comes from nature and we need to think how we rely on nature and invest in nature for its role in water quality and quantity.
- Manufacture of Water – treatment if done poorly wastes a lot of water. Should we have two sources of water – one high quality for drinking and one that doesn't need as high of quality? It should be on our radar that at some point in time we may want two separate water lines.

#### **What Barriers Still Exist and How Should we Address Them?**

- Plumbing Codes – restrictions for homes for in-home water reuse.
  - Surface water treatment is very expensive – compared to groundwater. We need to find a way to equalize the cost of using either water source.
  - Lead Pipes – we need to help people understand how to do improvements and replacements
  - Utilities are a hodge-podge of separate entities. We need to find ways to work together
  - Public Perception – of using surface water for drinking water; once people become aware of the quality of treatment, they are usually ok with drinking surface water.
  - Consumers are disconnected and don't understand water supply issues or the need for wellhead protection. A lot of education is needed.
  - Regulations are slow to adapt - We are changing our position on water supply; in the past we have always dumped the wastewater in the river to get rid of it. Now we realize the need to try to hold the water in the area as long as possible. But because of old regulations we don't have the ability to reuse water and allow for needed percolation.
  - Upstream Responsibility - We are lucky we are at the headwaters, but we should be environmentally responsible for the people downstream.
  - Bottled water companies advertise that tap water is unsafe.
  - Barriers to addressing agricultural runoff drain tiles, and nitrates.
- 
- Perception that water supply is not a crisis – pricing, new incentive may help, but it may a long time before we make substantial progress, said Representative Chuck ?. Many are opposed to getting off the well and it is a political issue. Regulations, laws and jurisdictions could be strengthened.
  - True Cost of Water – water supplies are too cheap. When cities do rate increases they need to show the true costs of water.
  - Product Stewardship barrier – pharmaceutical waste is still a problem – some hospitals are required to flush excess pharmaceuticals (this may have changed). Companies need to take responsibility for safe disposal.
  - Political boundaries are different than hydrological boundaries – we need more multijurisdictional. These are also counter from geologic perspective. Water features change 100 feet underground. So it is difficult to know where to draw the line. Water is a state resource; local use is set up by state permits. Washington County is integrating with 7 watershed districts with a groundwater management plan within the county. It can be done, but agencies have to be willing.

### **What Can the Governor and this Administration Do?**

- Youth are an underutilized resource – we need more water education in the classrooms. Include “what can kids do” in the curriculum. Education works! Egan is seeing water demand go down because of a youth campaign. We need to continue to educate our youth. Lots of cities are already doing this. The MN Department of Education needs to step up and make water supply issues part of the curriculum.
- Create separate water and sewer agency at the state level, responsible for permitting, monitoring, and enforcement (Like the Public Utilities Commission) not DNR, not Met Council suggested John Zanmiller.
- Require new urban development to be served by surface water.
- Improve wellhead and watershed protection by cooperation with local units of government, SWCD, etc.
- Deal with agricultural and commercial contaminant sources – maybe with disincentives.
- Require Product Stewardship in law – water is provided by local governments, yet manufacturers don’t have to pay for their impacts. Paints, medicines, etc. is ending up in our water and we need a comprehensive framework to protect our waters.
- The Governor needs to continue to talk about water as an ongoing priority – He has made a good attempt to shine a light on this issue and help media keep it in the news. It helps to have a “big voice” to draw attention to the issue.
- Deal with agricultural runoff – continue with the buffer program and don’t compromise any further. Encourage integration of surface water and groundwater.
- Ethic of Water – is preferred for business owner, rather than more water regulations
- Wastefulness of bottled water is an issue. There are times when bottled water is needed and water filling stations have been very successful. Perhaps we could put a deposit on water bottles.
- Relax water holding restrictions in the state – we need to reuse water as often as possible.
- Septic systems are a significant problem to groundwater if they are not well maintained.
- The Governor should set water standards and then let local units of government figure out how to get there.
  
- Develop a Campaign – Yes, we are the land of 10,000 lakes...we are water rich, but it is not necessarily drinkable.
- Great Lakes Compact, absolutely no yielding - the compact should be gospel!
- Need new EPA Clean Waters Act – the Waters of the U.S. will have very little impact in Minnesota because MN water laws are good explained Rep. Reinhart. It will help other states to better clean water. The Governor should weigh in on this if he can. We need clarification of what is included and what is not because it is stuck in the courts.

### **Roles, Partnerships and Collaboration Opportunities?**

- Washington County Consortium meets monthly to talk about water issues and prioritize actions. It is very effective and helps to keep everyone in the same book, if not on the same page.
- Big issue is funding – business technology development. The cost often falls to locals because it is mandated. We need to make it easier to do. Although not everything has to cost a lot of money; Race2Reduce poster contest doesn’t cost a lot of money and it is a good way of letting kids know they can make a difference.

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- MDH should do more education – what goes into making safe water? Using water wisely? We need to go beyond water conservation.
- How can we collaborate to deal with the water pricing issues? When one city implements water conservation measure, they may have to increase their water rates and then businesses may go elsewhere to where there is cheaper water.
- Reduction is possible/we need reuse – California had a 20% water reduction mandate and some cities have achieved 35% reductions, but it was not easy. Their reuse is way better than Minnesota. Minnesota needs to get on board with water reuse.
- Drought Preparation – the climate is changing and Minnesota needs to prepare for droughts. How can we hold onto water as long as possible?
- Reusing wastewater is more economical than some other methods of water supply. San Diego is building the largest desalination plant in the world. It will use a lot of energy, but it will provide 35% of the water needs for the city with sea water. Direct Potable water can and is being done.

### Harvesting Key Themes

- Education and frequent communication to the public across all sectors is needed to let people know there is a problem with water supply in Minnesota.
- Intelligent Reuse of Water is needed – there is a “yuck” factor to recycling, but once people understand their perception is changed.
- Pollution prevention in the first place is a better investment than having to clean up water.
- Level the playing field through state mandates – the governor and the legislature need to set the base level standards of what has to be done
- Need investment - planning and return on investments
- The Governor should continue to talk about water as an ongoing priority. The big voice helps shine a light on the issue.

## Water Supply Planning and Drinking Water Protection, Session 2:

### What is Already Working?

- Minneapolis is working on developing more redundancy in their water supply system. They are looking to have a backup system other than the Mississippi River.
- Met Council gets large groups of constituents together from one area and they work together on issues.

### What Barriers Still Exist and How Should we Address Them?

- Wellhead protection plan is fine and developing a map is good, but well management areas are often intersected by railroads and highways and there are no dollars to mitigate their impacts. Some kind of ditch block system would help allow cities to shut off culverts in the case of a spill. We need some kind of wellhead emergency planning funds.
- Rural areas face the uncertainty of tiling and what it is doing to our aquifers. Is anyone monitoring that? Are drain tiles jeopardizing the aquifers?
- We need additional enforcement of best practices for agricultural irrigation
- Do we price water appropriately? There is a unwillingness to pay full cost of water. Rates are too low, they don't reflect the true cost of water for individuals and industrial – all water users

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- There are systemic system problems – we can invest in city water treatment, but if a city upstream can't afford wastewater treatment they just dump the poor quality of the water into the river.
- There is an irrational desire by the public to have green lawns. We are wasting treated drinking water on lawns. Woodbury has four well in the winter, but they need 16 in the summer. We need to educate people about planting vegetation that requires less water and letting lawns go dormant. It will come back the next year.
- Rule Barrier – there is an inability to use gray water. We need to allow reuse of stormwater and gray water.
- Issues of equity – communities have to bear the burden of costs for non-point pollution of nitrates in the water.
- Expectation of the regulatory agencies - they are often under pressure that they have to issue a permit, especially in wetland areas. Agencies need to represent *Public* interests.
- Relationship between public agencies and citizen groups – the perception is that the citizen groups are causing trouble. Some agencies don't listen well to citizens.
- There is a disconnect between where water use is and where the recharge is located. You can tell by the aquifer names that they have large recharge areas. How can we protect *large* recharge areas, especially where tiling comes into play? Rather than political lines there should be environmental lines.
- Siting new industrial mines and polluting shallow residential wells.
- We need a credit program that allows and encourages water users to find alternatives to using city water by making use of free water sources (rainwater, reuse etc.) How do we convert rainwater into drinking water?

#### What Can the Governor and this Administration Do?

- Encourage smarter farming with cover crops, perennial crops and other best practices that keep soil and chemicals on the land.
- Reform of non-potable use of water is needed by updating the plumbing codes. There are water poor areas of the country and they have rules that allow more reuse. What is the administration doing for reuse? We don't have to reinvent something new.
- The Governor should talk about the interdependence of surface water, groundwater, stormwater and wastewater. We need to manage connections. This is something we are just starting to talk about.
- The Governor needs to fund a feasibility of graywater reuse by investing in pilot projects, especially in new developing cities.
- The past legislation removed Met Councils authority with water supply planning. This should be reinstated.
- Promote Forever Green – the U of M program through the College of Food, Agriculture and Natural Resource Sciences.
- We need stronger land conversion policies where there are vulnerable groundwater recharge areas. This needs the Governor's attention.
- Don't back off of the Governor's proposed increase in funding for public facilities. We need updates and maybe prevention of contamination.
- Don't back off on the Buffer idea and don't water it down!

### **Roles, Partnerships and Collaboration Opportunities?**

- Mississippi River Watershed – how can we find ways to partner with other areas (tax question). The state may need to be an enabler to do some resource sharing.
- Agricultural pollution and look to Iowa - Rather than litigation we should look at how upstream farmer and work with downstream water suppliers to prevent expensive decontamination. We need partnerships and maybe funding.
- We need to replicate projects that are working like grants for education projects, job employment projects, best practices should become regular practices.
- Land Stewardship should partner should partner with MDA on nitrate issues
- Multiple partners are needed to think about solutions for water infrastructure – Blue Green Alliance
- The Nature Conservancy is focusing on source water/drinking water protection. They can't buy it all. We need to stitch things together with policy and partners.
- The USDA and the Farm Bill need to address water issues. Water is an issue for everybody. The city of Minneapolis doesn't get money for the risks to their water supply. There should maybe be an excise tax on nitrogen fertilizer. We need to start monitoring drain tiles and ditches and charge for pollution of water.
- Funding is needed for research on contaminants of emerging concern. We are seeing hotspots around the state and we don't understand very well. What do we do about this? The Water Quality Association is a national organization that does this. The Governor's office should be tied into this information.
  
- There is a basic knowledge gap with water supply staff and administrators. They need to be educated on the science and data including meters and other very basic water conservation and water loss information. We need to talk to the workers doing the water supply work every day. Cities should share best practices.

### **Harvesting Key Themes**

- Education
- Properly pricing water
- Reuse of water
- Connecting farmers with downstream users – we also need to alter boundaries to reflect the environment rather than just political boundaries. We need to define impact areas.
- Holist management of all water; One Water
- More Collaboration and partnering with others is needed
- The MN Department of Agriculture should be on the same page as Forever Green in developing crops and cropping systems that don't pollute
- Things we do should have multiple, stacking public and private benefits (Like Worthington). This will help target projects.
- Farmers who receive Farm Bill Checks should have to do something to protect water, soil, and/or prevent pollution in order to receive a check. They shouldn't just get paid.

## Breakout Topic 5: Water and Wastewater Infrastructure

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### Infrastructure Needs and Funding Approach, Session 1:

#### What is working?

- Eden Prairie: progressive public who supported development of a classroom setting at water treatment plant. Since 1997 school kids have been participating in education. Kids take the message to their parents. When rates need to be increased, there is little to no push back.
- Life cycle costs need to be taken into account. Energy payback of improving the energy efficiency of systems needs to be considered
- Minnesota, MN shares their CIP with citizens so that people know what to expect regarding infrastructure expenditures.
- Clean Water Legacy funds are a good infusion of money for water resources but there are barriers to success (did not elaborate).
- Little Falls, MN uses LGA as a resource to invest in water infrastructure.

#### Barriers?

- Water and sewer systems are reaching their useful life. Lots of need, little resource. Cities need an infusion of money. Federal government should play a role in funding water and wastewater infrastructure.
- Private sewer laterals are an issue and no one wants to pay for them. In the Metro Area, Clean Water Funds have been accessed but the funding is not consistent and this needs to be addressed.
- Inflow and Infiltration (I/I) is a problem for local city councils because of opposition to private property inspections. Realtors are also opposed to any type of disclosure regarding private property sewer laterals.
- Needs to be statewide response to sewer and water services that connect to private property.
- State regulations are too expensive for small cities in Minnesota to implement – especially at treatment plants.
- Utility rate structures do not reflect what it actually costs to own, operate and maintain water and wastewater systems in many cities. Many cities are using money out of the general fund to pay for these systems.
- Cities are being asked to take on an unsustainable amount of debt to pay for water and wastewater system repairs.
- There is an over-usage of some infrastructure. Some industries use too much water.
- We have waited too long. We are in crisis management. Water resources need to be a priority on state public policy.
- Met Council's SAC policy is not working.
- There is no partnership to help cities with asset management.
- Small towns don't have the resources to implement sound asset management practices.

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- Some small towns lack professional staff resources or struggle to find good utility operators. Technical assistance is needed. Can the Met Council help?
- Water and wastewater is not a sexy enough topic for the Legislature to care about.
- The lack of good infrastructure has an impact on economic growth in rural Minnesota.

#### **What can the State do to help?**

- Education. Golden Valley hosted a Sewer Fest to tell residents about the problems with the city's wastewater collection system and private property sewer laterals.
- Share best practices
- Educate users about what they are paying for.
- Place higher priority on researching problems and solutions for smaller towns.
- Create incentives for private property owners to help pay for replacement of the sewer or water lateral.
- Incentives for sump pump disconnections
- Help the small cities with EPA regulations
- More state funds
- Need help to get the information out.
- Fund the Governor's non-point source program
- State should work with professional associations to coordinate training – APWA MN Chapter, MN Section of AWWA, Rural Water, etc.
- Get citizens involved in addressing the issue.
- Economic development will be improved in the small towns if there is better infrastructure.
- Job training in rural areas for infrastructure.
- Facilitate partnerships among communities, especially in Greater MN.

#### **Harvesting Key Themes**

- Technical Support
- Re prioritize what is important to us? Politicians like to build parks and community centers, but not infrastructure.
- Share best practices
- Utility rates
- Better funding
- Education
- Awareness

## **Session 2:**

#### **What is working?**

- USDA Rural Development – program works but it is underfunded
- Project Priority List for Revolving loan fund
- Public Facilities program – good program

#### **Barriers?**

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- Can we save every community? Does it work from a cost benefit perspective to undertake some of the projects that we do?
- Aging population in the Metro area and the rural area. Value of homes. No ability to talk about projects from a cost-benefit perspective.
- Jurisdictions sometimes think locally rather than strategically.
- Nostalgic based investment. Some cities are just too small.
- Which communities survive?
- There needs to be better education about utility systems.
- Lack of acknowledgement that there is a problem.
- Political leaders need to talk more about the invisible infrastructure.
- Cities need to define what citizens can expect
- Define responsibility for a failure of a utility.
- Conversation about infrastructure is not very interesting. Tell the story!

#### **What can the Governor do?**

- Engage our residents in a way that is meaningful.
- Define the role of local and state officials.
- Get consensus among regulators. EPA, PCA and DNR. Cities get stuck in the disagreements among state agencies.
- General taxpayers should not be picking up the cost for nitrate removal. The nitrogen applicators and manufacturers should pay into a fund that would be available to cities when nitrogen removal needs to take place in the drinking water treatment process.
- Consolidate some communities. Some cities are too small. Work with Regional Development Commissions to do this.
- Science needs to support ideas.
- Combine funding sources where it makes sense.
- Met Council should be a resource for wastewater treatment in Greater MN.

#### **Harvesting Key Themes**

- Public Education: The public takes wastewater and water systems for granted.
- Revenue bonds to pay for nitrate removal infrastructure. The debt for this nitrate removal infrastructure needs to come from nitrogen applicators and manufacturers.
- Intelligent Voting: Vote for people who are going to support government's role in infrastructure.
- Funding real cost to properly operate utility systems. Share info in a credible way.
- Facilitate regional collaboration and planning
- Recognize demographic issues
- Mandate that Regional Development Commissions understand and implement infrastructure planning.
- Define the value proposition. What does infrastructure really cost?
- Implement a true user pay model so that it become clear whether or not a project should be implemented.

## Session 1:

### What is already working in this area?

- The drinking water regs are clear and well know
- We could look at scaling up cost sharing for small systems to help retired folks on a fixed income to build and maintain effective septic systems. It is hard to find funding for cluster systems in small rural areas.
- Definitions around public water system are vague (e.g., non-transient water)
- Regulated communities have to work with different agencies (e.g., DNR/MPCA/MDH), need a stream lined process and fewer points of contact
- For drinking water need to reevaluate standard based on recent science (e.g., nitrate), nitrate is important in our diet, nitrate provides a public health benefit. Perhaps we need a minimum level of nitrate to maintain good health.
- Excited about isolation of phosphorus and capture at WWTP for use as fertilizer, need to reuse
- Anoka county has good collection of CECs (Rx and paint), should leverage those programs to reduce source before it gets to water systems
- Prevention is huge, need to focus on keep endocrine sources and nitrates out of water

### What are the barriers?

- Hastings, 8 wells have nitrate, use RO and then dump waste from RO system into river, need a better system to deal with reject
- Not using good science, independent, not regulatory generated science, people producing the science should not have a vested interest in regulations
- Nitrate is important to stopping BGA and mercury
- Systems are not designed to filter for CECs, huge burden on communities, but important to get rid of those contaminants
- Nitrates and fluorides conversation is currently one-size fits all
- Cost benefits are not shared equally, ability to understand that this is a shared resource and burden, statewide
- Need to bring people together across the state, can't pit metro vs. rural, because metro pays for a lot of this stuff
- Clarity around how to plan for WTP and WWTP needs, hard to plan when regulations are changing, both municipal and industrial facilities
- There is not the tax base to support the upgrades that are necessary to protect public health and environment (e.g., city of Mound residents needed to pay \$6k to upgrade)
- There should be not regulatory entity that pays for science, science should drive the policy, it should be vice versa
- Pool resources to prevention to reduce things at sources rather than funnel funds toward treatment
- Solution to pollution is not dilution
- How to retrofit existing urban stormwater effectively and economically?
- Because all of septic systems are registered by MPCA, companies are deterred from coming here

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- Bid requirements drive us to the bottom, doesn't lend themselves to more innovative technologies
- Who is in charge of what? Too many fingers being pointed if a project involves restoration and discharge into Mississippi (e.g. USACOE, DNR, MPCA, etc.) need coordinated governance

### **Solutions**

- Education to maximize people's interest in clean water
- Need a state water policy that includes all of the facets of technologies, prevention, ag, CECs, WQ
- Legislative water commission can be a conduit for crossing silos
- Fund land grant colleges to drive innovation of new technologies
- Establish appropriate "natural background levels" based on chemical/physical/biological process
- Tried and true agricultural processes that are not being done, need to put only appropriate amount of fertilizer, not tiling, having buffers in place
- Opportunity for private entities to good pilot studies and outcomes will be leveraged
- Need a public oversight of private science to keep it honest
- Have local experts to guide tile installation as a tool in recognition of advances like ability to control flow "controlled drainage"
- Capital budgeting local and statewide structure (e.g., 2 years) forces us to be short term, need a long term funding shift
- Use existing infrastructure as part of the solution (e.g., tile plus saturated barrier)
- New technologies come out all the time, need to be open to proven new technologies, sometimes industry and regulations are closed minded about those opportunities
- Education to provide good understanding of science processes (e.g., tiles facilitate filtering thru soil as opposed to overland runoff)
- How to consider all technologies that are outside of the normal sphere of thinking, how to fund things that are unproven and innovative? How to encourage early adopters?
- Need to fund retrofits for storm sewers.
- Hundreds of companies that deal with this in MN, it could be an economic stimulant to fund, e.g., Pentair and Ecolab are selling things are abroad, need new ideas like high efficiency ion exchange is sold in Europe, need a private/public partnership to drive innovation
- Help small communities with asset management, need assistance, perhaps just start with an inventory
- Give money out via bids in the best interest the community, may be more expensive upfront

### **What can the Governor do to advance solutions?**

- Promote the value of water as a resource, have more good stories, tell the successes and value of investments
- Communication of core value of water, e.g., Water Summit is great, but this room is full of people that do this every day, need to breakout beyond the usual suspects into the living rooms of homes of MN

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- Performance based legislation, use water sampling infrastructure to measure what type of pollution is coming off and charge people for it, as opposed to telling people they need one type of treatment
- Prioritize dollars to places where you get the most bang for the buck, go after the low hanging fruit
- Need to have a process that goes beyond the legislature that forces us to discuss the hard issues (e.g., what is the low hanging fruit, that perception is different)
- Invest in people for training and to maximize efficiency and investments
- Full cost accounting for water, e.g., all aspects of water policy need to have the level of scrutiny of a fiscal note, need an externality analysis upfront
- Retrain gov't employee, need to have state agencies open to working with everyone including ag and ag consultants
- Public awareness to increase concern and understanding of relationship to water (e.g. , public awareness campaigns around cigarettes) put a label on Rx like "please dispose of this responsibly"
- Minimum ag performance standards re nitrogen fertilizer mgt
- Make the property tax the exclusive domain of local units of government so that they could invest it based on local needs, keep state out of the local property tax game, state has its own set of taxes
- Need to make a 50 year commitment to clean water and so all Minnesotans will own the solutions
- Think outside of the box

### **Harvesting Key Themes**

- Long term – need support for a sustainable solution
- Legitimate/independent science based
- Use new technologies and funding structures
- Support and leverage private public partnerships
- Agency coordination
- Fund infrastructure and people
- Prevention is cheaper than cleanup
- Understanding processes before implementing policies
- Bring people together to facilitate a shared vision and shared wisdom

### **Session 2:**

#### **What is already working in this area?**

- Determination of treatment standards for safe use of water in the general sense, has been vetted over generations and we get it now
- Point of sale requirements for private septic systems are helpful but need to be scaled up because not all property sales are covered

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- Career paths are established for maintenance and operation of infrastructure (this is also a barrier)
- As we learn more about CECs the technology will advance but that is a continuous process
- Regulations establish minimum standards, they could be improved to offer incentives for people to go beyond what is required
- Look for expanded opportunities for wetland banks and restoration
- Cost share grants for wetland restoration could be expanded
- We should be aiming for higher quality
- Few states of funds like MN to protect water, we are fortunate to have a commitment from citizens to protect and improve our waters, we have a lot of needs but we also have money
- MDH enforces SDWA, their enforcement of that is working, it is not done with a heavy hand

### **Barriers**

- Contaminants of emerging concern are difficult to remove
- No way to determine how much arsenic is in our water
- The synergistic effect of metals is harming human health and the environment, esp. mercury
- MDH standards are way out of date, esp. pesticides, don't test for degradants of things that are commonly detected like atrazine, MDA tests for way more pesticides but MDH is not testing for as many
- ~70,000 non-compliant septic systems across the state, need more approaches to bring failed or failing septic systems up to snuff, we should not wait for a transaction
- Codes and standards are out of step with changing times and stifle innovation, stormwater harvest and reuse in urban landscape, don't need to treat stormwater for reuse to drinking water standards, what about recreational standards
- Plumbing codes are impeding stormwater reuse
- Don't have a nitrate standard for recreation, MPCA got money from legislature to do it and hasn't done it yet
- How do find a balance between being able to measure something and need to regulate that contaminant
- Lack of constructive education – tell people what we don't know about quality of drinking water re pesticides and nitrates
- Regulatory structure is narrowly focused and by nature will always be behind, our modern aesthetic is flush everything away
- Regulation impedes conservation
- Regulations is prescriptive verses performance
- Laws conflict about reuse
- In the water industry there is always an opposite reaction, e.g., are we willing to use so many gallons on a flush knowing the unintended consequences?
- Need a good idea of what is the baseline of new contaminants
- There are disagreements about data
- State agencies are not following the values that are set like nondegradation

### **Solutions**

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- Can we set priorities and values at state level, and how are regulations set to be accountable to those values? For examples nondegradation regulations for groundwater are not followed.
- Reexamine values and make sure that state agencies understand and follow the values
- Need measures for water use consumption and safety standards and use experts to develop those, e.g., the technical advisory committee of the Metro Area Water Supply Advisory Committee?
- Have a consideration of unintended consequences prior to changing standards and codes, run it by industry and other interests prior to adoption
- Mover from prescriptive standards to performance, e.g., code is such that waterless urinals still requires a waterline up to each urinal
- Performance standards example, can broadcast stormwater if you meet a recreational standard
- Establish the goal and let technology deliver the goal
- Don't need individual urinals, can we have a trough and have it flush once as opposed to individual flushes?
- Need a deadline and incentive to bring non-compliant septic systems up to date
- More comprehensive notice to people about what is in their water so that they can protect themselves
- Need more information provided to the public
- Upgrade codes per other states that are reusing stormwater
- Instead of expanding government, look for solutions outside of government; look for ways to vet solutions through green building programs
- Adopt nitrate standards
- Acknowledge and advertise that where there are nitrates there are pesticides and vice versa
- Tell people that we don't know how pesticides interact with nitrates
- We should favor personal safety rights over property rights
- More appropriately manage the existing oil pipelines so that new pipelines are not necessary and less gas need to be flared, comprehensively address waters to avoid this type of situation
- Developing a water ethic can be a barrier to regulation, cannot let everything be voluntary

#### **What can the Governor do to advance solutions?**

- State has codified low impact development going forward but we are up against old brick and mortar ways of being, need to set priorities that respect the past and moving toward the future, so much more that could be done if we could clear the way for new technologies to go ahead, and this effects all levels

#### **Harvesting Key Themes**

- Take a systems approach to water and try to anticipate unintended consequences as much as possible upfront
- Be better about understanding the best level for a regulation, one size fits does not work, can things be regulated at local government to allow for more innovation
- Take a broader view to think about water quality locally and also globally
- Measurable performance based standards, transparency
- Create incentives to go beyond minimize standards

- Create incentives to try innovation and technology
- More education to inform users of water quality, more truth telling about what we don't know
- Need a water ethic because themes are inherently conflicting – energy, using new water, public health and discharge pollution, need an overarching framework to

## Regulations, Session 1:

### What barriers exist?

- What can the government do to help?
- What is working?
- Drinking Water regulations are clear.
- SSTS – cost sharing needs for low income. Challenge.
  - Example: Bellingham – Cluster system enhances funding opportunities.
- Definitions of Public Water System
  - Need for clearer definitions.
- Water/Wastewater Operators
  - Multiple agencies to deal with. Complications
    - Simplify! Point contact.
- Standardize Standards
  - Nitrates
    - New science show this is a health benefit
  - New minimum limits!

### Hastings

- Water supply nitrate removal – dumped into river.
  - “Dr. Berack” – Madison
  - Nitrate reuse beneficial.
- Barriers – Use/recognize new science “Good Science”
  - Conflicting goals from different groups

### “Nitrates”

- Emerging contaminant. Drugs
  - Small operators challenge - \$\$
- Standards are too “one size fits all”
- Cost benefits are not shared equally – standards
- Private industry can provide role in solutions to new standards.
- Keep science non partisan.
- Collection programs – Drug collection sites – keeps drugs at source.
- Source prevention high: drug collection sites.
- Communities find it difficult to plan if future regulations are unknown.
- CM Munt – MC regulation Mound spill June 2014 storm
- Systems that can't pay for themselves.

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- Funding should not be distributed by regulators.
- Science/fund should be separate
- (Nitrate)Focus on source reduction vs treatment.
- Need to establish sound baseline limits.
- Agriculture
  - Tilling and buffers – Nitrate source revision.
  - Need local source (expert) to grid standards.
- Lack of State Planning Agency if problem.
- New treatment technology always emerging. Can find challenge to accept. Need to enhance.
- Tile drain systems support some stout streams
- Need to look at retro fit exist, infustration
  - Minneapolis – storm system-rain is a pollutant – sediments.
- Ion Exchange
- Hastings
- 1” storm on I-94 corridor fills pipe.
- Need to enhance public/private partnerships
  - More people at the table.

#### **Barriers**

- Asset Management CIP – small communities lace experience. Rural water agency provides assistance.
- Who would the rural water expert be?
- Federal funding requires 40 year “life cycle” reduces share to economic low cost solutions.
- Asset Management
  - Need to evaluate infrastructure systems. How to start?
- There is a lack of multiple agency responsibility “gaps”
- Is there a state water policy? Yes
- Recent creation of cross agency policy commission

#### **How can governor move priorities?**

- Can do better job if primary water value!
- Communication exist are high (water system)
- Governor – need to focus on performance based legislation.
  - Multiple state agencies responsible for surface water quality data. Central or coordinate more.
  - Compare data.
- Clean water Agency
  - Should go to fix infrastructure.
- Full cost accuracy in water “Fiscal Rider”
- Recharge Supply agency
- Surface water regulators (agencies) difficult to work with (agency and individuals at agency)
- Need to raise awareness of water issues (public awareness) (Cigarettes model)
- Need minimum agricultural standards

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- Property tax option for revenue generation for water quality program \$\$ need to get to local hands. Conflicts with other things property tax levies.

### **Harvesting Key Themes**

- Funding hard infrastructure and people
- Prevention is cheaper than cleaning up.
- Education before establishing policy.
- Bringing people together shared wisdom and vision.
- Awareness is being elevated! Start young. Recycling model.

## **Regulations, Session 2:**

### **What is already working or can be enhanced?**

- The determination of treatment standards for drinking water decades of enhancements.
- Arsenic issues (Duluth). There needs to be more public education efforts (understanding).
- Interaction of various combined metals.
- Septic systems (point of sale) helpful. But need to be “stepped up”, expanded.
- There are career path opportunities for O & M positions.
- Contaminants of emerging concerns
  - Treatment – Challenges – technology
- Regulations establishes min. Could provide more incentives to address – to go beyond min. regulations.
- Grants. Need for more.
- Minnesota is leader of states that support water initiatives.
  - Clean Water Legacy
- Department of Health drinking water not regulated with “heavy hand” partner vs regulator.

### **Needed Improvements**

- Test for more outdated list.
- Septic System need more focus on bringing up to standard.
  - Incentives
  - Deadlines
- New standards can stifle innovations. Changing trends.
- Storm water reuse – quality too high. Yearly drinking standards. Plumbing codes not supporting of reuse and innovation.
- Nitrate standard not completed! Regulatory standards.
- Find a way to more new technology.
- Is there a balance between ability to measure and emerging regulation?
- Need to tell people “what we don’t know”
  - Bioaccumulation – low level – long term effect.
- Need to preserve “personal safety/health” vs private property rights
- Codes can be in conflict with prudent resource use.

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- Through urinal periodic flush vs auto flush use.
  - Code doesn't allow former.
- Need to focus on performance vs preformed outcome.
  - Flushless urinal with water feed. Eliminated commitment to conserve.
- Have industry weigh in on new codes.
- How good of data does state have to establish baseline.
  - Emerging contaminants sampling can be expensive \$500/sample.
- Metro Cities
  - MAWSAC – Collective interested group
  - Est. plan
  - CEAM and APWA expressed concerns.
- Data that everyone can agree on!
- Can priorities be set at state level?
  - Non-degregation policy that we're not following. We have a value.
- Need to review track record for achievers/follow policy.
- Low impact development
  - Brick and mortar solutions not always best solutions.
- More could be done if we could "clear the way" to use new technology and innovative ideas.
- Oil pipeline dual pipeline vs single natural gas flare off. Conservation
- Unintended consequences

### Harvesting Key Themes

- Need for a comprehensive approach and verse for unintended consequences.
- Create incentives to drive technology that go beyond meeting standards.
- Education truth telling. What don't we know.
- There should be varying levels of regulation. One size doesn't fit all. Local regulations should be considered.
- Public Health
- Developing an ethic
- Water Source Now
- Pollution
- Terms alternative or incentive may be used in future by developing new ethics.

### Regulatory Diligence, Session 1:

This document contains notes from two breakout sessions on sustainability issues in water and wastewater infrastructure. The notes are organized by topics that emerged in each breakout session. The bullet points under each topic are thoughts offered by participants and session leaders Chad Kolstad and Bill Dunn. The thoughts may be barriers, solutions, feelings, experiences, or values.

- There are tradeoffs for every regulation, such as energy consumption and byproducts of treatment.
- There has not been comprehensive cost-benefit or systems analysis for regulations, including chloride, sulfate, and nitrate standards.
- Is very difficult to get rid of chlorides, and when you put lime softener in you create a whole new waste stream.
- Regulators should conduct a more detailed analysis on the impact of proposed regulation or limits. If Minnesota Pollution Control Agency is developing regulations, they should be talking to infrastructure people about how to fund these mandates.
- We should really consider doing standards in rule rather than policy. Minnesota Pollution Control Agency has gotten very comfortable in making policy limits.
- Regulators should be constantly learning about new technologies and sharing what is working. It is a major issue when the regulator community doesn't understand the technology.
- Regulators should consider incentives for clean energy upgrades and repurposing organics.
- Regulators should consider water trading credits.

#### **Water and Wastewater Operators Ability to Manage Assets**

- A lack of technical experience and data make it difficult for many water and wastewater operators to effectively manage their assets and budget.
- Solutions could include:
  - Training for asset management and advanced treatment
  - Incentives or scholarship opportunity to employ well-trained operators in greater Minnesota
  - Inventorying infrastructure to be able to better project end costs
  - Being able to compare against other systems to see what they should do
  - Technical assistance grants to help communities determine what projects are needed

#### **Forecasting Costs**

- Situations that make it difficult to forecast costs are:
  - Emerging regulation (manganese was cited as an example)
  - Population change
  - Contaminants of emerging concern
- Possible solutions are:
  - Provide regulatory certainty beyond a permit cycle.
  - Degradation should be accounted for in the funding proposal.
  - State agencies should encourage federal agencies to base standards on sound science instead of political climate.
  - Collect the appropriate data and translate it for useful purposes.

#### **Public Literacy in Water and Wastewater Services**

- There is a lack of public literacy in:
  - What people are paying for services and what they will be paying in the future

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- The true cost of water
- Their role in protecting the water
- Volume load of different appliances
- We should have public education for:
  - Contaminants of emerging concern
  - Costs of infrastructure
  - The real cost needed to maintain our quality of life
  - Best practices based on case studies

### **Historical Approach for Water and Wastewater Services**

- The focus on public systems creates a narrow scope for solutions. Private wells and septic systems can serve as an opportunity for local infiltration instead of sending water down the river.
- There is not good regulatory oversight on private systems, but that it is now changing for septic because many counties are adopting regulation at a point of sale.
- The fact that we treat stormwater as wastewater is a huge loss. We should focus on localized recharge and the ability to store more water onsite.
- Rural Minnesota has to share assets in some cases. For example, in a town of 150 it is cheaper to bury a pipe to a neighboring community than to treat for arsenic.
- Incentivize regionalizing rural water systems. Aspects of regionalization is already happening in some areas, especially if you share an operator or equipment.
- Naturally occurring contaminants have created an unfair burden on certain communities. We should help offset the financial burden that some communities bear for naturally occurring arsenic and boron.

### **Coordination and Communication**

- Everyone involved with water effects each other, but it's really difficult to get everyone on the same page and break down the silos.
- County water plans have largely focused on surface water and rarely have they integrated with water and wastewater providers.
- The local professionals are scared to go in front of people and request funding. They need champions or a safe and secure environment to make these requests.
- There are very few surface water providers. If we have more oversight over certain collaborations between surface and groundwater, we may reduce the strain on groundwater aquifers.
- There needs to be a systems approach for dealing with certain materials like organic waste. Anaerobic treatment is a way to deal with it but then we have a lot of chlorides to deal with. The chloride standards are not really sustainable.
- There should be some sort of means for sharing educational information, like a clearing house.
- UMN extension service provides a lot of training for septic and wells. We should not replicate but help them expand or collaborate.
- We should have a One Water think tank in Minnesota. This may be in the works already.

### **Sustainability and Conservation**

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- Participant asked session leaders to define sustainability. Chad Kolstad responded that we are referring to fiscal sustainability. Another participant asked how that differed from funding. Chad responded that it refers to what communities should be doing today so that they don't have to take out huge loans in 20 years. It is what can be done to help better predict costs and control expenses.
- Two Harbors provided cost-sharing for low flow appliances and conservation technologies. The city is somehow balancing the benefit of conservation with the cost of decreased water and wastewater consumption.

## Session 2:

### Public Education

- Improve education for the general public so they can participate.
- Make public service announcements about water conservation.
- Use plain language to describe complicated systems.

### Asset Management

- Provide incentives (financial and other) to advance technology and partnerships.
- Initiate a proof of concept program to show that investments can catalyze.
- Provide better tools for local government and operators.
- Conduct periodic auditing of systems.
- Conduct research to better understand geographic issues.

### Integrated Management

- Watershed districts have levying authority to get a budget.
- Provide financial and technical assistance to make sure upgrades are done correctly and to ensure public health protection.
- Evaluate the bonding bill. Some of the water projects accomplish different things. We need to determine criteria to prioritize which projects to start with.
- There are different economies of scale between metro and rural areas, surface and groundwater systems, and others. This means we need different sustainability measures and indicators for each.
- 70% of water from metro area is flushed down the Mississippi River.

### Value of Water

- Minnesotans don't see the value of our water. We are mining our water and users don't pay the real cost.
- We don't know the true cost of water, but we can at least value it appropriately.
- When you take the resource away, that's when you start to value it at the real cost.
- Conduct well interventions if one user is drawing the water table down to make sure everyone can get the resource in a balanced way.

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- Reward the good utilities by making things simpler for them and making funding more available to them.
- Conduct a true economic analysis of the cost of water. Look to other states and countries where their stress has gotten to the point where it has driven cost (e.g. Israel and Singapore).
- Big users should be charged a fee for groundwater based on water use per capita.

### **Conservation**

- Farmers that are being enrolled in the water quality certification program should be required to do conservation activities.
- The Minnesota Department of Natural Resources implemented water conservation rate structures a few years ago. However, there is still not enough emphasis on conservation measures or economic incentives for them.
- Conservation is getting attention. There was a Superbowl commercial that said to not leave the water run while brushing your teeth.
- Conservation awareness reduced capacity of capital investment in some cases.
- Watershed districts are very concerned about conservation.
- There should be more long-term planning for severe events. For example, build in resiliency to drought so we don't waste as much.
- Protect the wetlands and resources that we have. There's a delusion that we can fix everything. The engineering solution is not always as sustainable as the natural solution.

### **Reuse**

- There should be incentives for water reuse and a feasibility study on the costs of incentivizing reuse.
- Pentair did the reuse project at Target Field. Some of the obstacles are costs, early planning efforts, and drawing a large enough collection and usage area to make the project cost-effective.
- Watershed districts are being asked a lot about water reuse issues. For example an athletic program asked about reuse on their field, but the watershed district wasn't sure what to recommend because they want to make sure it is safe for human health.
- There is a great deal of interest in water reuse.
- You are treating wastewater to a point where it's almost clean enough to be used. This could be sold as another source of revenue.
- A participant self-identified from Pentair said he sees many opportunities for reuse across all types of infrastructure. He said there is new tools, analytics, and technologies that can be utilized. He sees a great opportunity for public and private partnerships. This could help in predictive maintenance and management.

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## Written Comments: Water and Wastewater Infrastructure

### What is already working that could be scaled up or enhanced?

Nonpoint expenditures should be monitored for effectiveness and achievement of water quality goals. CWC should continue to make policy recommendations.

### What barriers still exist and how should we address them?

Long-term funding /loans, however strict competitive bid laws sometimes exclude the best technology and highest quality, which does not provide the longest term solution. Lowest price is not always cheapest.

Legislative substitution is still common and should be addressed by presenting budget documents so as to allow comparison of historical spending from non-CWF sources and by legislative commitment and process changes.

### What can the governor and this administration do to advance this solution?

The CWF will not get the job done as indicated in the CW Roadmap. Policy changes are needed to supplement CWF expenditures.

How can we allow cities to get the equipment and technology that they want that may be in their best interest, when there may not be a true "equal" supplier?

### What role do you see for your constituency/sector? What are the opportunities for collaboration?

There is a lot of opportunity to work with and stimulate local business when tackling these complicated issues: research, joint funding

MCEA wil continue to work with the CWC and the Legislature to encourage full implementation of a strong CW program including regulatory changes to stop pollution which is costly to clean up.

## Breakout Topic 6: Water in the Built Environment

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### Managing Contaminants, Session One:

#### What is already working in this area that could be scaled up or enhanced?

- Advanced stormwater mitigation systems: multi-chamber treatment systems (tanks)
- Rain gardens
- Minnesota's triclosan ban
- MPCA's winter road training (for salt reduction) was very effective but is no longer funded. Should be funded.
- Minneapolis (and statewide) phosphorus ban: however, the loophole that exempts golf courses and garden fertilizer should be eliminated
- Minneapolis' polystyrene ban
- Coal tar sealant ban
- Wastewater treatment plant (WWTP) phosphorus reduction

#### What barriers still exist and how should we address them?

- Use of salt for road management during snow and ice conditions: Minneapolis is still putting a ton of salt down
- Glyphosphates (Roundup): use & control
- Neonicotinoids (potential bee killers): use & control
- Stormwater research and funding is needed.
  - We're spending a lot of money installing BMPs but there's very little information about their effectiveness.
  - TMDLs mandate stormwater protection & treatment but more research is needed about areas upstream of TMDL focus area. How do these areas impact our ability to meet TMDL mandates?
- Salts/chlorides control:
  - Liability issues for public works departments: salt/chlorides control would be enhanced if there was better liability protection for public agencies responsible for winter road maintenance. It's easier to apply salt than to deal with a lawsuit due to someone slipping and falling. The MN legislature should consider New Hampshire's law about this.
  - Cultural perceptions and expectations about driving need to change. It isn't reasonable to expect to be able to drive 60 mph in or right after a snowstorm but that seems to be an expectation people have.
  - Need the political will to address public perceptions about how soon roadways can be cleared to bare pavement.
- We need a better understanding of groundwater-sheds in the Twin Cities and statewide.
- Conflicting regulations: there are conflicting regulations for reuse, particularly stormwater reuse, that limit its implementation. The MPCA is fostering stormwater reuse while the MDH won't let you do it.

- Contaminants of emerging concern: education about medicine take-back programs is needed. These programs exist but people don't know about them and continue to flush unused medicine down the toilet.
- Watersheds do not follow jurisdictional boundaries such as county and city boundaries. This can make working on watershed-based problems difficult.
  - Public education: There's a lack of an ethic about what people put down the drain and how we treat water. Need to get at this level to change habits.
- Monitoring:
  - We need to measure for more contaminants than only what is on a list.
  - Trash in stormwater: there's limited testing for items such as trash coming into storm sewers; needs to be more testing and more awareness of trash as a pollutant.
  - More funding is needed for monitoring. Need to define who's responsible for funding: cities? State?

#### **What can the Governor and this administration do to advance this solution?**

- Salts/chloride management:
  - We've done a lot of education with public entities such as city departments of public works but not with individual applicators (e.g., parking lot snow clearing contractors). More needed there.
  - Legal protection for public and private applicators.
  - Better labeling of packaged salt, particularly with respect to application recommendations.
- Implement trash TMDLs
- Make sure cities and counties are at the table when developing solutions and regulations
- Establish a return deposit for plastics and cans
- Establish a ban on plastic bags
- Develop alternatives to plastic
- Establish more bans such as the triclosan & coal tar bans. These have been effective and deal with contaminants at the source.
- Governor can direct the MDH, MPCA, and DLI to make it possible to implement stormwater reuse. The current regulatory turbidity limit of 1 NTU is very costly to achieve. It is a barrier for collecting and reusing rainwater even off a roof.
- Governor can direct the Minneapolis Parks Board, the City of Minneapolis, and the Minnehaha Creek Watershed District to work together to deal with stormwater pollutants, especially at Lake Hiawatha. City of Minneapolis wants to work together but funding is lacking.
- Fund the planning phase of projects & initiatives. Right now, funding is only for the design & construction phase and the planning phase, though very important, is underfunded or unfunded. Planning phase efforts include:
  - Assessing how to get a business to shift a harmful practice
  - Creating industry standards
  - Fostering meaningful public education
- Encourage product stewardship. For example, paint disposal at the County level is very expensive. A program to assess disposal costs (surcharge) on the source of the item (such as

has been done with electronics) could help lower costs. This sort of approach could be used for plastics and contaminants of emerging concern.

- Remove the exemptions for golf courses in the phosphorus ban. Bring golf courses under the buffer law. Remove the “perennial vegetation” clause from the phosphorus ban so golf courses aren’t exempt.
- Learn from Obama administration’s efforts to protect and foster pollinators on federal land. Move from turf grass to native cover.
- Education: promote education & accountability of regular citizens

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Cities working with residents: residents need to let their representatives know they want less road salt
- Through road management, set expectations and manage citizen expectations better. Manage public perception of what’s a reasonable expectation. Driving 60 mph during and right after a snowstorm – is that a reasonable expectation?
- The State of the Mississippi River report is a good example of a collaborative effort among federal, state, and local entities.
- At state level, MPCA seems to like the regulatory approach to TMDLs rather than the EPA approach. Thirty other states are addressing TMDLs differently than Minnesota.
- Invite open-source sampling & testing in monitoring programs. Citizen scientists’ data should be an important part of studies.
- Develop and promote a Master Water Stewards program patterned after the Master Gardener program (refer to Carver County’s Master Water Steward program).
- Partnerships get more difficult as you go up the chain of command. Find a way to reverse this tendency.
- Create a clearinghouse of stormwater research. Fund it.
- Promote MPCA’s community-based social marketing barrier and benefit analysis tool among local entities.
- Look to the social science field to inform better ways to change behavior. The social science field could help determine how to shift to a water ethic.
- Consider the Watershed Partners effort in the Twin Cities as a model of how to partner and collaborate with all entities involved in watershed management. There are about 40 entities involved in this partnership and its watershed-based approach.
- Revisit the Water Sustainability Framework developed by the University of Minnesota. What’s being done with it? Make use of it. A lot of what the Water Summit is talking about was covered in the Framework and it has more technical detail.

**Harvesting Key Themes**

- Need to work on public awareness/changing cultural norms/changing public behavior/education
- Funding, especially with respect to stormwater management & mitigation.
- Science/technology/research

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- Need to better understand contaminant sources, delivery system, impacts, treatment, how long contaminants are in the system (groundwater)
- Measurement & monitoring
- Stormwater Research Council
- Funding cycles aren't long enough to see actual cycles, changes, etc.
- Partnership is need between the University of Minnesota and the State on salt research
- Responsibility at multiple levels: What's the best level to address a problem (Industry standard? Ban? Reduction? Mitigation? Etc.?). Roadmap to illustrate what's the best place to implement what solution, what tools are available, and where it's actually happening right now.
- Stormwater reuse: agencies need to work together to make stormwater reuse possible and not work against reuse

## Managing Contaminants, Session 2:

### What is already working in this area that could be scaled up or enhanced?

- MPCA chloride workshop in Twin Cities; : voluntary; could be scaled up & enhanced
- Is anything actually working in Metro Area? Not decreased chlorides; lakes not off TMDLs for nutrients
- Significant reductions seen in chloride application amount; Shakopee Mdewakanton Sioux Community (SMSC) example

### What barriers still exist and how should we address them?

- Cost of liquid chloride; can be less expensive than salt but is perceived as more expensive
- Softening – only way to address chlorides
- CECs & pharmaceuticals are difficult to treat; SMSC WWTP example
- Safety: if we reduce salt application on roadways, there will be more accidents
- Lack of knowledge about stormwater, chlorides, etc.:
  - 1970s/1980s – there was a push for research about stormwater then nothing
  - 2003: new stormwater push with little research, particularly source reduction (e.g., street sweeping study)
  - There are things we can do to make road salt application much more effective. U of M proposed a study with Prior Lake that was not funded. Need more research and education.
  - When are peak events for chloride runoff?
  - Need to educate every single public works director and need training geared to audience
  - MPCA road salt symposium should be required, not voluntary; Applicators vary in their application techniques & level of knowledge. Mandate application practices in the contractor procurement process.
  - Individual applicators have a liability issue. Look at the New Hampshire law limiting liability; a similar law is being introduced in MN legislature.
  - Need research about where the salts from softening go

- Need to change perception that homeowners need softening even if there is central softening for their water supply or if the hardness is low.
- Madison, WI study regarding the impacts of optimization/replacement of water softeners
- U of M has data on water softeners & their effectiveness and changes
- Arizona has a salinity education program
- It's costly to get GPS-controlled salt application equipment
- Salts are entering the water supply; we're spoiling that resource
- Contaminants of emerging concern (CECs):
  - Dakota County: Solid waste is collecting pharmaceuticals at police stations & pharmacies
  - Federal regulations regulate who can and can't collect pharmaceuticals; DEA regulates, states can't, this creates barriers
  - Microbeads: how do we educate the population about chemicals that eventually make their way into the environment and ask if we really need that chemical?
  - Source protection is better than downstream treatment
  - Product bans are enormously effective
  - Pharmaceutical and health care entities need to be engaged in finding a solution

**What can the Governor and this administration do to advance this solution?**

- Work with MN DOT to reduce runoff and manage land next to roads. Recognize how right-of-way land management can help other issues
- Refocus on source reduction
  - Involves a fundamentally different mindset
  - Education, promotion needed to change mindsets
- Salts/chlorides
  - Help get a hearing for the new, proposed legislation limiting liability for salt applicators
  - Convene a blue ribbon commission on chloride source reduction
  - Provide more funding for MPCA's chloride sampling program
- Nutrients
  - Provide education opportunities for the general public about landscaping practices that reduce nutrient and sediment runoff
  - Have state agencies work closely with local government units to educate; newsletters are possibility
  - Fund research that investigates how nutrients run off from various landscaping practices. We've been working from assumptions about this but need more research to get real data.
- Establish watershed-based management organizations across the state.
- Better coordinate or integrate the efforts of watershed districts/management organizations and soil & water districts
- Use a watershed-based approach as the chief organizing principle
- State agency staff cover a huge area; agencies are underfunded and understaffed. The Clean Water Fund was not supposed to offset funding for existing staff and programs but it has. Correct this.

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- Recognize and explain that we are already paying a cost for pollutants but they are “off the balance sheet.” Put them on the balance sheet and argue to put the money at the most effective point of use, such as on source reduction rather than end-of-pipe treatment.
- Engage citizens/homeowners to trend the data for each lake so the community around a lake knows specifically what is happening to the lake and what could or should be done to protect it.

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Convene entities using a watershed-based organizing principle; we’re siloed in ways that don’t align with watersheds and developing solutions is difficult
- Get cities and watershed districts to coordinate development requirements; right now, they can conflict, causing confusion and barriers
- Local governments need to partner
- Encourage organizations such as watershed districts to build closer relationships with neighboring watersheds to coordinate roles and analyze data
- Encourage larger watershed districts to share information and resources with smaller, less well-funded watershed districts
- Quantify benefits of green infrastructure, e.g., benefit of public amenities such as water features
- Problem with watershed approach: many areas of the state have no watershed districts/management organizations
- Economic development provides cities with both incentives and disincentives to work with watershed districts; economic development can override water issues

### **Harvesting Key Themes**

- Look at source reduction or treatment at source rather than treatment at the end of the pipe; convene a blue ribbon committee on source reduction techniques for multiple contaminants we’re concerned about
- Education and training
  - Technical education for public works types and others actually doing the work
  - More general education for the public
- Change liability around salt application
- More research
  - Better way for non-point source pollution control and source reduction
  - Alternative to road salt
  - Manage public perception
- Better integrate the roles of the multiple agencies and entities involved in protecting water
  - Promote better consistency (less conflicts) across jurisdictional boundaries
  - Allow for information to get to decision makers

## **Session 1:**

**What is working?**

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- In the ultra-urban area water is now cleaner than in the past. Need to look at density and use of nontraditional techniques
- Density is a green plan
- MNRRRA rules are pretty good now. The draft rules with roll back the protections- don't weaken the rules
- Prescription comes with rules. Rules should be outcome based and not prescriptive. MIDs has been an advancement in how address rules – they are more performance based
- Cities want to protect the resources, just need flexibility in how they protect
- Use of pervious pavement is good start for reducing need for salt in the winter
- The watershed district model is working and should be promoted more statewide
- Need more programs to push for better water efficient appliances to reduce water use
- Regulatory mechanisms are in place to control stormwater
- Minneapolis has a stormwater credit program that works well. Should promote statewide

### **Barriers?**

- Sprawl is driving the water issues
- DNR has eliminated MNRRRA staff so no one is working with developers anymore on implementation
- Shoreland management plans are not consistent across the state. All communities need them.
- Wetland replacement needs to be done within the watershed where the wetland is being impacted
- Funding for long-term maintenance of BMPs
- Need solutions for maintenance
- Monitoring is a major issue, need better data on impact of BMPs
- Funding for Soil and Water Conservation Districts needs to be increased so they can better support efforts on this statewide
- People don't value water or stormwater. Money would come if it was valued.
- Need more robust way to monitor. Current way to measure benefits is limited
- Need more resources for U of Minnesota to conduct the research needed in this area
- Understanding of groundwater is needed in order to manage stormwater and system as a whole
- Need to agree on metrics and use same metrics
- Met Council plan for 1/ million new people will consume too much land without the right protections – zoning, subdivision, etc.
- Codes and standards today are too constraining for practices and development need today – need to relook at codes and standards
- Education is a barrier. Getting education into schools as well as how schools develop their own land (statewide issue)
- State agencies don't understand what locals are doing and need to do.
- Need to help the system put standards into what we need to teach. The people doing the work need to be more educated in what is needed.
- Workers are not trained to maintain practices – no funding, no training to make sure we succeed
- BWSR can only sort out issues if action was taken and can't address actions needed

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- Need research based assessment of effectiveness of BMPs

#### **What can the Governor do?**

- Improve/update building permit. Direct administration to do this. Make sure more sustainable form water perspective
- Develop plan for changing ethics and values towards resources (water in particular)
- Prohibit use of groundwater for lawn irrigation (White Bear Lake issues as an example of the problem with this)
- Work with communities, eliminate disparities within communities and urban regulations
- Give credit for alternative uses of water
- Staff agencies to match the need with his goals in this area
- Convene people of the state like he did for this Summit. A lot of issues to talk about, keep the conversation going
- Create a specific body to manage BMPS effectiveness research similar to what the local road research board does for transportation issues. Emphasis should be on research and implementation
- Streamline conflicts between state agencies
- Meetings are not always accessible. Need to have access by different modes, such as in-person, on-line, etc.

#### **What can you (others) do?**

- Watershed Districts are in a good position to implement reuse projects
- Use Watershed Districts to manage and supervise stormwater reuse projects
- Isaac Walton League does annual summits – do more of this to find common sense decisions at the local level
- The earlier we integrate water decisions into planning, the better off we are
- Collaboration
- Need to rethink the suburban model of development

## **Session 2:**

#### **What is working?**

- Watershed District structure works well. Need Statewide. Works because based on hydrologic boundaries
- Communicating with city planners, developers and water conservation experts early on and often
- Private/public partnerships
- Public/public partnerships
- Things implemented in neighborhoods are best advertisement i.e. rain gardens
- On the ground projects
- Need to tell the story as well as have it being visible
- Why can't we mandate rain gardens everywhere?

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- Stormwater regulations are resulting in some of these new BMPs
- Funding incentives help for installation and visibility
- Expand green step program concept to this area – have programs that show good practices
- Maplewood Mall is a good example where we visibly demonstrate good BMPs to use
- Need runoff prevention demonstration projects
- The education and communication component is working

#### **Barriers?**

- Lack of information on the effectiveness of technology tools – really only settle and filter particles now. Don't address dissolved fraction
- City codes i.e. require lawns to be green which results in watering and fertilizer use which impacts quality and quantity
- Homeowner association codes
- Older developments don't have room for some of the practices we use today
- Application rates in urban areas
- Need more natural gardens that benefit pollinator friendly plants too
- Breakdown in communications between cities, Watershed Districts and developers
- Cost for removing phosphorus- funding is needed to support removal required in TMDLs
- Inadequacy of public education
- Need information on relative cost estimates of practices being used today
- Need to know how much phosphate is needed in city water so can better regulate its use and reduce how much gets released into our water

#### **What can the Governor do?**

- Only allow certified people to apply fertilizers and herbicides
- Provide more education of what is needed
- Buffer law and its implementation will have dramatic impact
- Encourage buffers in urban areas
- Encourage STEM education
- Review state codes for needed improvements to make more effective in protecting our waters
- Need education where children can see it as well in school i.e. rec centers
- Incentivize through tax credits
- Incentives to business too
- Citizen academies for education
- Support function of stormwater research Council through the U of MN
- Tell state agencies to support research in this area (stormwater). This should be part of their missions
- Offer mandatory meeting with all legislators on water issues for education and awareness

#### **What can you (others) do?**

- Need to know who are our friends so we have others to communicate with and partner with as common issues come up
- Big push to have the participant list available to all

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- Encourage other counties to set up groups like the Washington County Water Consortium to share information on water topics
- Need more outreach for communities of color

## Session 1:

### What is already working?

- Social and environmental benefits and the value of water
- Stormwater utility
- Watershed levy projects
- Cost of water-pennies per glass
- Study rate scale

### What are the barriers that still exist?

- Barriers on plumbing code, water reuse, stormwater reuse
- Urban code-streets and parking lots are overbuilt
- Reuse, wastewater and stormwater, plumbing code
- Unequal funding across state; there needs to be more equal distribution
- What happens at SWCD and WD level depends on what we have
- Integrate early into projects and not too late
- Scale of what can help projects be effective
- Value of water: irrigator \$150/sf to irrigate, 150,000 gallons saved per year
- Adds \$15,000 to the economy
- Solutions require infrastructure projects with public money, public goals and early involvement
- Interagency coordination team
- Little information comes out of groups
- We need the governor to push to get information out
- Met council lead interagency groups
- Water reuse, community wide mtg.
- Need a water management plan
- By complicated, connected systems. Lots of agencies have control over segments of the cycle.
- Water as resource, not waste product
- Is more regulation needed?
- Should regulations be watershed based
- Knowledge based-we are mostly segments of research and knowledge
- It's a barrier that there's never enough money to solve the problem
- More focus on protection and restoration
- MPCA WRAPS process is some focused money, proactive
- Silos: quality of life and what is communicated; sense of place, etc.
- Funding waste connection or all segments of a community
- Funding multiple benefits on expenditures
- Silos-too big at the state level and too small at the local level
- Watersheds-some money, some regulation
- WMO-not work well

- Few mid-size silos-WD-partner
- Fairly report law mass, political mass, funding mass, resource mass to get the job done
- Mississippi: reuse of waste water to use for irrigation—Met Council
- Showcasing innovations, \_\_\_\_\_through on fee structure
- State statute linked to fee systems (more state push)
- MPCA, PFA have systems in place
- Problem doesn't go across state
- Uneven playing field
- CWF-\$228/m/y
- WDS-push, advocacy, educate
- Look at what works and expand
- Look at planning process and get things in early
- Discussion: punishing locals-rate structure
- \$100 m treated water-field
- Stormwater, very hard to get permit
- Watershed volume control upstream, water quality site by site, discouraging good projects, too hard to do report
- Taking obstacles out of the way-regulations
- What is investment on stormwater infrastructure?
- What is need?
- MS4 story is not being told-information and program news to public
- Minneapolis-upfront investment gap
- Even playing field
- Look to other states/governments that are doing good things
- Be first adopters
- Evaluate what is working
- Break down barriers
- How do we value water as a resource and use to maximum extent?
- What are the incentives to make this happen?
- Create tension between different goals/agencies with different goals and objectives
- Integrated water management use is important
- All connected by hydrologic cycle
- All roles, different perspectives
- Consolidation of state agencies with different perspectives
- Consolidation of state agencies with water authority (WI, ND)
- Additional resources and waste or stormwater research
- Governor needs to push this
- Public education on stormwater
- Washington County water conservation
- East metro water education program-23 local units of government
- CW Fund-governor can help, need to show progress. What is the measure?
- Reframe story on CWF legacy

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- CWF statewide monitoring for water quality
- Story is not being told, need to get data and message out
- Open government data and easy to access
- Increase access to useful information
- Next three years: increase funding \_\_\_\_\_
- Quantification of investment
- Education
- Clean water monitoring-get story out
- MS4 permitting
- Eliminating AG exemption from MS4 requirements

### **Harvesting Major Themes:**

- We need public education on needs, challenges, what's being done and what needs to be done
- Change codes/rule/regulations to make doing report easier
- Need one state water agency
- Need for waste water –money, people law, resources

### **Session #2:**

- Porus pavement-SLP county project
- St. Paul-Hamline Library
- \_\_\_\_\_-one made of porous pavement, Falcon heights
- Stormwater use-CHS Field
- U of M, Hugo golf course
- Mitigation of stormwater, parks
- RCWD-assessment-stormwater reuse
- Las Vegas, potable water, grey water
- East Bethel Waste Water treatment plant
- Recharge?
- Need more of them
- Demonstrations to mainstream
- Rain gardens, rain barrels
- Snow and ice control have changes, especially sand and salt being used
- Street sweeping MS4
- CRWD-fixed \_\_\_\_\_ flood
- Using technology to address thermal impacts
- Using available technologies-iron enhanced sand filters
- Well head protection-SW-GW connected
- Shoreline restoration
- Plumbing code on water reuse
- State code and interpretation of code
- UV treatment

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- Regulations discourage right behavior
- Price of water
- Potable water-sewage water
- Climate challenges, storage to work, cost benefit
- Need public impact and education on issues
- Need to get to all areas of our cities-intercultural
- Perceived value of water
- MS4 not all cities-same maintenance
- Level of playing field
- Shared cost and benefit-how to ameliorate
- Ick factor
- Education
- Show relationships and hydrologic cycle
- Inter relationships within state
- Watershed boards-too long on board
- Agencies
- SWCDS-200 years
- Impairment-Browns Creek-MPCA funded study –temp, sediment
- Same agency-two different approaches and message
- Do we have standards?
- Legislature doesn't talk to each other
- Appoint a water czar
- Bipartisan conversation
- Formulate a more comprehensive plan
- State wide goals
- Water plans execute against goals
- I don't want the state to give me a plan
- ILL Water Inventory Program
- Barrier is state goals
- Metro funding vs. Greater MN funding
- SWDC
- Level funding playing fields
- Red River Valley vs. MN River, no collaborative will to fix
- Need overall priority of MN River
- SWDC only works with \_\_\_\_\_ landowners
- No funding for targeted approaches
- Need money for helping others
- More dollars to target to most important projects
- What's in it for me?
- We are at head waters
- Chloride has to be addressed for public safety
- Chloride TMDL energy \_\_\_\_\_ water expense
- Partnership: PCA, developers
- Proper applications and alternatives
- Needs to continue
- Conversation between state agencies-key budget and key employers

- Silos of agencies, messages, actions, afraid to give in

### **Harvesting Key Themes**

- Change plumbing code-reuse
- Education-break down language and cultural barriers
- At schools, reach the younger generation
- What is the definition of success
- Fiscally, what is value?
- Watershed-based solutions

## **Written Comments from Comment Sheets:**

### **Water in the Urban and Built Environment- managing runoff**

#### **1. What is already working in this area that could be scaled up or enhanced?**

- Wat
- Hydrologic vs. political boundaries to manage
- Communicating and standards with developers
- Private /public joint efforts
- Curb cut rain gardens
- MS4 permits > state regulations
- Lots of activity and progress in Twin Cities metro area but less movement in outstate urban areas. How to spread that knowledge, case studies, etc. to greater Minnesota? Increased monitoring in grater Minnesota.
- DNR flood mitigation office!!
- Terrain analysis, hydrology modeling (flood mitigate design) solutions; multiple solutions to water quality flood reduction.

#### **2. What barriers still exist and how should we address them?**

- Treating urban runoff is a technology – poor area. We need research to develop new technologies.
- Home owner association codes
- Old developments without designed systems
- Funding by small improvement projects insufficient
- Cost effectiveness knowledge > education
- Lack of education (general citizens and rural leadership)
- Inconsistent regulations. Storm water management inconsistencies amongst co-regulatory local government (i.e. cities, counties)
- Rural roads are not reordered- they present on opportunities for habitats for carrying or holding back water.
- FEMA is inconsistent help, bad \$\$ for exuberant cost.

- Rice County commission advocating against Buffalo; our county has been no help in solutions. SWCD/NRCS staff need work on partnering up troops on solutions (farm fields adjunct to rural resolutions)
3. What can the governor and this administration do to advance this solution?
- Mandatory state legislature discussion on water
  - How do you communicate buffer benefits to the urban environment
  - Education – review and enhance water quality management topic
  - Identify movers and shakers in community
  - Increase resources and funding opportunities for outstate local governments for development and implementation of storm water improvement projects.
  - Look at IA – they’ve reduced a 50 page app for cover crop program to 1 page! (NRCS, Department of Ag, SWCDS etc.)
  - IA-also has MnDOT- 1 source for seed mixes for road sides rather than confusing distribution systems.
4. **What role do you see the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**
- Washington County water consortium as example of communication
  - Greater communication and collaboration with MDH/ MPCA and other state agencies for specific guidance on storm water management with in water supply and watershed protection areas. Greater communication amongst local partners in outstate areas on development of local and regional water management plans.
  - Rural solutions to city problems
  - Enable cooperation between cities and townships
    - 1.Terraces
    - 2.Road ditches enhanced
    - 3.Grass ways
    - 4.Wetlands recreated
    - 5.Retexture roads

## Breakout Topic 7: Water in the Rural Environment

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### Managing Potential Pollutants, Session 1:

#### Discussion

- Install water (pollution) control systems on state DNR land, and ensure they have multiple uses and benefits
- Make sure that we understand the real source of pollutants on farms, need more research on sources and their contributions
- Level the playing field so all farmers are facing the same amount of risk and no one is at a disadvantage (when they are being asked to implement a practice)
- Want to understand non-ag sources of pollutants, such as the amount of runoff from impervious surfaces
- Need to educate everyone on the good practices that farmers are doing
- Use bioreactors for treatment where nitrate is leaking (from a manure storage area)
- Need to investigate fertilizer stabilizers more, they have a great potential to reduce losses
- Identify if nitrate loss is from fertilizer or manure
- Require adherence to set backs from wells, sinkholes, streams and follow the rules (for manure)

#### Harvesting

- All farms must be profitable
- Don't exempt farmers from regulations
- All fertilizer fees should go to the MN Dept of Ag, mostly for research
- Want to know exactly where the problems are on farms, need more research, maybe farm specific reviews
- While people are blaming ag (for water quality problems) some cities in rural areas are also out of compliance
- Need more collaborative relationships between cities and farmers

### Management of Potential Pollutants:

#### What's Already Working?

- Pattern tile – creates a sponge in the ground to hold water
- Buffers
- GMO Plants – allows less fertilizer and pesticides
- Land rotation of grazing and crops
- Conservation tillage
- Nutrient management plans based on soil sampling
- Incorporating manure as opposed to surface applying

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- Precision farming
- Holding water and road salt application management (urban)
- Soil testing to determine application rates
- Nutrient management, the right amount at the right time
- Feedlot programs
- Buffers
- Awareness of impacts of lawn and leave debris impacts to surface water (urban)
- Keeping animal waste out of waterways
- Wetland reconstruction
- Conservation easements
- Cover crops where they are implemented
- Conservation tillage
- Precision farming

### **What barriers exist?**

- Perceived economic impact vs. actual
- Perceived benefit of practices that might not actually work
- Attitude judgements
- Some of the costs don't match the benefit
- Spend too much on research and testing, need more for implementation
- Fairness – public entities (wastewater treatment plants) can release contaminated water when overwhelmed but private entities cannot without penalty
- Not enough research of practices that work at land grant institutions, not enough funding
- Too many local state and federal agencies doing the same thing
- Inequity for the buffer law, cities exempted
- More regulation drives consolidation of farmers, bigger corporations, costs more less money for conservation
- Need to get more people on board
- Farmers need to learn from neighbors
- Need to address the bad apples
- Not applying strategies to non-ag lands
- Need open dialogue to encourage action
- Lack of monitoring/funding to do so
- Lack of BMP implementation
- Pollution is free, conservation costs money
- No market for crops grown with conservation practices
- Lack of enforcement of septic law
- Not enough funding for research
- Lack of education for farmers and non-farmers
- Conflicting research
- Economic incentives promote planning on marginal lands
- Lack of demonstration of good practices

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- Lack of government responsibility for problems
- Federal farm bill programs encourage planting and not conservation
- Multiple agencies not cooperating
- Too many certifications: green star, Ag water quality certification, demonstration farms
- Insurance promotes planting row crops and not more sustainable crops

## **Solutions**

- Encourage education science based solutions
- Make sure everyone including public understands problems and solutions so there can be a focus on solutions and not blame
- Field to market solutions
- Green star certification
- Showcase research and whats working
- Review what all the boards and agencies are doing and streamline, more efficiencies
- Logical and realistic goals and expectations
- Manage expectations, can't expect change overnight
- Foster a cooperative helpful attitude at the state agencies, they are there to help
- Upland solutions, buffers is ok but there should be more work in the upland areas
- Goals, 20% living cover by 2020
- More regular septic inspection and regulation
- Raise the price of the pollutants to cover the costs caused by it
- Tax code should reward doing the right thing, putting land into conservation
- Encourage public private partnerships
- Expand funding for SWCDs
- Greater emphasis on BMPs and connection with nutrient reduction strategy
- Statutory set goals
- Stop wetland loss
- Educate the general public about impacts of what is flushed down the drain
- Expand funding for wastewater treatment plants
- Expand funding for getting practices on the land
- Fund forever green
- Precision ag needs to be more widely applied
- Encourage farmers to tell their stories
- Lake associations should work with farmers for a common goal
- Encourage cooperation amongst agencies
- Discovery farms
- MN Sea Grant good science and connects people (Coastal waters)
- Develop economic models that drive behavior
- Cost based solutions
- Tax credits
- Determine what is effective, fair and equitable
- Use best science to promote and educate

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- Pollutant trading
- Address perception of the problem
- Understand the externalities
- Spread the costs, not just the farmers

### **Harvesting Key Themes**

- Education cooperation and communication
- Consistency cooperation between agencies, streamlining, state, local and federal
- Stop blaming and focus on solutions
- People want to do the right thing
- Patience
- Need costs to be central to solutions
- Need to include stakeholders
- Use good science

## **Managing Potential Pollutants, Session 1:**

### **What is already working?**

- Nitrogen BMPs
  - Comment: economics affect use/adoption
- Good work being done by waste water treatment plants
- Legacy money used to clean-up ag, avoid costs to urban water treatment plants

### **What barriers still exist?**

- Drinking water problems related to quality & quantity
  - Comment: Flint, MI is not a rural/ag issue, it is a plumbing issue
- Conservation easements sought primarily only on marginal land, and farm payments/price-supports further compete against easements
  - Comment: lower farm prices may reduce competitive pressure on conservation easements
- High grain process in recent years
- Federal farm program is barrier and should be eliminated
  - Comment: reallocate farm bill spending from price supports to conservation
- Eliminate use of farm chemicals

### **What can the Governor do?**

- Find cost effective means to increase living cover
  - Comment: Federal Crop Insurance policy penalizes use of cover crops
- Compensate producers for placing land into buffers and other voluntary conservation use
- Nutrient management incentives for voluntary use of BMPs
- Have wastewater treatment plants sell removed nutrients

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- Incent/pay for organic transition during low price cycle to take advantage of organic price premium, especially for dairy feed
- Expand/scale-up the Minnesota Agricultural Water Quality Certification Program
- Governor should engage agribusiness to support Minnesota Agricultural Water Quality Certification Program and promote certification among farmer suppliers
- Tie together sensitive areas (including wellhead protection areas) with easement marketing
  - Comment: Conservation staff marketing easements do not know where targeted sensitive areas are, or programs don't include targeting of sensitive areas

#### **What is your/your-sector's role?**

- SWCDs can function as mediators between farms and policies
  - Comment: get more farms into Minnesota Agricultural Water Quality Certification Program
- Target easements to wellhead protection areas

#### **Harvesting Key Themes:**

- Motivate land-use decision-makers to adopt conservation management and BMPs for water quality—including organic transition, the Minnesota Agricultural Water Quality Certification Program, and business sector promotion of conservation in ag production.

## **Managing Potential Pollutants, Session 2:**

#### **What is already working?**

- Research and education on manure and fertilizer management
- Buffering water bodies
  - Comment: include private ditches
- Farmers and agriculture generally is very successful already, tap their expertise to expand improvement
- Anaerobic digesters promotion and adoption
  - Comment: should be subsidized
- Cover crops and reduced tillage
  - Comment: U of M is behind in promotion, need to expand demonstration
- Research identifying problems areas
- Water quality trading (point and non-point) works, but need more of it

#### **What barriers still exist?**

- Federal and state programs are refined to local conditions and needs
- Successful programs like MAWQCP need to be scaled up
- Misinformation/misunderstanding about ag practices like tiling which actually combats soil erosion
- Frequency and intensity of extreme weather/precipitation events
  - Comment: negative effects come from just 7 to 9 events per year

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- Lack of incentives to adopt good practices
- Absentee landownership and disconnection with the land and land management
  - Comment: further exacerbated by short-term leases
- Capital gains tax serves as disincentive to sell land and incents renting by absentee landowners
- Crop insurance reduces risk and removes motivation to protect sensitive areas
- Bigger farms and directing contracting with input suppliers remove local ag businesses and population from farm communities, and ultimately increases disconnect to land and land stewardship

#### **What can the Governor do?**

- Don't penalize production ag in MN, especially relative to policies of neighboring states
- Increase research and staff capacity in education and extension
- Increase and improve access to education and research findings
- Use farmer expertise to augment outreach and education; provide compensation to those farmers
- Expand communication among and between all communities and constituencies
- Educate Land Management Companies that control increasing amount of states ag acres on conservation and give incentives to those companies to promote conservation
- Promote local food production to help community viability and increase local connection to the land

#### **What is your/your-sector's role?**

- Lead BMP workshops
- Lobby legislators to enact solutions
- Conduct family night on the farm events

#### **Harvesting Key Themes:**

- Communication & education in recognition that one size does not fit all; management and practices must be specific to site conditions
- Engage all communities and constituents

## **Management of Potential Pollutants, Session 1:**

#### **What is working?**

- Precision agriculture – variable rates of fertilizer and chemicals
- Updating septic systems and wastewater treatment
- Dakota county buffer initiative – thoughtful and judicious regulations
- Documentation of the problems and making them available and transparent – started in good direction on surface and ground water monitoring
- Conservation Reserve Program
- CSP program through NRCS – incentivizing conservation
- Hay buffer in Sauk Rapids Watershed – where farmers brought into the design phase

## **Barriers?**

- Government agencies currently not working together at all levels
- Irrigation appropriation at DNR is not linked to nutrient management goals – for example encourage irrigation wells into contaminated aquifers and not pristine aquifers.
- No statutory mandate to stand for nonpoint source pollution
- Lack of awareness by the general public
- Hard to track information and progress related to fertilizer use
- Perceived need to overapply nitrogen fertilizer. Lack of regulation of both fertilizer sales and point of use.
- No market mechanism built into pollution abatement or prevention.
- No tax benefit or incentive to do the right thing for water quality.
- Economic barriers for taking land out of production – CRP payments not enough
- Lack of control at the local level
- Lack of regulation of nitrate levels coming out of tile drains – need to involve drainage authorities and have more transparency/records in the drainage systems including tracking of new tile drainage installation.
- Lack of a statewide data repository

## **Solutions**

- Keep working on precision agriculture to be made affordable for most farmers
- Link DNR irrigation permits to nitrate management goals and criteria
- Require better tracking of fertilizer sales records
- Permanent CRP sign up rather than temporary, with better economic incentives
- More mandates to capture attention of the general public, including state and county regulations and controls
- Develop a statewide central repository for all kinds of data and info that relate to rural land and water quality so that local government does not have to each do their own work to gather the information.
- Farmers need to feel like government is partnering with them, not blaming them. The governor should create more unity and less division. We need to involve farmers in the solution.
- Use data to delineate where there are problems and no problems and make the information readily available to water users.

## **Harvesting Key Themes**

- Better information, data and transparency of findings. Build central repositories of rural land and water information.
- More motivation and incentives for change, including market incentives, tax incentives, and mandates when necessary.
- Involve farmers and stakeholders in the discussion of solutions.
- Working together at all levels of government. Coordinate.
- Build on successful existing programs. Scale-up existing programs.

## Management of Potential Pollutants, Session 2:

### What is working?

- Research on manure and fertilizer management
- Public education on fertilizer and manure management
- Buffer strategies along surface waters
- Farmers are doing a good job right now, and yet there is still room for improvement
- Anaerobic digesters for manure work – but we need more incentives to get more of them built
- Reduced tillage, no-till, and cover crops are win-win solutions that help soil health and water quality

### Barriers?

- Farm bill and state programs – one size fits all approaches. We need to recognize local differences, such as in geologic sensitivity.
- Not enough farmers spread word to other farmers.
- Not enough participation by larger farmers
- Mis-information. Need to get the word out on both the benefits and potential harm of practices such as tile drainage.
- Even good practices can lead to pollution – especially with extreme weather events. So much loss of pollutants with small numbers of precipitation events.
- There is tension between the needs to hold water on the land and to get it quickly off the land.
- Not enough financial incentives for change.
- So much of our cropland is not being managed by the owners of the land – renters are making short-sighted management decisions. For example, renters take more risks with erosion as compared to people who own the land.
- Lack of communication and understanding – particularly between urban and rural.

### Solutions

- Add buffer requirements for private ditches
- Find successful implementation of cover crops and no-till and bring other farmers to see how it can be done. Let farmers educate farmers – starting with progressive successful farms.
- Better delineate problem sites and segments of rivers that should be targeted.
- More point and non-point trading
- Don't penalize production agriculture in MN as we lead the nation in water quality issues and don't develop regulations that force farmers into a one-type solution for all.
- Continue and expand on research. Nothing is static in agriculture and research needs to be ongoing. More funding for research.
- Continue and expand on university extension work and education. More funding for U of MN extension and education.
- Create an environment that keeps communication open with all groups. Work together and seek to understand each other.

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- Target education to management service companies who service rented lands. They can influence the renters.
- Change capital gains taxes so that widows do not hand onto land for so long while renting it out.
- Target education to students and younger generation.
- Develop and understand cost-benefit analyses of specific best management practices. Educate on cost-benefit analysis.

### **Harvesting Key Themes**

- Communication and education is critical – farmers, water quality interests, cost-benefit, land rental service companies, University extension, younger generations, etc.
- Recognize that one size does not fit all. Develop policies and technical recommendations that are site-specific to local differences in soil, land and water.
- Involve all groups in developing the solutions. Need some sort of Governor directive to find the best solutions, but ensure that agricultural representation is equal to other interests.

## **Managing Potential Pollutants, Session 1:**

### **What is already working in this area that could be scaled up or enhanced?**

- Grass roots – SWCD's ramp up support for existing local level work as opposed to more layers levels of government
- Impact of perennials on the landscape
- Perennials are able to work need to scale up. Not always done in the right paces, opportunity to target better.
- Little evidence that current strategies are working.
- More animal ag is needed, reduce barriers and regulations that stifle animal ag.
- Local involvement, less state involvement, more local control.
- Conservation field days, more farmer education opportunities that are not getting out to the broader audience.
- AWQCP currently not working in that not achieving WQ standards, need to modify has potential to do more.

### **What barriers still exist and how should we address them?**

- Not enough funding going into implementation, need to be dedicated to get tot then next level.
- More funding to get farmers started with cover crops. Not a lot of what we have works more research is needed.
- Streamlining so more money goes to local governments to get practices on the ground rather than more layers. One Watershed, One Plan is example of taking away from what works.
- More options for perennials and cover crop research
- Keep focus on voluntary efforts not new regulation.
- Industrial hemp, need legislation to support its reintroduction.

### **What can the Governor and this administration do to advance this solution?**

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- Fund forever green initiative.
- Change AWQCP to make it meet WQ standards
- Legislature to allow industrial hemp
- More partnering with national and regional groups on issues.
- Abandon 1W1P, move to get more \$ on the ground.
- Direct more CWF \$ to more projects on the ground rather than more report writing
- More scrupulous to targeting money to those projects, areas, practices that will improve water quality results
- Cannot make solutions one size fits all must recognize regional and area differences.
- Strengthen more funding for local SWCD's that can make a difference.
- Increase research funding to help find solutions at U of M
- Develop and promote more markets for perennial crops
- U of M Extension more money to get education of local practices out to more farmers
- Governor need to bring focus to all sources of the problem ie. Urban, roads, etc. not just talk about that it is a ag issue.
- PCA needs to permit tile outlets
- Useful regulations are needed such as restricting cattle access to streams
- Get nitrate standards established.

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Private sector support is happening. Example of MEP & Soybean Growers supporting Forever Green initiative.
- More recognition of good work already being done
- More farmer demonstration sites that show good practices
- More opportunities for groups to get together and discuss.
- Need to expand the discussion
- Find ways to bring sides together

**What strategies, measures, and benchmarks of understanding and attitude do we need to achieve the desired outcomes?**

- Measure implementation
- Progress of both voluntary and programs need to be shown
- Farmers are doing stuff on their own because govt. programs and designs are too burdensome and or take too much time
- Need reasonable design standards. Make programs and designs fit modern ag.

**Harvesting Key Themes**

- Local control not layers of new bureaucracy
- Targeting CWF \$ to practices that work, yield multiple benefits, are done in the right place and that easements are targeted to the most marginal land.
- Stop targeting farmers as the only part of the problem
- Promote dialogue and civil conversations

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- More programs to recognize good work

## Session 2:

### **What is already working in this area that could be scaled up or enhanced?**

- Infrastructure for good science out there but it is not well connected to rules, regulations, and policies.
- Increase in funding and scaling up of living green, perennials.
- Delivery of voluntary conservation programs and resources limited. Opportunity great to scale up this delivery
- Research and promotion of new practices
- SWCD funding
- General question of how to get others involved
- Is it really working
- When science drives policy the system works when policy drives science it does not.

### **What barriers still exist and how should we address them?**

- Existing practices are working and positive WQ benefits are happening. Example of trout in Brown County because of tiling.
- We are not bending the curve
- Do not have markets to drive changes in crops that maintain profitability
- Buffer proposal started out strong but has been weakened and is not sufficient to meet local water quality needs.
- Not consistency between agencies on how to handle water
- Farmer tools necessary for them to evaluate effect on their own farms
- Research not keeping up with new technology
- Lack of trust amongst various sectors and agencies
- Much of funding filtered through state agencies should be independent and separated out to fund research i.e. regulators should not dole out research \$
- Competitive process used to fund local programs is an impediment to SWCD's Having staff and \$ to work with willing owners when they are ready in important
- Environmental groups have been at larger heads with ag need to seek and find solutions that are mutually beneficial
- Must account for baseline natural vs. man made. I.e. What can or portion that is manmade should be.

### **What can the Governor and this administration do to advance this solution?**

- Multiple water summits around the state to account for variability
- More local approaches to solving problems a good step
- Recognize the real cost of water
- Public policy hindrances specific mention of crop insurance limiting use of cover crops

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- Leadership in making sure we are prioritizing \$\$ are spent on maximizing gains, example of spend money on point source first.
- Working for range of ideas to support, select, and incentivize perennials on the landscape and create markets
- Coordinate education
- Making sure exiting WQ standards are continually updates based on science. Example of nitrates and science supports a higher allowable standard
- Innovation and new ways needed to distribute funding for practice implementation needed, environmental markets, trading, \$/lb reduced

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- /sharing local success
- More dialogue work on rural towns and ag on how to partner on solutions where ag may benefit the small cities.
- Lake associations can be a good vehicle to link/coordinate local, state, and federal efforts
- SWCD need to up their game when it comes to communicating with farmers
- More university engagement w local groups
- Positive synergies need to be made aware of between ag and water resources
- Trust tin each other's statements, values, and positions

#### **Harvesting Key Themes**

- Education, smaller summits, locally led
- Federal reform of risk management programs that limit cover crops
- Find ways to limit or remove risk to producers adopting conservation
- Independent science based university research
- Strategies and markets to increase perennial crops

## **Water Storage, Session 1:**

### **Barriers**

- Landowner adoption of practices to hold water on the landscape.
- Funding of storage areas and economics associated with storage.
- The general public and legislators don't understand the process by which large-scale storage is implemented on the landscape.
- Before water storage is done, there first needs to be flow reduction goals by major watershed in Southern Minnesota. After goals are developed, modeling needs to be done to determine where large scale storage structures can be built. This needs to be done first.
- Not enough drainage viewers for the ditch system re-determination of ditch system benefits.
- Finding areas to store water on the landscape.
- The differences between holding water on the land above the soil profile versus storing water within the soil profile are not well understood.

- Farmers don't get enough credit for the good things they do on the landscape for implementing BMPs and conservation structures.
- The continual finger pointing and agriculture versus urban.
- Taking land out of production for water storage.
- Adequate outlets are needed and this is a major concern faced by drainage authorities and how then provide for drainage in public systems.
- The process for all phases of developing and implementing large scale water storage projects needs to be more landowner friendly.
- Slowing water up or metering it out costs money – and this can be done only if drainage authorities have the right policies in place to do so.
- Attitudes about holding water on the land need to change.
- There is not a one size fits all approach to holding water on the land. What works in the Red River Basin may or may not work in the Minnesota River Basin.
- Bioreactors don't work in high flows and the point is that drainage BMPs will only work during the growing season and when soils are not frozen.
- Loss of income needs to be addressed when drainage or water storage BMPs are installed.
- There may be a negative return on investment for smaller sized water storage projects that landowners are responsible for.
- Older landowners may not be as receptive to water storage – there needs to be a paradigm shift. For example, the older generation always wants clean, black fields with no residue. Land ethics need to change.
- There is not enough research on water storage and not enough time to implement projects. Expectations need to be managed at all levels.
- The allocation of legacy money is not well coordinated. There are times when large scale water storage could easily be funded by the Lessard - Sams Outdoor Heritage Council or the Clean Water Council. These two funds need to be better coordinated and remove the politics from these processes. If we want water storage then fund it.
- The cost – benefit formula and valuation of land needs to be better accounted for. Ditches built 100 years ago that have not been maintained have either negative maintenance funds or no funds available. Project funds for ditches and water storage need to be based on present land values, not from 100 + years ago.
- Many people have the mindset that their solution is the best – we need many solutions for such a complex issue. One size does not fit all.
- More education is needed at all levels and all issues.

### **General Comments**

- The North Ottawa project in the Bois De Sioux Watershed District (BDSWD) is a model for large scale water storage in the Red River Basin. There is a cattail and phosphorus assimilation project at the North Ottawa project. The Governor should come see this project and several other large scale projects in the entire Red River Basin.
- The BDSWD allows farming within their large basins and land taxes are still paid. Farmers that rent farmland within large scale basins pay land rent, and these funds pay for maintenance and operation of larger projects.

- Open tile intakes need to be removed from the landscape and more non-perforated tile needs be used in the appropriate settings.
- Crops yields will increase with more cover crops.
- Retrofitting of existing tile or patter tile systems can benefit water quality. We need to build smarter open ditches and install more BMPs and side inlets.
- Drier soils in late fall and into the winter allow for more water storage, especially in the Red River Basin.
- The CRP program and other similar programs work. Available financial assistance from the federal and state government never meets the financial need. More funding is available because there are motivated landowners for conservation practices and BMPs. More funding needed for the MN Board of Water and Soil Resources.
- There are many absentee landowners and a high percentage of them are widows. This is a prime group of people that local Soil and Water Conservation Districts and watershed districts can potentially work with. Landowners are aging and 30 percent of MN is farmed by the people that own it – the other 70 percent is farmed by renters. This is where land ethics may be an issue.
- Discovery Farms and other drainage research projects managed by the Minnesota Department of Agriculture and its partners is critical.
- Cities and municipal areas need to address their water storage problems and issues. However, metro stormwater rules have existed for a number of years and cities are focusing on infiltration.
- There are many septic system issues in urban areas, it's not always agriculture that is the problem.
- There should be a "state bank" in Minnesota similar to North Dakota where young farmers can borrow money to start farming and to implement conservation practices, BMPs, etc.
- Give the rules and regulations more time to work at the local level. Far too often the legislature wants to make changes after a year or two. In some cases, new standards or new rules are needed or just need to be updated for either the whole state or specific regions of the state.
- Random acts of conservation has been an issue in past but there are many new targeting tools that the state agencies have developed for use by local units of government.
- Even the best farmers can still be cast in negative light.
- We will never have 100 percent perfect water quality because there is leakage in the system.

## Holding Water on the Land, Session 1:

### **What's working that could be scaled up or enhanced?**

- Restored wetlands, other perennial veg. lands (CRP, RIM, WRP, USFWS programs)
- Grass-backed terraces
- Alfalfa in crop rotations
- Trees in floodplain and elsewhere
- Saturated buffers
- Side inlets

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- Water and sediment control basins

#### **What barriers exist and how to address them?**

- Need for permanent conservation practices / cons. easements, rather than contracts
- Funding for multipurpose impoundments
- Grass waterways going out when corn prices were high and more row crops SE MN
- Rural vs. urban perspectives and understandings not in sync. Blame game.
- Federal crop insurance problematic for use of cover crops
- Permanent veg. removed and more tile, believes causes more flooding , but challenged by belief in effects of weather and large rain events

#### **What can the Governor and administration do to advance solutions?**

- More CWF used for permanent practices
- More upland water holding practices / structures and more public funding
- Concern about effects of conservation programs and lands on local tax base
- Education and demonstration for landowners and LGUs
- How to use private sector (e.g. crop advisors) more for marketing and technical assistance
- Conservation practice standards flexibility with reduced cost-share (at landowner risk)
- Focus on marginal land for storage
- Better enable CWF and OHF to be used together for multiple purpose projects
- How to make alternative cropping systems work for farmers, including support for livestock
- FSA – federal programs counterproductive – allow intensive farming of highly erodible land
- Farm Bill is key – subsidies for row crops on marginal land
- Governor change message to not blame farmers, point to shared responsibilities, cooperation
- Drinking water quality is big concern in some areas of the state, rural and cities

#### **Role for your constituency sector for solutions? Opportunities for partnership across sectors?**

- MN Corn Growers and MN Soybean Growers check-off \$ currently going toward research
- Concern about sustainable use of land
- Farmers using more variable rate fertilizer technology and timing to help reduce loss
- Farmers use conservation practices for profitability and water quality
- MAWQCP – discussion, farmer acceptance, if making a difference (relatively new program)
- Farmers believe trend in MAWQCP and conservation practices as positive

#### **Harvesting of Key Themes**

- Education and civil conversations about real solutions
- Long-term conservation solutions
- Coordination of programs (for multiple purposes)
- Profitability consideration of solutions

## Holding Water on the Land, Session 2:

### What's working that could be scaled up or enhanced?

- Controlled drainage (some being used)
- Iowa STRIPS of native vegetation, demonstrations have shown good results to reduce P loss
- Need more demonstrations of what works to promote use
- Perennial vegetation on marginal land, including trees that have high ET
- Multi-landowner projects like County Ditch 57, Blue Earth County
- Water and sediment control basins
- Ridge till, but had to add tile drainage to manage wetness

### What barriers exist and how to address them?

- Ethics – need common understandings in relation to water quality, cause-effect, options
- Civic engagement – Root River and Chippewa River watersheds include farmer-led groups
- Move away from calling all tile bad, farmers are the enemy, and preconceived adversary ideas
- Need more technical assistance that is objective and trustworthy
- Farm Bill policies part of the problem (subsidies sometimes counterproductive)
- Need safety net to enable farmers to risk trying different cropping systems (& equipment)
- Crop insurance issues (e.g. cover crops, second crops)
- Need local watershed approach
- Need funding and alternatives that are feasible and tailored to the landscape and markets

### What can the Governor and administration do to advance solutions?

- Overcome urban vs. rural perspectives and values differences, like Ben and Jerry's did
- Set targets for cover crops and research, but the cropping-market system must work together
- Governor shouldn't blame farmers for all the problems – come see good things they are doing
- Early adopter field days for farmers, advisors, technical assistance providers, politicians
- Need patience, because cropping system changes require new equipment, markets, etc.
- 1W1P is helping prioritize and target
- Governor should talk with all stakeholders first, not like Buffer Law
- Much excess N in water is from ag - - but N planning and application is complicated (weather)
- Ethanol was good for farmers when commodity prices low, but promoted more corn & N use
- Blue Earth County bought testing equipment for N, testing tile water only for farmers

### Role for your constituency sector for solutions? Opportunities for partnership across sectors?

- MNLICA invites technical experts with different perspectives to annual conventions
- SWCDs know programs, but need more capacity - - extra funding FY16-17 is good
- Some not sure if commodity groups are representing farmers well to find solutions

### Harvesting of Key Themes

- Partnerships and respectful communications
- Effective alternative cropping systems (focus on results, not legislative micro-managed)
- Research and technical assistance funding, with success demonstration by peers

## Holding Water on the Land, Session 1:

### What is already working?

- Rain gardens in urban areas.
- Farmable berms that temporarily holds surface runoff in the fields thereby holding more water on the landscape.
- Water and sediment basins, constructed basins.
- Continue to improve soil health - soil organic matter helps store more water in the soil.
- Wetland preservation and restoration.
- Buffers with native grass along streams.
- Controlled drainage.
- Alternative inlets for tile drain systems, such as side inlets or French drains for surface inlets.
- Tile drainage water capture in a reservoir and reuse for irrigation.

### What barriers exists to hold water on the land and how should we address them?

- Funding. There is a lot of red tape when applying for funding from the state, in some cases state staff work against conservation funding sought by LGUs. Lack of flexibility in state programs, new practices are difficult to get funding for since they do not fit into the criteria that must be met for funding.
- Traditional wetland restoration can create downstream problems, such as the solubility of P. By holding water on the landscape, you are countering tile drainage benefits; storing water on the landscape increases ground water levels.
- Wetland banking – wetland areas that are converted to urban use are not properly replaced by banked wetlands. Developers are not following BMPs for wetland restoration.
- Outdated shoreland standards and code.
- Outdated drainage code – the code encourages draining water off the landscape, which runs counter to storing water on the landscape. Counter argument: there are pieces in the current drainage code that could be used more effectively to advance water storage on the landscape.
- Differential property taxation – e.g. landowners still have to pay taxes on land taken out of production which is a barrier for them creates little interest for storing water on ag land. Farm benefit programs and NRCS programs may prevent using land for water storage, either seasonal or permanent storage.
- We need watershed plans to create a framework and planning for identifying areas to store water.
- There is a need for neutral advice sources for producers, such as via extension. Farmers and landowners and local units of government (LGU) such as SWCDs lacks unbiased information. Crop consultants and lenders seek to optimize production, and not necessarily promote taking land out of production or help store more water on the landscape.

- Human element – we need to consider social aspects, there are structural needs in greater MN to provide unbiased information. The information and data may be there, but how do we get the information in the hands of the practitioners. Language barrier between producers and state and federal agencies, such as NRCS – state and federal employees tend to use technical language that flies over the head of the farmers. State and federal employees do not understand what can and can't be done on the farm.
- The location of tile drains is private information. It should be public. This information is lacking to estimate what conservation practices that are appropriate. We do not have the data to adequately identify areas suitable for water conservation.
- Scale – are we doing conservation planning at the right scale? WRAPS at HUC 8 scale is far from field scale and does not appropriately inform which practices should be in place. The state should collect or provide appropriate monitoring data to help determine where water can be stored.
- There are incentives to continue corn/soybean production via e.g. renewable fuel standards to increase production. This often runs up against water conservation and holding water on the landscape.
- The Federal farm bill as it incentivizes farming marginal lands. The ag community responds to the provisions in the farm bill. Follow-up comment from another attendee: Insurance premiums are higher on marginal land, and production on marginal land is lower so payout is lower. Also, the farm bill has funding for conservation – there needs to be more funding in the farm bill for conservation, not 'gutting' the current farm bill. Farm bill and conservation should work together, not contradict each other.
- Urban residents do not understand what farmers do.
- The majority of rural land owners are absentees, land held by absentee land owners who often lives away from the farm. This creates lack of connection.
- We should look at the big picture – much of our industry has moved abroad, and may now be polluting the environment elsewhere. There should be production alternatives.
- We should think about stewardship. We all have a sense of how we can minimize environmental impacts, and we should instill a sense of stewardship and responsibility.
- Extension – the role of extension is different compared to the past. There are crop consultants now that is the main source of information for the farmers.
- Farmers feel alienated in the conversation about water conservation. Often, they are not included or involved in plans or feel left out when solutions are to be implemented.
- What are the costs of pollution and conservation? This should be quantified at the state level.
- Markets for merging crop production and conservation. Appetite for taxes – who should pay, do we want cheap food or otherwise we need to find a way to pay for added costs of conservation. How should farmers be compensated? Realize the local and global impacts of production changes and the cost of farmers – consumers should realize the actual cost of agricultural production?

**What can the Governor and his administration do to advance this solution?**

- Update shoreline standards.
- Increase the use of cover crops.
- Revise rural tax standards.

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- Make funding more easily available and flexible for LGUs and individuals.
- Set standards for tile drain systems – the current rules are outdated. Incentivize water storage in the drainage code. Require tile water to be treated before entering surface water.
- Everyone should be part of the solution, both agriculture and urban groups. Do not pit farmers against urban residents.
- Minimize the current big skill gap among the county offices and SWCD staff in getting conservation done, especially understanding social aspects and drivers for landowners to adopt water storage strategies, and working with landowners. Improve education. Some staff are soft funded and may not stay in their positions due to employment insecurity.

### **Harvesting Key Themes**

- Better funding for water projects.
- Improve communication.
- Incentives.
- Regulation – enforce existing laws - new rules may be needed.

## **Session 2:**

### **What is already working?**

- Rain barrels – but need more information and education is needed.
- Water and sediment control basins for temporary water storage to delay water movement off the land.
- Saturated and vegetated buffers.
- Incorporating existing wetlands into drainage plans.
- Wetland restoration on marginal farmland.
- Controlled drainage.

### **What barriers exists to hold water on the land and how should we address them?**

- State and federal programs are not always flexible enough to accommodate new practices and ideas.
- Permitting and bureaucracy.
- Funding, including financial support for research.
- Bad communication.
- From a producer's side, holding water on the landscape may negatively impact crop production.
- Ditch law – it is old, outdated. The ditch law focuses on draining the land, not holding water on the landscape.
- Landowner engagement.
- Long-term funding commitments to individual producers, not just funding for 1-3 years.
- Lack of communication of research results of how practices of holding water on the landscape.
- Farm bill – funding is currently disproportionately going towards corn and soybean production and not water conservation practices.

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- Rural land owners are often absentee landowners and may not be connected to land management. In some cases, leases are one-year which does not encourage implementation of water conservation practices.

#### **What can the Governor and his administration do to advance this solution?**

- Strengthen the connection and understanding between farmers and urban residents to better understand each other.
- Increase use of cover crops and use them to increase soil health and build organic matter. Increase funding or cost share for cover crops. Need local demonstrations of how cover crops can be grown or how they can be entered into cropping practices.
- Improve funding, including through CSP and state programs. Funding mechanisms, such as in the Farm Bill or state programs, should be reallocated towards conservation.
- Develop markets for perennial crops to help make cover crops profitable. Currently the markets are very well developed for corn and soybeans, and much less so for cover crops.
- Build programs that consider the profitability of farm operations. Practices needs to consider farming profits and costs.
- Encourage programs should emphasize land and water stewardship.
- Foster a more positive tone on water conservation between farmers and urban population. Build on our strengths and work together rather than a confrontational approach.
- Revise or update the MN ditch law and drainage law.
- The Governor should increasingly communicate the seriousness of the water quality and proper water use. The Governor should make water a priority in the state as well as press the issue in neighboring states.
- The Governor should set a goal of 20% living cover on agricultural fields by year 2020.
- The Governor should build in more flexibility in how statutes are written and administered.
- Ensure DNR and state agencies are held to the same land management standards as farmers.
- Increase funding for cover crop research at the University of Minnesota.
- Find a better way to handle tile drainage. The Governor could consider taxing tile drainage.

#### **Harvesting Key Themes**

- Living cover/cover crops
- Long-term funding for education, demonstration and research, including for forever green
- Governor should make water a priority, clean water is a right for everyone
- We need to work together and collaborate

## **Water Storage, Session 2:**

#### **General Comments**

- Water storage in the Red River Basin is working and use this process as a model for the entire state. We need more funds to do more water storage to meet the 20 percent flow reduction goal that has been adopted by Red River Basin watershed districts. The North Ottawa project in

the Bois De Sioux Watershed District (BDSWD) is a model for large scale water storage in the Red River Basin.

- Large scale projects can be multipurpose and there is benefit to funding them.
- Retention is not only answer but is one solution for a complex issue. One size does not fit all.
- More money for small towns is needed for flood protection.
- The Governor should come see the North Ottowa project and several other large scale projects in the entire Red River Basin.
- The MN River Basin needs direction from the state on water storage.
- We need more reasonable policy related to pollution rules and regulations - policies should differ based on geographic region. The Governor needs to take leadership on this.
- All parties need to work together to find workable solutions.
- We need long term funding that is maintained. The problem is that projects just get started and then funding runs out. As a result, research can be inconclusive.
- There should be more ways that farmers can become informed of research and solutions.
- Both urban and rural watershed districts need to interact with each other to learn more about water storage.
- The 20 percent flow reduction goal in the Red River Basin is working.
- The Bois De Sioux Watershed District does ditch retrofits to benefit water quality. There is protection for landowners from a 10 year flood event. More money is needed for these types of projects. This can be done in the MN River Basin too.
- Two stage ditches can be cost-effective long term and are stable compared to regular open ditches.
- Ditch projects allow for spreading costs out over large areas.
- We need to embrace the good work that farmers are doing and we need to be able to work with them and landowners on water storage.
- Metro areas have done their fair share for water quality, now agriculture needs to do the same.
- Precision agriculture is critical and farmers are intelligent and use technology.
- More funding needed for CREP, CRP, RIM, etc.
- Education is a key issue.
- Develop solutions that pay for themselves. Refer to the Bois De Sioux Watershed District and how they pay for operation and maintenance of large scale water storage.
- The MN Agricultural Water Quality Certification Program is an important program.
- Water storage and slowing the water down in the MN River Basin is critical.
- If you stop flooding in the Red River Basin, you stop erosion in public ditch systems and there are multiple benefits.
- The Governor should not dictate and needs to go out-state to see solutions.
- The MN River Basin needs watershed districts, guidance and direction but they cannot do it alone.

### **Barriers**

- Knowledge gaps in data and ease of access about where to hold water on the landscape. We need better methods to share data.
- Varying taxation methods that watershed districts use to fund water storage projects.

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- There are many absentee landowners and land renters may not always care about the land.
- More funding for Soil and Water Conservation Districts (SWCD). Refer to the Freshwater Society report and the “Guy Theory”. Local SWCDs need stable funding to keep trusted staff in place. Landowners want to work with trusted SWCD staff that will be there for many years.
- The permitting process for large scale water storage is a major issue. There are too many agencies involved and the process needs to be streamlined. The US Army Corps of Engineers is too involved in these projects and the Governor needs to get involved. When projects are permitted and finalized by state agencies, the federal government does not need to start the process all over again.
- More visibility for where legacy funds are going.
- Laws need to be written more precise and clear, especially for ditch system redetermination of benefits. The Bois De Sioux Watershed District has spent 1 million dollars on court cases and fees.

## Holding Water on the Land, Session One:

### Summary of Key Comments:

- Mood of the crowd that little was currently working when asked the general question;
- Concerns of the loss of Extension support and the now reliance on the private sector for conservation services;
- Government and university educational services are operating on outdated approaches/platforms;
- Too much tile drainage and irrigations; concerns about water sustainability;
- Need for more cover on the land;
- Concerns about who pays for pollution and spreading the associated costs in a fair way;
- Importance of consumer knowledge about where their ag products come from and supporting farming systems that are doing things with environmental considerations;
- Absentee land owner issues;
- Importance of recognizing farmer achievements and successes;
- Many felt that the State should push cover crops now (despite the Mulla presentation stating that the technology is not ready for primetime yet);
- Unfair costs to the urban population due to poor farming decisions/practices;
- Concerns about pesticides being used’
- Change the perception that instead of farmers being the problem that they are viewed as being the solution;

### Harvesting Key Themes:

- Tile drainage needs to be regulated and accurately tracked;
- Require cover crops/living cover;
- Inform the general public of associated environmental costs;
- Shift dialogue from the operating farmer to the land owner
-

## Session Two:

### What is already working?

- Many tools (LIDAR, controlled drainage equipment, tile design criteria, etc. and land management (wetlands, perennial pastures, etc.) work extremely well when placed in the right locations;
- Watershed districts where available;
- CRP and other set aside programs;
- UM Experiment Station research and outreach;
- Some cover crops

### What barriers exist and how to address them?

- Tools and techniques need to be customized for each situation;
- Significant landscape variability must be accounted for and managed;
- Lack of environmental ethics;
- Associated costs;
- Fear of sharing critical information with neighbors due to the competition issue;
- Conflicting incentives and water quality goals/programs across state and federal government;
- Conflicting rules between jurisdictional authorities;
- Lack of cover crop research;
- Lack of authority to enforce existing regulations;
- Need for additional research;
- Localized storms/high density localized rainfall distributions;

### What can the Governor and this administration do?

- Require performance standards based on what comes out the tile;
- Update the current Drainage Laws;
- Require water storage be included in all new drainage system installations;
- Enforce the Buffer Rules;
- Incentivize the formation of watershed districts where currently void;
- Move forward aggressively but recognize that farmers feel picked on already-proceed cautiously and be sensitive;
- Push MDA's NFMP for faster implementation;
- Improve the N Fertilizer evaluation section of MDA's Water Quality Certification Program;
- Invest in living cover systems and water storage;
- Treat tile drainage as a "point source"
- Ban fall nitrogen fertilizer statewide;
- Advocate for cover crop systems

### What can the private sector do?

- Rain gardens;
- Educate each other;

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- Promote sensors for improved water management on lawns;
- Recognize personal responsibility;
- Educate consumers to support specific crops or farmers that are doing things right;

### Harvesting Key Themes

- Uniform rules to all that are consistent and fair. (Treat tile drainage as a point source);
- Reform/improve drainage systems;
- Living landscapes be widespread;
- Performance standards and enforce them (give farmers and locals clear expectations but let them figure out how to meet them)
- More decisions/leadership from the watershed level

## Balancing the Rural Environment and Water Quality, Session 1:

(This group jumped right into issue identification and solutions)

- How should we address water quality issues (In reference to SE MN water management).
- What are the governance issues – i.e. – form watershed organization for planning and/or governance.
  - Should areas be forced to form watershed districts?
  - The goal should be to expand efforts, better coordinate efforts and increase community engagement.
  - Watershed districts would be most effective because they are hydrologic; cross community boundaries, can focus funds, planning, and people.
- Ditch projects need to be addressed (to provide drainage & protect water quality) – need to use “tactics” that are used in urban areas.
- Water management is not working in SW MN
  - Need assistance with BMPs
- Mapping of tile infrastructure needs to be done – to identify amount of drainage
  - Why map private tile, what is the purpose; this will make farmers/rural landowners unhappy.
  - What should be the focus of tile drainage: water quality or ag. support (drain to enhance soil productivity)
- Need to collaborate to create BMPS and involve all to showcase (Seeing is believing) – creating cover would be a good example
- It is also important for producer-shared information to identify what works & gets results (Ex. Cover crops will provide the biggest result therefore this should be a focus)
- Collaboration on projects that involve many draws in a social component too.
- “back to the future” –(BMPS that address water quality)
- Need to identify what is driving the current ag. situation
  - “The market”, USDA policy, crop insurance
  - This is a federal issue; institutional change is needed

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- It is unclear what we as a state can do to effect this
- It must be acknowledged that this generation of farmers has changed – newer are more commercial, more land is leased; no incentive if the benefits are long term.
  - Programs & education need to be tailored to this current rural economy.
- We should lead with information and education and information ; not regulation
- Water quality activities should be incentivized
- There should be long term consequence for not doing the right thing
- Remove disincentives as well.
- Identify & enhance the role of Extension – need for education not regulation
- Education should be regionally based
- Need to set concrete goals (Ex: x% cover crops by year 20xx)
- This should be managed watershed wide (not regional) – definitely not statewide.
  - Need to clarify watershed scale (MN, MS, Red Rivers or smaller)
- Education efforts could correspond with regular and common farmer winter meetings(meeting about seed, fertilizer product etc. – these are going on right now) (“A lot of focus on N-stabilizer products right now)
- Need to determine what is best for farmer engagement (this is variable statewide)
  - How do we get them involved
  - What is the right messaging tool(s) and what is the right message
  - Need to look at the economics as a part of water quality
  - For a farmer it is a balance of work load, economics and efficiency.
- Incentives should be discussed in economic terms
  - Not only cost share, BMPS and water quality
  - Tax incentives for buffers?

### Harvesting Key Themes

- Need to identify and focus on the economics and cost effectiveness of all BMPs (drainage, cover crops...)
- Farm planning focus – need observable and quantifiable results (MAWQCP example)
- Need more leadership vs. regulation to achieve results
- Local watershed planning is better than statewide (watershed based planning; mixed feedback on governance)

## Balancing the Rural Environment and Water Quality, Session 2:

### What's working?

- A local twp. (in the Grand Rapids area) worked with lakeshore owners with old wells and septics – first by updating an ordinance to address non-conforming systems, and subsequently offering low interest loans to upgrade. What started off as adversarial turned into local buy in where neighbors work with each other.
- SW MN CURE – works to get people on the water & engaged. The City of Granite Falls is doing a study to determine the feasibility of installing a whitewater park on the MN River (in place of an

old hydro-dam). A goal is to get people on the water, create an area of interest and economic benefit. This will create an 'value of water' without need for a law, regulation. **Interaction creates value.** (comment: will this work if water is polluted. "Chicken & egg" discussion – interact with water because/in spite of water quality & vice versa)

- Need to define 'clean water' – misinformation by government nomenclature etc. (Ex: Clean Water Act) that water is not useable.
  - Need to identify and differentiate different pollutants
  - Identify variable uses of water
  - Acknowledge visual impacts Ex: Algae vs. sediment – not always 'bad'
- Root River – Field to Stream – local collaboration studying 3 subwatersheds.
  - Local engagement – talked with all farmers, includes water monitoring, walking individual fields/properties
  - Start small-monitor-track results-targeted implementation
- Legislation – good to have a buffer law (even though some are not happy)
  - Discussion on "will this work" for water quality; this is dependent on pollutant. Ex. Dead perennial vegetation may not provide filtration and may be a P source.
  - Acknowledge that 'one size does not fit all' and property rights aspect.
- Ongoing County Water Plans
  - Technical advisory committees as well as citizen involvement
- Lake associations and – good water monitoring

#### Barriers?

- Need water curriculum in public schools (Kindergarten +; this should be hands on)
- Interagency communication needs to be improved (between state agencies, state agencies and LGUs, public and private)
- Why are many different agencies and organization all doing research & studies? –This needs to be coordinated, refined and prioritized.
- Government programs are limited. We need to figure out how to involve private organizations/individuals (farmers, industry) for incentives, markets...
- Public communication to target audiences needs to be improved.
- Need to incorporate community values – a community needs to determine how to "respect itself". This needs to include local communication and local solutions.

#### Solutions?

- Need to identify long lasting solutions
  - determine where we are at; identify 'real' problems, know the current status
  - What are the problems; determine the desired result; & target to most important
  - Target based on the greatest cost/benefit
  - Know where/how to measure (Ex: not 20% reduction statewide...)
- Allow flexibility for small rural wastewater systems
  - Need to change MPCA rules to allow a variance. Ex: land application of municipal waste
- Incentivize creative solutions
- Do not use 1<sup>st</sup> class waters for everything.

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- Identify priorities (public health & water –pharmaceuticals)
- Need public information effort to identify the multi-functions of water
  - ditches vs. watercourses
  - WOTUS – public vs. farmer perception – use of manipulative language vs. proper communication
  - Clearly define the different ‘grades’ of water.
- Education on the baseline of water quality (Ex. N is in soil naturally and in water, therefore need to create understanding of details on this.
- Acknowledge this is a multi-generational issued therefore the solution(s) also must be
- Identify if/that there are more N & pesticide inputs now than in the past, and that we are “using water more heavily.”
- Need greater targeting – to id sites and data to determine needs Ex: from Mulla presentation – 600 streambank site identified
- Need to examine ditch design – old ditch were built too steep, therefore some sloughing.
  - Install tile on backside slope to stabilize
  - New ditch design
  - Saturated buffers
  - Pattern tile drainage
  - Work with farmers to identify mitigation options that work
- Create community forum to discuss and resolve issues (Ex: in N MN Blandin Foundation)

### **Harvesting Key Themes**

- Localizing efforts – should be used vs. statewide
- Prioritizing need – to identify most important needs & cost/benefit
- Gathering data – so there is the same understanding of the current status, and efforts needed
- Targeting – to use resources where they are most needed.
- Support value of water through recreational and other ‘connection’ activities
- Grading of water for different purposed

## **Balancing Rural Development & Water Quality, Sessions 1 and 2:**

### **What’s already working in this area that could be scaled up or enhanced?**

- Control the use of Septic systems.
- More water holding on rural and metro areas.
- Cover crops and riparian buffers, work for both N and P.
- Cover crops need goals.
- Put in BMPs as discussed by opening speaker.
- CRP, Green Initiative needs full funding.
- Nutrient Trading
- Funding aging infrastructure upgrades.

- Deteriorating rural water/sewer systems need to be closed or rehabilitated based on larger rural economic development strategy. Too many small deteriorating systems to afford. Some must be closed and residents relocated.
- I have installed buffers around two streams that cross my farm voluntarily. Be aware that every situation is unique, and should be addressed accordingly.
- No water quality standard for Nitrogen. If no standard why are we here? I tested nitrate in my tile water it ranged from 3-23 mg/l. Need more refined standard. Standard should be achievable.
- Nitrogen levels are impairing our waters.
- I saw a show on the dying salmon in the forests of the NW and how their decaying bodies add needed nitrogen to the streams in that region. We need nitrogen in our streams, so why is there a problem?
- Dodge County concerned citizen – too many feedlots and animal units and they are not managed
- Dry composting of manure. Organic farming techniques
- Higher standard of living with higher water quality.

#### **What barriers still exist and how to address them?**

- Control urban sprawl
- Most old development does not store water. Even a lot of newer developments store little water but not enough.
- Increasing numbers of feedlot applications – perhaps we need resistance/incentives to change federal subsidies.
- We need funding for small communities to build/manage water treatment projects.
- Misperceptions
- Misunderstandings about the process.
- Demand for water/sewer systems will soon outpace available resources. Rural residents and business development must coordinate via targeting of resources to ? relocation decisions.
- Financial barriers exist – it is especially difficult during this time of low commodity prices for farmers. We feel as though all non-farmers are pointing their fingers at us as sole cause of pollution.
- Lack of local resources to do that which needs to be done.
- Stop factory farms.
- Can create a moratorium.
- Problems vary by soil types.
- Too many decisions/standards/recommendations not based on “Good” science.
- Large Corporations are dictating large farms.
- Mining is an issue for SE MN
- Local controls can be a barrier.
- Include Stormwater BMPs into all projects.
- Federal Farm Bill dictates farming and the crops grown. Lack of cooperation between Federal Agencies.
- Unfunded mandates.

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- Taxes and services vary between rural and urban and current conditions switch the tax burden to others not receiving those services. \$50/\$60 per acre taxes. Higher taxes encourage more intensive land use.

**What can the Governor and this administration do to advance solutions?**

- Do away with township government because farmers are outnumbered and properly tax a house between local cities and farm land.
- Legacy dollars can be spent on water retention structures on the land and in new development.
- Change the rhetoric about farmers and the producers.
- Educate people on existing opportunities for change.
- Nutrient trading, flexible permit options.
- Reestablish Governor's Rural Development Roundtable to pull all affected constituents and resource agencies (local, state, federal and NGOs) together to define and execute a rural development strategy.
- Make this economically viable for farmers. Most importantly require urban dwellers to abide by all the same requirements as farmers do.
- Form Watershed Districts everywhere.
- Adopt GPI - Gross Product Index account for clean-up costs.
- Review Delegated County Program.
- Expand zoning for Townships
- Bring everybody to the table.
- Educate those relocating to rural areas.
- Meet with landowners/renters on what could be done on their farms.
- Fund more research for living green and other programs on cover crops.
- Science based is what we need. Reduced tillage is improving waters. Increase cover crops – set a goal.
- Water infrastructure is a big need for rural MN Rural Development Council should be brought back.
- Fully fund SWCDs
- Form Rural Cooperatives
- Programs should be tailored to match the solution with the problems.
- Use Strength Based Management to better develop local NGO.
- Agencies should leverage programs together. Speak with one voice. State should set the goals.
- Market water quality for MN.
- Shouldn't back down on buffers. Redo Public Water Inventory.
- This get together is a good start.
- Discourage septic systems
- Change ethanol %s to require more from cellulose/sources. Subsidize grass for milk and meat.
- Encourage higher density development.
- Have zero tolerance for pollution. Have a contest and give a prize to those doing the most to improve water quality.
- Require insurance for achieving water quality goals.

**What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- Governor/leadership needs to set goals, i.e., 20% cover crops by 2020 plus regions work on solutions/strategies to reach goals. Interagency coordination.
- Speak to clients and constituents about available options.
- Funding rural water and sewer programs.
- Farm Credit Services would be willing to provide financial support for convening a Rural Development Summit and staffing a rural development Roundtable/Council.
- Continue with what we are already doing – utilizing conservation practices – collaborate with agencies involved with water quality.
- Education. Elect those who recognize the broken Farm Bill
- Pay your taxes and choose food wisely considering the water demand to produce that food.
- Educate the young people on water conservation.
- Comprehensive Planning by Watersheds. Cooperation between agencies.

**Harvesting Key Themes**

- Support local communities with funding for infrastructure.
- Federal/State government coordination.
- Education on water issues needed.
- Inspire Innovation.

**Session 1:**

**What's Already Working?**

- EPA, other government agencies license [?], other agricultural chemicals. Isn't that enough? Do we trust those entities? Are standards taking into account mixing precision agriculture helps to apply appropriate
- GM crops lower need for pesticides
  - Higher production allows retirement of marginal lands

**Barrier**

- Approval of technology takes too long – regulation delay implementation
- Funding is lacking – who bears burden of costs?
- Conservation and water quality costs \$ but economic system doesn't reward such outcomes – farmers can't pass on the costs
- STEM principles need to be applied to public policy – cost benefit analysis for various solutions
- Cost of do-nothing approaches – life cycle of pollutants – Des Moines
- Agricultural economy is soft – makes it hard to implement now practices
- Farm policies drive behavior – public pays for programs like crop insurance, other incentives – does public understand drivers
- Not enough trust in 100M for mature conservation
- Agencies write rules, and enforce them (police enforce laws, but do not write laws)
- Farmers feel they are being targeted

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- Set blame aside and not put rural/urban interests against one another
- Identify multiple benefits
- Engaging stakeholders with diverse interests
- One size does not fit all

#### **What can Governor do?**

- Create markets for perennial crops – markets for ecosystem services (CSP)
- Understand value of ecosystem services
- Government lands are not managed to achieve or advance practices to support WQ, habitat, etc. – Government should set example, if we're asking private landowners to change practices, we should expect government to manage its lands appropriately
- Build incentives into crop insurance programs to encourage conservation practices
- Policy should follow process?
- Create opportunities for disparate groups to get together and talk

#### **Harvesting Key Themes:**

- Make costs and benefits explicit
  - Policy, conversation, agronomic
  - Understand economic policy drivers of WQ improvements
- Open discussion – increase opportunities
  - ID and overcome barriers
  - Use STEM
- ID market-based incentives
  - Ecosystem services, habitat, buffers

## **Session 2:**

#### **What is already working?**

- Precision agriculture – the right amount, the right place, right time --> efficient uses
  - Barrier – hard for small producers, high costs
  - Facilities cost money – disincentives for producers to over-apply
- Genetics, seed products are getting better and helping farmers do better --> new technologies and practices – no till and low till
- Improving products --> no till and low till – where appropriate doesn't work well
- Cover crops, perennial overuse
  - Many benefits

#### **What Are the Barriers?**

- Education for farmers – outreach – better implementation of practices
- Communication – urban/rural interests
- Understanding processes – nutrient cycling
- Promotion, incentives for producers, practice
- Altered hydrology
- Fragmented authorities among state agencies
- Funding – conservation practices – limits on acres, dollars for conservation
- Economics encouraged production of the expense of conservation

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- Limits on conservation signups
- Farmers are getting targeted – other sources contribute, urban, lawns, waste water, etc.
- Are small city, urban wastewater treatment being appropriately managed
- Being disparate parties together to discuss problems and solutions
- Solutions how to recognize economies realities for farmers and other stakeholders
  - Especially if Minnesota is too different from its neighbors
  - Avoid costs on products that are less competitive than in other states, countries

#### **What can governor do?**

- Fund – Forever Green and other programs to encourage economic viability of new crops, practices
- Encourage more session, for discussion/communication
- Mesh agencies together – streamline bureaucracy, cut red tape – Corps of Engineers, WIP too unbalanced
- No one size fits all approach
- Emphasize local control – inclusiveness
- Overarching goals, standards to guide locals – give local flexibility to achieve goals
- Other incentives for practices like grass-fed livestock and, generally, that are updated and more modern
- Fund new technologies
  - Example: success of precision ag
  - Encourage adaptation of new technologies
  - Better monitoring, using new technology
  - Analysis of BMPs effectiveness – edge of field monitoring (would farmers accept?)

#### **Harvesting Key Themes**

- Education and communication
  - Shared ownership, ethic on water quality
- Encourage, enfranchise sustainable practices
  - Market solutions
  - Apply strategically
  - Increase monitoring and research
  - Reduce bureaucracy, red tape

### **Open Discussion, Session 1:**

How to connect at-risk teens with environmental issues?

- Victim and perpetrator meet
- Provide ideas for actions they can

#### **What is working?**

- Living cover
  - Chippewa – started w/ 4 landowners now up to 26
  - Will help soil health
    - Dave M. didn't really mention and should have

- Organic matter
- Microbial activity
- Increase infiltration
- Need better measures to quantify soil health
  - To use in market chain promotion
- We don't know how to measure soil health any better than we do water quality (which we don't)
  - Yes, we do
  - Soil health helps crop production
  - Golden [?] – agree

### **What Are the Barriers?**

- Change is threatening to farmers
  - Huge opportunity for branded food providers to push best practices
  - Also banks should only provide loans to those willing to follow best practices
- Alt. view --> the above is polarizing – need more cooperation
  - Corporations continue current approaches
  - Farmers take from Gov's
  - Talk --> farmers are bad
  - Dock --> that is your response, but I bet we could sit down and agree on 3 or 4 things you/we can do
  - \$500 bonus to CRP – farmers won't take it

### **What can the Governor and this administration do?**

- Put money on the land
  - Mention payments
  - Money to community
  - [?] of hiring state staff
  - [?] --> do survey of how many staff have been hired w/ CWF money
  - Use of NPK and GMD coops without looking deeper
  - Breeding crops that are not healthy
  - What business decision is it to apply fall N?
    - Need paradigm shift
  - Only 10% of crops we grow go for human consumption
  - Look at interconnectedness of things
  - Need to quantify environmental benefits (ecosystem services)
  - Money people dictate things (too much)
  - Why are we allowing irrigation on tile drained land
  - Provide incentives [?] ag product companies
  - Need environmental component to inputs and outputs
  - Fert., crop ins., ag products
  - Build up health indexes
  - MDA website – soil health --> store products correctly
  - Preselect/portray actual costs
  - Put moratorium on drainage until issues ID'ed and developed
  - Nature conservation watershed at Crookston, DNR, etc to restore land (28,000)
    - Acquisition, transfer, restoration, and TNC plays the taxes

- City had poor WQ – 12 years later WQ improved
- Managed grazing included

**What is your role? Role of Others?**

- Use CWFs on the land
  - Not state agency staff
- Chippewa pilot funded by foundation rather than the state
- Set focus on end/long-term goals rather than interim goals
- Need long-term funding
  - Need money for local staff to work w/ landowners
  - Long-term monitoring – sectioned wetlands
  - ½ of water money to locals
- Pilots like Chippewa and Root River
  - Everyone stepped up and cooperated
  - Transfer info from Root River success
  - + Chippewa
  - Connect in non-profits and foundations
- Filed Stewards program
  - Supply chain initiative
  - MDA and Golden [?]
- What about mining? Spent most time on ag. Discussion
- Connect w/ private businesses
  - Public/private partnerships
  - Gov. needs to facilitate greater/improved partnerships
- Harvesting
  - Soil health – energy, water, human health
  - Incorporate branded product companies
    - Guarantee producers will make money if they follow “rules”
  - Long-term integrated comprehensive data in selected watersheds
    - Expand field stewards program
      - Current effort
    - Put things in hands of private businesses
      - Govt just a facilitator (and important role)
  - Allow CWF and use for local staff

**General Comments:**

- Lack of ethic/sense of responsibility to participate
  - Need shared responsibility
- Watershed partnerships
- Local discussions like water summit
- Research funding
  - Suggestion from university researchers but also from tables without them
  - Local interaction

## Rural Environment Comment Sheets

### Management of Pollutants

**1. What is already working in this area that could be scaled up or enhanced?**

Saturated buffers, oxbow wetlands, perennial strips, 2-stage ditches

**2. What barriers still exist and how should we address them?**

SWCD's have not been trained how to ID/site these BMP's

**3. What can the Governor and his administration do to advance this solution?**

Hold "mini -water summits" by region

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

U of M folks are doing the research but need to have better mechanisms for communicating. U of M extension is to broken!

### Management of Pollutants

**1. What is already working in this area that could be scaled up or enhanced?**

Current Ag management is very effective, conservation????

**2. What barriers still exist and how should we address them?**

Vehicles for implementation, climate???. Better??? of how far we've come.

**3. What can the Governor and his administration do to advance this solution?**

Focus money on targeted implementation.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Technical service and education there of public-private partnerships.**Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

SWCD's more funding to practice on the ground and less money to studies and layers of government.

**2. What barriers still exist and how should we address them?**

Willing participation over mandates.

**3. What can the Governor and his administration do to advance this solution?**

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

More recognition for good work being done.

Less.

**Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

This is a biased question. Overall water quality is getting worse. Current practices don't total up to "success or working."

**2. What barriers still exist and how should we address them?**

**3. What can the Governor and his administration do to advance this solution?**

Develop and support markets for perennial based crops.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Farmer education programs. Ag water quality certification.

**2. What barriers still exist and how should we address them?**

Funding, lack of strong U of M extension.

**3. What can the Governor and his administration do to advance this solution?**

Fund forever green. Ag water quality program to tie it to water quality goals.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

MN soy bean is willing to work together on a number of rotations that can help on water quality if we can have??? Stop finger pointing and name calling.

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Forever green, CREP RIM

**2. What barriers still exist and how should we address them?**

DON'T REPEAL BUFFER LAW!

**3. What can the Governor and his administration do to advance this solution?**

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Research funding and extension.

**2. What barriers still exist and how should we address them?**

Insurance and regulation.

**3. What can the Governor and his administration do to advance this solution?**

Provide funding for UMN and Forever Green/ set attainable goals.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Increase funding to water conservation districts.

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Conservation reserve program. Storm water fees in cities to reduce urban storm water and clean storm water.

**2. What barriers still exist and how should we address them?**

No effective regulations to control farm pollution.  
No cost to farm operation for nonpoint source pollution.

**3. What can the Governor and his administration do to advance this solution?**

Establish a fee for fertilizer application on land in MN. Use that money to pay for pollution reduction projects. Increase cost of fertilizers will help farmers increase fertilizer efficiency.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Nonprofits – increase education of rural and urban residents.

Government – establish pollution fees for nonpoint source pollution (fertilizers, runoff, and tile drainage). Create a “bare soil fee” for land use that leaves soil bare. This will increase voluntary use of cover crops, increase residue on fields. Funds from program can pay for increased conservation projects.

If pollution is free and conservation cost money, it’s no surprise that we see more pollution and less conservation on the land.

When fertilizer is too cheap, we’ll see it leak into our waterways and drinking water. Increase cost of fertilizer application on MN landscape.

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Buffers to reduce surface runoff; cover crops.

**2. What barriers still exist and how should we address them?**

Marketplace for cover crops.

**3. What can the Governor and his administration do to advance this solution?**

Set goal of 20% living cover by 2020.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Cover crops, edge of field treatment.

**2. What barriers still exist and how should we address them?**

Cropping system. Poor options of treatment – such as bioreactors.  
Land required for treatment.

**3. What can the Governor and his administration do to advance this solution?**

Support ongoing research to improve ways of reducing nutrient losses or reduction of nutrient losses through improved treatment practices.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

Buffer strips make a difference.

Cover crops – perennials, annuals, native woody crops

**2. What barriers still exist and how should we address them?**

Market and education

How to be profitable with cover crops (it can be done and is being done)

**3. What can the Governor and his administration do to advance this solution?**

20% cover crops (living cover) by 2020

Governor leadership – strong motivator

We need research dollars to further explore new/better technologies for conservation.

Clean water funds should not be used for land question, instead direct these fund to research that would allow for additional adoption of conservation practices.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Management of Pollutants**

- 1. What is already working in this area that could be scaled up or enhanced?**

New science to support conservation practices.

- 2. What barriers still exist and how should we address them?**

Lack of understanding of pollutants in run off from agriculture fields. Need consistent standards and goals at the watershed scale.

- 3. What can the Governor and his administration do to advance this solution?**

Provide additional funding/resources to SWCDs and other agencies at the local level.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Promote regulatory standards to mitigate negative efforts of the Ag runoffs i.e. point-source pollution standards of tile outlets and ditches entering public waters.

### **Management of Pollutants**

- 1. What is already working in this area that could be scaled up or enhanced?**

Farmers continue to make improvements on nutrient and tillage movement to reduce potential losses. This will continue.

- 2. What barriers still exist and how should we address them?**

Negative attitudes – blaming/finger pointing – especially from the government.

Time – we are doing good things – need time to see results and increase implementation efforts.

Funding where needed.

**3. What can the Governor and his administration do to advance this solution?**

Stop adverbial approach toward agriculture and adopt cooperative attitude.

Recognize that solution from the local level related to the local landscapes are more effective than directions from above that are one-size fits all.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

We have for situations made important on how we make our soil, water and nutrient resource and we will continue to get better. Give us the time we need and help direct research funding to fine tune conservation practices.

**Management of Pollutants**

**1. What is already working in this area that could be scaled up or enhanced?**

I think the MDA NFMP is a good plan based on successful programs in other states. Local staff/ farmer relationships are key (extension/SWCDs/NRCS)

**2. What barriers still exist and how should we address them?**

**3. What can the Governor and his administration do to advance this solution?**

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

**Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Red River basin commission is building flood damage reduction impoundments. Southern MN: locating building wetland systems with perennial vegetation.

**2. What barriers still exist and how should we address them?**

Lack of “how to” find/site the best places on the land landscape.

**3. What can the Governor and his administration do to advance this solution?**

Direct state agencies to work more closely with U of M, farm groups and local units of government.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

U of M does the research to solve problems and use “perennial strips,” 2-way ditches.

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**

Buffers, holding ponds

- 2. What barriers still exist and how should we address them?**

Federal farm policies that focus on row crop market place for cover crops.

- 3. What can the Governor and his administration do to advance this solution?**

Set a goal of 20% living cover by 2020. Incentivize holding ponds.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Education – educate landowners on the benefits of holding ponds. Create funding mechanisms to fund holding ponds that are just as easy as getting row crop payments.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Storm water fees in cities. New buffer zone.

### **2. What barriers still exist and how should we address them?**

No fees or costs for polluting behaviors. When pollution is free and conservations costs money we won't see much conservation.

We need rural storm water fees to raise funds for conservation and to encourage construction

### **3. What can the Governor and his administration do to advance this solution?**

Implement rural storm water fees, similar to what large cities do. Use a fee to fertilizer applications to increase costs of fertilizers.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Hold annual water summits in MN to keep gathering ideas and implementing them.

Rural storm water fees – charge a fee to landowners who build impervious surfaces or use land for crop fields.

Use money to fund conservation projects in the county.

Reduce storm water fees for those who install conservation practices voluntarily.

This will increase voluntary conservation because it will be cheaper to do conservation than to not do conservation.

This will also increase funding for conservation in a county who collects those fees.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Resized cauldrons, drainage water management properly sized tile, removal of open inlets.

### **2. What barriers still exist and how should we address them?**

Nothing is sized for climate??

### **3. What can the Governor and his administration do to advance this solution?**

Give less to plans and more to implementation of voluntary on the???

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Yes, collaborate. Provide public nonprofits collaboration.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Managed or controlled drainage and bio reactors.

### **2. What barriers still exist and how should we address them?**

Cost to land owners is significant and needs cost sharing incentives. More advancements and technology inventions are needed so it will apply to more land owners.

### **3. What can the Governor and his administration do to advance this solution?**

Solicit the federal government to help with costs associated with #2 above.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Absolutely many opportunities for this in fact the general public will get behind this if it's done right and so will farmers that it will apply to.

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Retrofit of public ditches

**2. What barriers still exist and how should we address them?**

Legal hoops are difficult to overcome.

**3. What can the Governor and his administration do to advance this solution?**

Promote and make it easier for ditch retrofits.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

We can promote them and educate the landowners.

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Tiling, promoting tiling.

**2. What barriers still exist and how should we address them?**

Ignorance on the benefits of tiling.

**3. What can the Governor and his administration do to advance this solution?**

Recognize the benefits and promote them.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Promote tiling

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Increased effects for increasing the use of water holding technologies such as sediment basins, two stage ditches, restored wetlands, and in flat topographic controlled drainage. Farmers are continuing to fine-tune nutrient application, in order to reduce losses from agricultural land.

Discovery farms research could have a greater impact with the help of additional funds – such as clean water funds.

### **2. What barriers still exist and how should we address them?**

The government's attitude of blaming agriculture. Lack of sound science in the discussion. Unintended consensus. BMP's may help certain water quality issues while having adverse effects on others.

Lack of understanding that conservation practices that work in one situation are not necessarily best solution for all areas. I.E. Cover crops are great in some cases, but not appropriate in others. Buffers can work where properly located and sized, but one size fits all is not appropriate.

### **3. What can the Governor and his administration do to advance this solution?**

Stop finger pointing. Direct some of the clean water funding to go to research and education efforts both of Minnesota University as well as the MN Ag Water Resource center for Discovery farms.

The governor could accomplish more by “working with” agriculture instead of “taking on” agriculture. When you start the welcome with “we’re not here to assign blame” but then proceed to blame agriculture it sets a bad precedence.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Farmers will continue to implement conservation practices that benefit water quality. Ag organizations will provide educational opportunities to continue to improve adaption of conservation practices.

Agriculture will continue to invest research dollars into improvements in technology for a variety of conservation practices such as cover crops, tillage management, nutrient management etc.

## **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Tiling is effective way to hold water and keep the quality of water.

**2. What barriers still exist and how should we address them?**

Urban mindset that they can manage the water better than the farmers and people living in greater MN.

**3. What can the Governor and his administration do to advance this solution?**

Listen to people on the ground/local/ farmer/ SWCD/ and water shed district people

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

In greater MN they understand the need to be good stewards of land water. Let them take the lead.

## **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Pattern tiling is an effective tool. Also several retention activities in areas where they can be applied.

**2. What barriers still exist and how should we address them?**

Regulations which restrict the use of waters that are retained! Demands of state agencies for great regulation and control. Financial returns for land lost to non-production.

**3. What can the Governor and his administration do to advance this solution?**

Should recognize and respect private property rights. Agencies are damaging their ability to have willing partners wishing instead to over-regulate and demand land uses.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Given the demands of government agencies there is less willingness to collaborate and partner.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Much work is being done on using wetlands saturated buffers, bio-reactors to treat drainage water. In high flow conditions a lot of water by-passes bio-reactors. We ought to use temporary storage to meter this water through the bio-reactor/treatment site.

### **2. What barriers still exist and how should we address them?**

Integrating strategies

### **3. What can the Governor and his administration do to advance this solution?**

Put me in charge (actually the Me's in local watersheds).  
Demonstration and monitoring "large" scale.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Yes. Biggest obstacle and opportunity is with landowners and land operation.  
Other: do not "clean" whole length of ditch. Do in stages. Landowner viewpoint clean tillage mindset.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Perennial buffers. Recharge area protection. Restoration of natural hydrology.

### **2. What barriers still exist and how should we address them?**

Economic/market drivers for agricultural crops that have negative environmental impacts.

### **3. What can the Governor and his administration do to advance this solution?**

Legislation to promote use of perennial crops. Example: use perennial biofuels for energy production, water quality and ground water protection. Multiple benefits.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Approaches that address economic issues and have multiple environmental benefits must be implemented collaboratively.

Lessard - CWF grants are overly compartmentalized. We need to be able to use both funds to implement projects that have multiple benefits.

Farm bill and crop insurance are a huge barrier to promoting perennial landscapes.

Practices and programs that have multiple benefits – surface water and ground water and habitat should be more actively promoted and incentivized.

Make perennial crops and economically viable commodity. Energy?

### **Holding Water on the Land**

#### **1. What is already working in this area that could be scaled up or enhanced?**

Land protection for watershed health. RIM, CRP, CREP III soon  
Wetland restoration, saturated buffers.

#### **2. What barriers still exist and how should we address them?**

The value of existing natural areas, drainage system, rural/urban divide.

#### **3. What can the Governor and his administration do to advance this solution?**

More CWF for watershed protection and bonding.

#### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Age groups committing to storage.

County level rules would be more agreeable to farmers.

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**
- 2. What barriers still exist and how should we address them?**

Incentives in farm bill discourage clean water.
- 3. What can the Governor and his administration do to advance this solution?**
- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**

Impoundment such as being used in Red River Basin – wetland restoration, crop rotation and cover crops.
- 2. What barriers still exist and how should we address them?**

Cultural perceptions, people denying problem exists and that Ag is contributing to problem. The idea that impoundment can't be done.
- 3. What can the Governor and his administration do to advance this solution?**

Figure out a way to encourage solutions that don't make MN agriculture uncompetitive in world markets. Reduce silos between state and agencies and funding sources. Too much extraneous noise, difficulty hearing facilitator should have a louder voice and repeat comments. Facilitator let discussion stray – no sure how a discussion of Flint, MI water relates to holding water on land.

Set priorities for targeting funds rather than trying to be equitable. Set goal for state and river basins and then prioritize the goals and direct funding according to those priorities Provide leadership.

Lack of understanding of total problem sediment is coming from near channel sources and sustainability farming practices may not prevent erosion. Ag communities do not understand urban issues and action and urban communities do not understand Ag.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

My organization has levy authority and would be willing to partner with other to hold water on land.

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**

Restored wetlands – terraces, alfalfa, saturated buffered, side inlet pipe.

- 2. What barriers still exist and how should we address them?**

- 3. What can the Governor and his administration do to advance this solution?**

Invest in wetland education, find facilitator projects.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Research funded by corn and soybean growers

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**

Programs that promote wetland restoration and other conservation cover practices.

- 2. What barriers still exist and how should we address them?**

Agricultural and water shed district perceptions that wetlands are bad.

- 3. What can the Governor and his administration do to advance this solution?**

Rural agricultural drainage should be mitigated by wetland and grassland restoration.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Taxpayer awareness of clean water issues need to be promote. Agencies need to be on board with the governor's agenda to water quality issues.

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Sustainable land use.

**2. What barriers still exist and how should we address them?**

Lack of coordination from federal government NRCS and Farm Service.

**3. What can the Governor and his administration do to advance this solution?**

Water summit

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Need to coordinate federal office programs and focus on stewardship.

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

GIS tools for water storage silage.

Watershed districts in some areas available for planning and implementation of practices.

**2. What barriers still exist and how should we address them?**

**3. What can the Governor and his administration do to advance this solution?**

Put water storage in all public drainage systems.

Incentivize formation of water shed districts across the state.

Invest in more water storage and living cover.

Apply water quality standards to drainage districts.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Refine GIS tools for sitting water storage. Research on living cover (cover crops and perennial crops).

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

**2. What barriers still exist and how should we address them?**

The economics pull of cover crop and H2O quality options for incentivized (not just subsidize) the farmers to implement.

**3. What can the Governor and his administration do to advance this solution?**

Long term funding for extension agents to effectively communicate new practices. More funding for research committed to developing these options of cover crops erosion /conservation management.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Constructed storage at 1% of land. Alternate inlets.

**2. What barriers still exist and how should we address them?**

Small scale plans.  
Red tape – make funding easier.

**3. What can the Governor and his administration do to advance this solution?**

More funding for small scale planning and implantation.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Our role is to communicate the opportunities to farmers.

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

**2. What barriers still exist and how should we address them?**

Traditional impoundments can turn into pollutant sources over time (sinks become sources –ex: wetland can release ortho PH over time). Policy can result in exporting pollution problems to other countries.

**3. What can the Governor and his administration do to advance this solution?**

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Multipurpose vegetative buffers

**2. What barriers still exist and how should we address them?**

**3. What can the Governor and his administration do to advance this solution?**

Tax policy of reducing taxes on buffer lands true cost accounting.

**5. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Wetland banks/wetland restoration

### **2. What barriers still exist and how should we address them?**

Local/state/federal agency cooperation on permitting and approvals that relate to wetland impact, restoration, enhancement, and creating. SWCD, BWSR, DRN, RCS, Corps, EPA, US FWS.

Funding sources to compensate farmer who are price taker, not makers.

### **3. What can the Governor and his administration do to advance this solution?**

Educate the urban community about the rural community. Conservation practices have a public benefit and should be at a public cost. When you regulate most industries, those costs can be passed on to the public purchasing those good and services. Farmer are price takers. BMPs that don't generate income > costs for farms drive farmers out of business and gains stewardship.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Conservation/agricultural partnership need to be economic focused with large scale data/information and small-scale proposals.

Minnesota stat. 103E.015.subd.z- public drainage authorities need more concrete examples on how to incorporate these practices as a way to save money, increase benefits, decrease repair costs.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Tile drainage, strips, large scale plants/trees alternative cropping systems, sediment dams, and collaborative projects among land owners.

### **2. What barriers still exist and how should we address them?**

Large group discussions. How we present ourselves preconceived ideas, distrust, and view farmers as the enemy, federal barriers. Lack of watershed approach, funding/research.

### **3. What can the Governor and his administration do to advance this solution?**

We want the same thing and specific target, not playing the blame game, field days, come to rural MN see things are being done, engage all groups involved, look at economic effects ways for farmers to self-monitor.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Partnership, alternative cropping systems, research funding, respectful communication, focus on end result.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Cover crop/ perennial crop  
Could be significantly scaled up.

### **2. What barriers still exist and how should we address them?**

Lack of scientific understanding, especially of sediment inputs to rivers.

### **3. What can the Governor and his administration do to advance this solution?**

Incentives for cover crops.  
Disincentives for tile drainage (conventional).  
Incentives for improvements to tile drainage.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**

Rain gardens, farmable berms, soil organic matter, wetland preservation, and native grass buffer

- 2. What barriers still exist and how should we address them?**

Soil and water conservation districts should get rubber stamp permits to build in wetland areas. The land owner is allowed to fill a low area and dig a lake where there is no filtration. Northern MN is a key to stopping this practice.

- 3. What can the Governor and his administration do to advance this solution?**

Place pressure in agriculture. They are the key to the quickest change. Farmer must be willing to forgo some money to see improvements.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Education, advocacy, communication with law rules. Governor's initiative on a buffer must be expended to laws and enforcement must be followed.

### **Holding Water on the Land**

- 1. What is already working in this area that could be scaled up or enhanced?**
- 2. What barriers still exist and how should we address them?**
- 3. What can the Governor and his administration do to advance this solution?**

Incentive water storage with drainage code planning implementation.

Use the multi-purpose component of 103E to legally plan and obtain more water storage.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Our SWCP can help up and down to appropriate scales. With landowners, the drainage authorities, the feral government and state departments. We need well trained staff and the tools to do this, and overtime it can happen.

### **Holding Water on the Land**

I live amongst the fields and have paddled the streams of westerner Minnesota for 30 years.

- 1. What is already working in this area that could be scaled up or enhanced?**

Far too little

- 2. What barriers still exist and how should we address them?**

Too many farmers refusing; the industrial Ag and chemical corporations fighting for the profit

- 3. What can the Governor and his administration do to advance this solution?**

Seriously regulate tiling, irrigation and chemicals on our land and waters.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

We need collective action, our power, action by our government, we are ruining our acquirers and this will historically be noted on our watch and your watch; Dave Fredrickson and Mark Dayton.

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Tile drainage is working. It helps create capacity to hold subsequent water.

**2. What barriers still exist and how should we address them?**

Wet climate, too much rain. This water will go someplace.

**3. What can the Governor and his administration do to advance this solution?**

Leave the landscape as it is. Holding the water will defeat tile and affect crops.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Holding Water on the Land**

**1. What is already working in this area that could be scaled up or enhanced?**

Continue living covers – works. Ramp up funding and research to make it happen.

**2. What barriers still exist and how should we address them?**

Reluctance of Ag commodity group leadership to guide farmers thinking towards water improvement. Have to make money on a practice before we adapt it.

**3. What can the Governor and his administration do to advance this solution?**

Set a goal.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Farmers need to think big picture- beyond our acres, our bottom line, and work with one another, state agencies and NGO's.

I hear farmers say they are good stewards and are willing to help yet I hear Farm Bureau, MN Milk say cannot do grass waterways unless we can spray it (pesticides in waterway dah!) and we can harvest the grace.

## **Holding Water on the Land**

### **1. What is already working in this area that could be scaled up or enhanced?**

Cover crops are coming, we need time to implement; field days.

### **2. What barriers still exist and how should we address them?**

In some areas, topography, nutrients loss, will be addressed by technologies and changing crop system.

### **3. What can the Governor and his administration do to advance this solution?**

The Governor need to work with all groups better than he did on the buffer bill.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

We will continue to educate land operators, providing tools for famer to address water quality issues.

## **Water in the Rural Environment**

### **1. What is already working in this area that could be scaled up or enhanced?**

Forever green program at U of M needs a large infusion of long-term funding to develop cover crops for MN.

### **2. What barriers still exist and how should we address them?**

Find policy solutions that farmers, and clean water advocates can push together.

### **3. What can the Governor and his administration do to advance this solution?**

Identify and advocate for policies to advance markets for perennial crops and cover crops.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

## **Water in the Rural Environment**

### **1. What is already working in this area that could be scaled up or enhanced?**

Continuous living cover including cover crop and perennial crops. Rotational grazing livestock on the land. Diversifying the landscape.

### **2. What barriers still exist and how should we address them?**

Lack of research in perennial crops economic viability.

### **3. What can the Governor and his administration do to advance this solution?**

Set a goal of 20% living cover by 2020. Fully fund forever green. Promote livestock on the land.

### **4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

## **Water in the Rural Environment**

**1. What is already working in this area that could be scaled up or enhanced?**

Watershed commissions have a great deal of influence.

**2. What barriers still exist and how should we address them?**

They have no jurisdiction over municipalities that want to improve private well and septic systems.

**3. What can the Governor and his administration do to advance this solution?**

All well, septic, drain tile and irrigation pertaining to water in a watershed should be regulated and subordinate.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

## **Water in the Rural Environment**

**1. What is already working in this area that could be scaled up or enhanced?**

**2. What barriers still exist and how should we address them?**

**3. What can the Governor and his administration do to advance this solution?**

Define better distance for agricultural drainage ditches from the center of the ditch and not the edge. This will allow the treatment of nitrates by alternative ditch designs.

**4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Water in the Rural Environment**

- 1. What is already working in this area that could be scaled up or enhanced?**
- 2. What barriers still exist and how should we address them?**
- 3. What can the Governor and his administration do to advance this solution?**

Minimum agriculture performance standards. Robust TMDL implementation (clean-up plans need to be implemented).

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

### **Water in the Rural Environment**

- 1. What is already working in this area that could be scaled up or enhanced?**

Cover crops, soil nutrients, soil health

- 2. What barriers still exist and how should we address them?**

Ag method changed – branched products, incent groups, product buying, financial borrowing.

- 3. What can the Governor and his administration do to advance this solution?**

Provide incentives thru Ag product processors, connect environment impact.

- 4. What role do you see for the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

Multi governmental department collaboration. Field Stewards.

## Breakout Topic 8: Living Cover

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### Perennials, Session 1:

- Perennial appropriate for buffers but also for the urban environment, etc.
- More livestock diversification on more farms. Quit concentrating livestock on feedlots.
- Challenges of watering livestock in buffer areas; cannot allow livestock to drink in stream being protected by buffer strip
- Incentifying markets for things like perennial seeds, markets systems, economic system, natural products from native prairies, biochemicals; Perennial grains, etc.
- Develop certification of food products for consumers that show how food has been grown.
- Develop a way of product certification. MDA has developed water certification program
- Not reasonable to expect that 100% of land will be covered with perennial and living cover.
- Target specific areas where benefits are greatest
- Diversification: in Argentina means all fields have fences. In USA all fields are open.
- Having livestock means installation of fences
- Encourage partnerships between farmers who have livestock with those who don't
- Encourage partnerships between farmers for uses of alfalfa if farmer doesn't have livestock.
- Need to provide a market perennials
- Proposal to look at dairy development. Need to put more dollars into grazing operations,
- More dollars to UMN Extension research dollars to allow for outreach on new types of perennials
- Wetlands and forests are also perennial covers. Minnesota is losing both; how do we protect?
- Need additional protection

### What can the Governor do to help?

- Many of the suggestions for perennials are similar to those for Cover Crops
- Encouraging relationships
- There is no silver bullet. Need multiple layers of strategies
- MN has bio-economy coalition. Ethanol and biofuel incentives and development.
- Promote resources in MN to have companies come here
- When you focus on everything you focus on nothing. Cannot make less productive systems and still feed population. Lose some efficiency. Balance intensive farming along with protection
- Living cover can be a form of intensification, as Dr. Fernando points out
- Encourage Sportsmens group involvement: they spend money in local economy, buy grain for wildlife.
- Hunting and fishing groups in particular
- Incentives to get pastures converted back to perennial cover. Make dollars available to reinstall fences.

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- Look at programs which already exist in the MDA that will allow for perennial and/or forage components into them
- Continue and expand Discovery Farm program
- Governor needs to add to budget for all state agencies on how we can add diversification into landscape into all kinds of ways. For example, livestock investment grants
- USA has brilliant system with land grant Universities to research and disseminate information

### **Harvesting Key Themes**

- Governor needs to lead with big ideas; needs to set goals (for example, 20% of living cover by 2020)
- Goals need to be achievable
- Develop collaborative mentality versus a divisive mentality. Focus on common goals
- Develop markets for products
- Long term funding for programs and research
- Incentives for producers
- Acknowledge role of grazing livestock in living cover systems
- Monitoring and measuring: have a discussion of the real costs of clean water. Relation between city clean drinking water versus upstream sources
- Societal changes. Can a family stay at home to take care of livestock? Can they afford to take a loss on livestock?
- Cities know what their cost of clean water is: cost for drinking water treatment and MS4.
- There is no comparable cost system for agriculture. Could urban areas estimate cost of cleaning water from ag and how it reduces cost for urban water use

### **Perennials, Session 1:**

- Perennials grasses and cattle a good way to get carbon in land
- Make as much money keeping carbon and water on the land as you can with annual crops like corn
- Land stewardship is helping new young small farmers doing things with perennial crops in rolling topography.
- Provide incentives for new farmers using perennial crops.
- Perennials, grasses, and cattle a good way to get carbon in land
- Grazing systems beget more grass and cattle. Public lands could be grazed e.g., on DNR land to get young farmers grazing livestock
- New Zealand uses every nook and cranny for grazing. Expand grazing. Want to see seed companies provide better seeds for perennial crops to fit better into system
- U of MN is working on perennials to provide new crops that will fit into system
- Fully fund and expand Forever Green initiative. Have MDA do continuing education for their staff and for Extension on benefits of the Forever Green ideas. Work with coops, NRCS, MDA
- State could help (and Feds) with operation of small locker plants and licensing -- they've disappeared.
- How do we bring them back? Need more state inspectors for that to happen

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- Incentivize perennials on drinking water recharge areas like wellhead protection areas but larger.
- Litigation in Des Moines for drinking water is about this same question. How do we protect drinking water but
- Keep farmers in business?
- Watersheds spend most of their time writing grants, can the effort for that be reduced to give more time to
- Spend with landowners? Fund adequately so that staff can spend time with landowners.

### **What can the State Do?**

- If state will get serious, it comes down to economics. Farmer has to make a living. They do what they have to
- Make a living and want to do what they can for water. State and federal programs need to help.
- Clean Water Fund should be used for perennial crops
- State should duplicate NRCS efforts to help so that there are enough staff to be able to help landowners. Need more \$ to do that. They are too far behind.
- Need more state staff on the ground to talk to farmers, and have consistency in message
- NRCS grazing experts are so far behind because of workload issues - not enough people?
- Extension doesn't have enough resources in field to provide assistance on perennials in field.
- Use the internet to provide assistance on perennials
- Agriculture will be changing in the future., Research dollars are going down, need to increase
- Use Clean Water Fund to fund expertise for state and MN Extension Service in field, need lots of dollars for that.
- Research takes time, research needs to be localized with diversity of conditions across state. Need precision tools
- Theory of everything on land use: transportation public policy on land use results in \$ being squandered in system,
- Needs systematic approach for smarter allocation of resources to tackle these problems. Example, \$ spent to
- Separate sanitary and storm sewers. If negated by ag practices, better place to spend \$ on public dollars on
- working on ag problems
- Financial incentives and education will help, need broadband in rural MN to be interconnected
- Spend CWF on these problems. Get cattle on public lands
- Research takes time, support Discovery Farms concept to have boots on the ground
- Lessard Sams needs ag producers on it
- Is Lessard Sams being managed to meet some of these goals?
- What are top 5 needs?
- 1. Research on cover crops and perennials,
- 2. Farmers and ranchers will do the right thing if given the chance,
- 3. Don't make us uncompetitive, increase outreach from research to on-the-ground practices
- 4. Watershed level management of the problem to get landowners working together

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- 5. local solutions to local concerns,
- 6. farmers on the land have made great strides, TX drought didn't cause 1930' problems,
- 7. Need change in farm bill to make change, farmers drink the water themselves

### **Other Major Takeaways?**

- People who are the problem are here today (at the Summit). Professional land managers don't come to these things.
- Time factor - research and adoption takes time
- County is facing epidemic of farms getting larger and larger and fewer people getting into it because of risks. Need more state support people getting into farming.
- As governor said this morning, we have to get serious about this. 60% of wells in central MN have nitrate problems
- Monetize to do the right thing for water

### **Perennials, Session 2:**

- Farmer states there are many overlaps between cover and perennials
- Subsidies go to row crops, not to hay farmers. There needs to be a subsidy for grass as well as cover crops
- CRP and RIM programs exist, are meant to stay in natural condition. Example of dairy farmers have
- Much land in alfalfa and in corn. Those farmers should get subsidy for alfalfa
- Developing markets for biofuels. Develop markets for grasses/perennials, baling, transport
- Development of grains and crops like hazelnuts and oils. Create more engagement with University and
- markets
- Farmer: how can you fertilize perennials that are being used for products (and thus need re-enrichment of soil)? Need more guidance and research on this
- CRP typically stays for 10 to 15 years and is not used for products
- Strategize on using the perennial crops. More emphasis on farming perennials to create a specific products
- Encourage wildlife aspects/value. Could state subsidize the use of the land for wildlife?
- Corn and soybean farmers know that system. Need to provide education and agronomic information
- to support farmers in converting to different type of cropping
- Develop baseline data on what percent of agricultural land has perennial cover? How much more
- is needed to reach water quality goals? Part of the narrative is a challenge: no matter how much farmers
- do, they always are required to do more
- Collection of long term data on cropping and response
- Information on how perennials and cover crops provide soil fertility. Questions about cost of
- Replacing nutrient to soil from harvesting perennials. Equipment costs, fertilizer costs, etc

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- UMN Extension research projects are proving information and research to assist farmers.
- Farmer states that it is difficult to wait for research results

### **What can the Governor do to help?**

- Put more money in agricultural schools for research. Use Clean Water Legacy funds
- Social reinforcement. Governor should give rewards or recognize farmers that are implementing cover crops and perennials to improve water quality
- Corn/soybean farmers have a check-off program to fund research. That money is being used for cover crop research. Farmers are doing self-funded voluntary taxes to do research. But the studies get criticized for being biased
- Support for home-based farmers to grow more food at home. Need additional education for young people and home farmers. For example, First Lady supporting young gardeners
- Emphasize perennials in Metro area. Plant boulevards, etc in perennials rather than mowed grass
- Messaging of Governor in recent newspaper article. Feels that Governor's message is not accurate.
- The Governor needs to provide more accurate information
- Is the Governor engaging real farmers in helping solve the problems or to come up with viable solutions?
- Farmers are told they need to "feed the world" and increase production, yet more restraints are being added to their work
- "Set aside" acres should be reinstated. Another farmer states they barely made market demand with corn sales during last few years. Now that corn price and demand is down, there is more interest in set asides
- Patience is necessary to work with federal government. Could state of Minnesota lobby for farmers in federal system?

### **Harvesting Key Themes**

- There needs to be patience from public because system is still evolving
- There needs to be a market for new crops.
- There needs to be clear goals and timelines for future.
- Develop different scales of markets and more practical markets
- There needs to be intensive dialogue between commodities, farmers, etc. to improve water quality, across disciplines.
- Farmers should not always be paid for the good things they do. Another farmer states that is like asking farmers for charity.
- Need a "stick" as well as "carrot". There are farmers doing rotten things. There needs to be a mandate as well as incentives.
- Strategic partnerships between farmers and stakeholders, for example food waste versus hungry people
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## Cover Crops, Session 1:

- Develop markets
- Reduce penalties for failure; more willing to try if cost share available
- Commenter uses cover crops to increase the productivity of the land. He is seeing much higher yields for both corn and soybeans the following years. He views this as both a long and short term benefits
- More research into small grains to help with yield viability. Commenter feels that MN has not put money into research
- More money into research into genetically improving cover crops; breeding programs
- Share and publicize successes and failures, such as where cover crops are working and where are they not working. Lessons learned
- Need to build trust between researchers, new technologies, and farmers willing to take the risk to try new technologies. Need to develop long term relationships between innovators and risk takers
- Fund more projects like the Chippewa 10% project; that work directly with farmers to implement new practices
- Direct MDA to work on diversification of stacked enterprises (benefits); invest more resources into developing stacked benefits. Example: growing forage for cattle
- Do more research to understand role of cover crop into nitrate reduction (or nitrate increase); understand increase water capacity of the soil; pros and cons into the roles
- Need to address widely held misconceptions that cover crops use water that would otherwise be necessary for cash crops. In some situations, cover crops will hold more water in the soil for other crops
- Need more information to understand what the tradeoffs are for living cover
- Monitoring and measuring results in ways that everyone can understand. Communicating results in a clear fashion that distinguishes gray areas
- Publicize results of studies of cover crop use
- Interseeding and intraseeding are misused terms: encourage “interplanting”. How does this relate to crop insurance?

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- Important to highlight producer successes and financial impacts. Farmers want to hear from peers
- Landowner Ethics. It is not just about making money. Peer farmers need to acknowledge that land conservation goes beyond financial gain. There are more benefits to good land management besides economics
- Governor Dayton highlighted ethics in his opening presentation: good job
- Necessity of field scale trials to show results and strive for continuous improvements
- Need research dollars

#### **What the Governor can do?**

- Governor needs to set a goal of 20% living cover on farmland by 2020; perennial grasses; living cover; small grains.
- The Governor needs to lead by having positive collaborative efforts, bringing together farmers, SWCDs,
- NRCS, UMN Extension, etc.
- Continue to fund the Forever Green Initiative. Put substantially more money into the program, and create base funds to allow the program to continue into the future
- To go back to farming systems with more diversification is difficult. Fewer farmers with more acreage with small window of time to do work. Limitations of time and equipment. Create a system to make living cover profitable. Farmer needs to make a profit at the end of the day. Ethics part: should farmer bear cost or should society bear cost?
- Encourage system that include grazing livestock and use the livestock on land in retired program, like Rim and CREP. Livestock use help create diversification of the CRP and RIM cover
- Farmers, and society are all responsible for water. Water is necessary for life. We must acknowledge that we are all responsible for water protection
- How can we encourage landowners to give permission to use multi-year practices to renters
- Extracting more revenue from cover crops. Underlining of living cover research programs.
- Identifying strategic uses and applications

## **Perennials, Session 2:**

#### **What Strategies to get more Perennial Crops in MN?**

- Incorporate native plants into the landscape which helps insects and pollinators
- Repeat what we did for renewable fuels to mandate a certain percentage be in perennial crops like switchgrass like we did earlier for corn
- Promote cellulosic ethanol from perennials, or mandate
- Reintroduce industrial hemp ( comment: an annual crop)
- Encourage suburbs and urban areas to do native plantings
- Encourage perennials like intermediate wheatgrass for both grain and livestock grazing
- Use more perennials for beef production
- Conservation payments don't cover property taxes -- change property tax laws to reduce on land in conservation practices

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- Promote native grass seed production
- Get markets for economically viable crops, competitive with corn and soybean returns
- Through MNDOT, develop additional uses for perennials to replace noxious weeds like Canadian thistle. That's a good way to increase perennials

#### **What can we do as a state do?**

- Re: EQB report on page 27, strategically integrate social science into this to effect change and increase citizen awareness -- most important!
- Have youngsters see and value this in landscape, including the value of soil health
- Perennial grass research requires patience. Control of noxious weeds important. Need native plants instead of bromegrass
- Put more enforcement behind weed control so that it reduces problems for those managing for perennials
- Build public support for the 20% goal by 2020 and help public understand how this benefits water, fish, and wildlife
- Need at landscape scale -- e.g., if cellulosic ethanol comes into MN, needs to meet 50% perennials (20% will get us close but not all the way to what we need for water protection)
- Cellulosic ethanol also has to be economically viable -- there are 3 plants in IA now -- we'll see
- Burning cellulose is another option -- coal-burning plants can replace 10% of coal with switchgrass with no change in plant
- County level management needs more staff
- For educating the public - beef fed on grass and alfalfa is healthier, encourage pork fed on intermediate wheatgrass
- Have governor make connection between perennials and water quality

#### **Harvesting Key Themes**

- Cover crops is new concept for conservation, that message needs to be delivered to public (note this comment on cover crops came in the perennial discussion)
- Economics is going to drive widespread viability
- Without markets and incentives the barriers are big
- New viable crop varieties are very important to making this work, make perennials the new Honeycrisp apple (i.e., hot item)
- Increase livestock in landscape and use of cover crops and perennials
- Think about pollinators
- Mandate more cellulose production for energy
- Widespread communication (clear) at all levels needed
- Data needed to support these ideas, get it to support statewide goals
- Whatever we do have it supported by scientific evidence, support by \$
- One size doesn't fit all across state, much diversity in state
- Watershed differences are important

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- Expand collection of data on perennials effort statewide, don't need so many more \$ to expand to a statewide basis
- Organize efforts on water resource management on a watershed basis
- Scientific evidence is affected by yearly differences in conditions, need to recognize this
- Need to research market side of this, e.g., on greenhouse gas offsets, waste products from cellulosic inputs, etc.
- Strategic partnerships between farmers and stakeholders, for example food waste versus hungry people

## Cover Crops, Session 2:

- In areas of state that are dry (Western) cover crops are no brainers. In eastern part of state, farmers are more interested in drying the soils out. Does that UMN research show that cover crops also help to dry out soil
- Legally require cover crops and a market will naturally follow
- Development of cash cover crops, like penny cress, perennial wheatgrass, and hazelnuts
- Farmer from SE: feels that there has been a dramatic increase in cover crops, due to addition of small subsidies. Feels the system is working there (Houston County). A little cost sharing goes a long way
- National Farm Bill needs to address these issues as well. Eg. percent of cover crops in MN should be start of discussion
- The only things that cover crops are being used for now is for livestock. The more livestock, the more rotational crops are used
- The subsidy was part of the recent farm bill (local county decides if money will be used to subsidize cover crops). Note technology of aerial application is in its infancy
- Governors Buffer rule should provide a place for research to be done on both annual and perennial cover crops. There has to be some flexibility in the Buffer role to allow research.
- Cover crops have been around for a long time
- There was legislation passed in the last session about biofuels and biochemical: May take time for perennial and cover crops to catch up. Cover crops and perennials have been stunted by lack of economic market
- Federal farm bill crop insurance does not allow cover crops and the primary crop following cover crops.
- Could MN start its own crop insurance program?
- Monetize secondary benefits of cover crops: carbon sequestration, water quality benefits, water retention benefits, other service markets
- Develop credit system that would allow other industries to purchase credits from cover crops benefits
- Row crop farmer in south central MN: he is not seeing anything to encourage him to use cover crops.
- Ecosystem market doesn't exist and ones that have been tried in past haven't worked
- Beyond subsidies, offset the entire cost and even more of the total cost to incentivize use
- Reduction of property taxes as an incentive for using cover crops and perennials

### **What can Governor do?**

- State based insurance system due to limitations of federal insurance system
- Get serious about research on planting and markets for cover crops
- In reality, what are consumers willing to pay in increased food costs to make these things happen
- People are willing to pay more money for good food. But also there are equity issues
- Recruit business that are biofuel or other markets into the state
- Frustration: CRP is a promoter of living cover. Federal government limits the number of acres.
- More farmers want to put number into CRP than are available from federal government. Lobby federal government for increase in CRP acre enrollment
- Farmer states: maybe farmers owe society something back. Farming is a big welfare state.
- Maybe farmers owe something back to society. For example, dont subsidize reduction in farm property taxes with general fund
- We are never are going to pay our way out of this issues. Farmer states that it is about stewardship of the land.
- For farmers, it is complicated. Farmers are hit with numerous requirements. Farmer states that he is a business and must make a profit
- Market based solutions: seeds, oils, etc. Those markets do not currently exist. Governor needs to support market industries to support products. Farmer state that market needs to exist first.

### **Cover Crops, Session 2:**

#### **How do we get more cover crops out there?**

- Cover crops can't always get established because of weather and genetics, which is a technical difficulty.
- Cost is also a problem - farmers can get \$50/acre for cost share, but there are 16M acres of corn and soybeans
- Financial incentives and tax incentives
- Education of producers of value of cover crops. We need more: education efforts where used have been helpful in adoption.
- Financial incentives of \$50 available but not enough to do everywhere we need it
- Crop insurance regulations prevent cover crop establishment when they are needed (i.e. before harvest of corn)
- Get markets for cover crops
- Cover crops are good for soil health
- Introduce livestock to use the cover crops and add value
- Interplanting cover crops in corn requires other types of equipment. Can do by hand, aerial application, costly
- Change the narrative from "cover crops don't work" to "they do work."
- To change narrative, we need the data to support that they do work and here's how that can be done.
- Need the research and learn from producers how to make it work

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- Increase citizen awareness that it works.
- Farmers may not want to spend \$50 an acre, how do you promote?
- Lots of anecdotal information that it works for improving soils, but don't have the data to put it into an economic analysis
- Study in IL indicated that cover crops reduce the amount of N needed; need that kind of study for MN
- Economics will dictate whether a system works and is good - rotation and dark soil in the spring are factors in management
- EQIP program will support but it is a lot of work to apply for that. Many farmers may be discouraged by that. They need computer savvy skills to apply and it can take a long time to get news if approved. Payment helps but it takes a lot of time to apply.
- Prioritize where cover crops make the most sense in the landscape to prioritize where to incentivize for water protection
- Crop insurance rules need to be changed to reward installing cover crops

#### **What Can the State of MN do?**

- Reward our farmers for making this work financially with incentives, money for equipment, make it simpler. Have contact person at FSA office to make it easier to facilitate adoption.
- Governor should invest in cost benefit analysis to see what kind of return we'll get for investing \$4M in cover crops
- Use communications media to present balanced analysis of cover crop issue. A lot of land is owned by absentee landowners, and they need to be convinced that cover crops are a good idea.
- Have rental contracts incentivize or require cover crops
- Communicate on current practices and benefits of cover crops
- Do huge state campaign on soil health
- Farming is a business, need to recognize economic impacts of this. Continue funding Forever Green at U of MN.
- Fully fund Chippewa Watershed 10% project
- Bring forward economically viable cover crops in Forever Green initiative -- that is, the markets can incentivize and the Governor can incentivize markets
- Develop spreadsheets on economic value of cover crops
- Integrate economic and social values of ecosystem value of cover crops to MN

#### **Cover Crops, Session 1:**

- Price carbon -- find a way to incentivize carbon sequestration benefits of cover crops
- Fund programs to enhance adoption of cover crops
- Work on crop improvement for cover crops
- Fund programs to do cover crops for farmers
- Extension people need more education in this area. Extension programs have lost ground in last 10 years due to lack of funding

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- Would like governor to have a goal and provide support for this at the state agencies to have 20% cover by 2020
- Voluntary is good but if it doesn't take root, consider regulation to make happen.
- Tying in to price of carbon input is a place to start, but if we are seeing 2013 - 2014 conditions
- Where soils were blowing into shelter belts, need to consider regulation to bring more cover the land use.
- Have governor and policy makers get together on this.
- Stop funding ag practices that result in water quality problems. MN has the highest water quality in lower 48 states, be a good example to other states
- Adjust the crop insurance program for new cover crops, to help encourage taking the risk to plant them while we're learning
- Have county and extension people encourage cover crops, and perhaps buy equipment to loan or rent out to allow examples to be started locally.
- Need examples in farm country to show what is working for cover crops,
- Have to feed family first, so need economically viable options
- Need economically viable crops and to develop markets for those cover crops,
- Absentee landowners and professional managers may not see the benefits of cover crops.
- How do we make it attractive for them? Perhaps by regulation or financial incentive
- Getting the data to support that having more perennial cover on the land may result in pesticide use going down and help demonstrate the economic value of some of these practices
- Need to change Farm Bill, which makes corn and soybeans most valuable crops.
- Banks push these crops; we need to change this factor to see change
- Problem with crop insurance last Farm Bill is that it moved from subsidies for crops to crop insurance, which is a problem in making it more feasible to crop lands that traditionally would have been perennial cover.
- Demonstration plots are helpful but can be difficult to succeed, especially where crop comes off in November
- Wouldn't like to see regulatory approach to push cover crops. There are unintended consequences.
- Incentives work better, e.g. with property taxes to promote
- Research funding is important to demonstrate feasibility of cover crops, look at genetics, and how to make economically viable
- Little town in MN spent large \$ for a drinking water treatment plant because of nitrate problems
- Do genetics work to make more compatible with current crops
- Cash to landowners for taking care of the water, financially incentivize installing practices for
- Protecting water - already doing that for urban lands.

#### **What can the State Do?**

- Soil loss standards are in place, how are they enforced?
- Buffer initiative -- property tax for that land should be adjusted lower for that strip of land and
- Reimburse the county for those tax losses.
- Put precision conservation in landscape. Look at practices more closely on how practices may affect a particular place on the landscape, e.g., no till on highly erodible lands

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- Each county will be different, so empower each county to manage their issues

### **Harvesting Key Themes**

- Precision conservation -- mapping can identify key areas to manage for erosion and water quality problems -- look at individual field level with GPS mapping, etc. Look at land. Field level data.
- Reality is banks control activities and are requiring precision farming and mapping.
- Planning and efforts need to be at the watershed level, not county level to look effectively at
- Watershed level. Watershed focus. Historically planning has been at county, how do you change to watershed level?
- Take water out of CWF to fund this rather than to buy land for state ownership
- Appreciate difficulty of changing Farm Bill. Unless we adopt long term view of soils' quality we won't change
- Outreach stations for administration to work with U of MN through Extension to adopt new practices and bring back old practices like contour farming, have Extension help adopt practices in neighborhood

### **Living Cover Comment Sheets:**

#### **1. What is already working that could be scaled up or enhanced?**

There is increased utilization of cover crops

#### **What barriers still exist and how should we address them?**

Viable economic options are limited

#### **What can the governor and this administration do to advance this solution?**

Improve the care of state owned land

#### **What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

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## **2. What is already working that could be scaled up or enhanced?**

There are already good projects like the Chippewa 10% project and the cover strip programs

### **What barriers still exist and how should we address them?**

The chemical and seed industries (Dow, Sygenta, Monsanto) and the water industries looking to make a killing by making us buy clean water

### **What can the governor and this administration do to advance this solution?**

Mandate it—require it by law. You must have the stick with the carrot as too many farmers and the chemical industries will avoid it if you don't

### **What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

## **3. What is already working that could be scaled up or enhanced?**

Special markets that compensate us for the environmental services we deliver. Quantify those services and add to the shelf price of our food—that will drive the change our water needs

### **What barriers still exist and how should we address them?**

We have a market (organic) that compensates us somewhat. Expand those markets. Deal with land access issues to get more farmers and more livestock (non CAFO) on to the land

### **What can the governor and this administration do to advance this solution?**

Research proves that cover crops work. Drive state agencies toward a specific goal.

### **What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

Provide incentives to farmers and they respond. We provided a conservation example for our neighbors as soon as conservation funding came in, they made the move.

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**4. What is already working that could be scaled up or enhanced?**

Ideas and approaches like the Chippewa 10% project-Showing that farmers are willing to adopt continuous living cover with the proper support.

**What barriers still exist and how should we address them?**

Federal Farm Policy-crop insurance and practical barriers, lack of markets

**What can the governor and this administration do to advance this solution?**

Direct state resources toward a goal of 20% living cover by 2020. Fully fund Forever Green and U of M along with organic dairy program at Morris

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

Yes, especially the Chippewa 10% project and many other partnerships with state and local agencies

**5. What is already working that could be scaled up or enhanced?**

Forever Green, but it needs more funding

**What barriers still exist and how should we address them?**

A mindset that cover crops don't work

**What can the governor and this administration do to advance this solution?**

The Governor can set a goal of 20% living cover by 2020 and direct agencies to work towards it

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

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The Governor should work with agencies that are leading the way like land Stewardship project to articulate solutions for living cover on the land

**6. What is already working that could be scaled up or enhanced?**

Chippewa 10% Project, More continuous living cover

**What barriers still exist and how should we address them?**

Federal farm policy-meet with members of Congressional Ag Committee (Peterson, Walz, Nolan, Emmer, Klobuchar) to support crop insurance reform with flexible options for cover crops and to insure perennial and livestock ag.

**What can the governor and this administration do to advance this solution?**

Direct state agencies and SWCDs to get 20% Continuous Living Cover by 2020

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

Yes, land Stewardship project is working with farmers on the Chippewa 10% project with the national Sustainable Agriculture Coalition for crop insurance reform in the 2018 Farm Bill

**7. What is already working that could be scaled up or enhanced?**

Research on continuous living cover, farmers need answers

**What barriers still exist and how should we address them?**

Regulation from insurance establishment

**What can the governor and this administration do to advance this solution?**

Incentive cover crop establishment

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**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

Yes, corn/soy growers and MDA and SWCDs

**8. What is already working that could be scaled up or enhanced?**

**What barriers still exist and how should we address them?**

Lack of funding for ag programs to advance diversity on the landscape. Sustainable ag needs real funding.

**What can the governor and this administration do to advance this solution?**

Set a goal of 20% continuous living cover by 2020. Invest real dollars at U of M Living Green

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

**9. What is already working that could be scaled up or enhanced?**

Forever Green program at U of M. Needs increased long-term funding to develop new cover crops and markets

**What barriers still exist and how should we address them?**

Don't have strong markets for cover crops and perennials

**What can the governor and this administration do to advance this solution?**

Support efforts to incentivize cellulosic biofuels from perennial feedstocks

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

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Perennials have multiple benefits that have the potential to attract support from a broad base of Minnesotans-clean water, diversified farm incomes, soil health and habitat for game and nongame wildlife and pollinators

**10. What is already working that could be scaled up or enhanced?**

Forever Green research at the U of M-needs to be fully funded. Livestock on the land and rotational grazing, push this. Cover crops! Perennial cellulosic biofuel research. Expand grass-fed milk, meat.

**What barriers still exist and how should we address them?**

More money needs to go to research and outreach for cover crops and perennial crops

**What can the governor and this administration do to advance this solution?**

Make a bold goal of 20% of the land in continuous living cover by 2020. Fully fund Forever Green. Establish a state perennial cellulosic biofuel standard. Expand grass fed meat and dairy.

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

LSP's Chippewa 10% project can help show viability and importance of continuous living cover. LSP can also help with farmer outreach.

**11. What is already working that could be scaled up or enhanced?**

The Chippewa River 10% project has made some progress. Meet with Kylene Olson and others who are running that program.

**What barriers still exist and how should we address them?**

Too many corn-soy farmers don't know how to interseed cover crops and markets are not good yet.

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**What can the governor and this administration do to advance this solution?**

Seriously, rapidly fund the Forever Green research to address #2. Demand 20% cover crops by 2010. Better messaging by the Governor on cover crops needed and farmers can make money. Help organic and pasturing livestock farms. The chemical industry has all the federal subsidies going to the polluting corn-soy system.

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

The Chippewa River project in western MN has demonstrated collaboration

**12. What is already working that could be scaled up or enhanced?**

**What barriers still exist and how should we address them?**

**What can the governor and this administration do to advance this solution?**

One topic that was missed in my group was the delivery/outreach mechanism for promoting cover crops and perennial crops. As with everything in the ag/water quality world, we need to think about how to get strategies to increase water quality on the land in agricultural landscapes. This is a human problem. We simply don't have the people in our local conservation delivery systems (SWCDs, local NPCS offices) that have the right skills to do this. The soft skills of negotiation and facilitation, the gift of gab. WQ policies should put people on the ground with these skills.

**What role do you see for the constituency and sector that you represent? Are there opportunities for partnership and collaboration across sectors?**

Related: Some of our SWCDs are great. Some are not. How can we infuse these skills, enthusiasm and a sense of mission-driven importance into those underperforming SWCDs?

## Breakout Topic 9: Investing in Clean Water

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### Session 1:

#### What is Already Working?

- Not sure it's working – one watershed/one plan [1W/1P]. If it does work well we need to look at accelerating development and implementation. Single plan across government districts. Shared goals, shared outcomes, acknowledge responsibilities – accountability. Local government and citizens. Local planning – state approach. Differing federal requirements [CWA] required by different cities – compliance to federal permits.
- WRAPS
- Watershed Districts [WSD] as a funding and implementation mechanism to implement local actions is effective. WSDs don't cover the whole state and could be expanded across the state in all areas. WSD are deliver and implementation orientated.
- Soil Water Conservation District [SWCD] do exist in all counties already and could play an important role
- Clean Water Council [CWC] has been forward looking to implement and integrate policies that impact the direction with WSDs
- State infrastructure funding mechanism through public Finance Authority [PFA] is working well and is a model across the nation. This is a great model that works well and could be used more. Good prioritization process for public water and waste water. Short coming is it is focused on cities – no focus on non-point. Could expand to other government entities. Has been used in limited situations by WSD.
- UMN lake monitor quality monitoring – what do you have, where is it
- LCCMR did fund updated wetland mapping – what do you have, where is it,
- State has effective state agency coordination between MPCA, MDH, DNR to address ground water. Minimal overlap between agencies. 65-70 % of MN get drinking water from ground water. Surface water is a much different thing and likely the attendance. MDA responsibility for agricultural contamination should be incorporated into MPCA activities – it doesn't make sense to split responsibility like that – was a political compromise rather than a practical approach.
- Reinvest In Minnesota [RIM] funding – for wetlands
- The idea of the Clean Water Fund [CWF] is a powerful image for the public and could be leveraged further. Creates a common vision – very powerful for communicating with the public.

#### Barriers to Success?

- 1W/1P not implemented statewide – it's optional for locals. Highpoint of watershed needs to do work collectively with all watersheds downstream to make an impact. Currently no funding for 1W/1P – not enough money from the CWF. CWF provided for the creation of a plan [for 1W/1P] but not enough resources for implementation across the state.

- Lack of coordination amongst the legacy funds – CWF, LCCMR, Lessard-Sams, State GF. Not collectively viewed to address clean water. Funding and activities are in siloes.
  - Example – wetland mapping should have been picked up by CWC to implement – no vision for follow through. Similar to lake water quality monitoring.
  - Need shared goals and outcomes for a planful approach to move forward – it creates unnecessary competitiveness between projects and funding sources.
- Point source pollution corrections have mechanisms to score for funding improvements such as waste water treatment plant improvements. Nothing similar on the nonpoint source issues.
- MPCA requires permits and limits in place for point source contaminants like phosphorus reduction requirements. Required on point source – not for nonpoint source.
- MN could create broader water shed permits and limits rather than unique facilities.
- Ag tiles are not required to be mapped. MN does not do this. We can't do watershed planning without knowing what is coming into the water
- Research – is not prioritized
- Monitoring – of conservation practices to improve water quality – no resources available to determine if implemented practices are working. Flows and concentrations of pollutants coming into systems or going out of systems. Need the data!!
- Targeting - prioritization
- Implementation – too much emphasis on implementation before research, monitoring, targeting is accomplished, otherwise implementation misses the target and resources are wasted.
- Not a market out there for perennial crops – state has the power to create those markets. Prairie grasses for biofuels. Economic system beyond monocrops is needed – farm bill is a failure because it pushes industrial agriculture.

### **What are solutions?**

- Too much time and energy on applying for grants. Focus needs to be on solutions. Better funding overall. Solution to fund 1W/1P needed. As an example the metro area has the ability to levy to create funding for these types of activities
- Manage aquifer recharge to speed up recharge of ground water. Water is going out the state as waste water of ground water. Research and policy needs to accomplish more to retain and reuse water. Could inject water underground in strategic locations to manage ground water better.
- Restoring wetlands – greatest groundwater recharge mechanism
- Lack of coordination amongst agencies – each has a niche. Designate a state agency for each major river basin to manage surface and groundwater in those basins. Central command framework. Bottom up approach.
- SWCD should have levy authority to cover their operating expenses. Any grants should go to project costs not administrative costs at SWCD
- Funding from state for projects on a state wide basis – like LIDAR mapping. Can we use that at a local level for locals to implement projects.
- Governor can educate the public on how far the CWF will move us towards actual clean water and what do we need to do to attain clean water.
  - 200 years of pollution vs 25 years to clean up

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- BWSR – much more demand than funding available for grants
- Bonding for infrastructure is an example of priming the pump but not enough to fill the entire hole
- Goals with no priorities – needs to be a shared responsibility of all

### **Harvesting Key Themes**

- 1W/1P should be state wide with a funding solution
- Adequately fund research/monitoring [new information not mining existing information] proportional to the work we are doing
- River basin outcomes – integrates ground and surface water activities – need to make sure the proper experts are involved
- Mechanisms for coordination – central command – not all solutions are equal across the state.
- Recognize the limits of the CWF and augment with policy
- Ensure public expectations are managed on what the CWF will accomplish.
- Funding for SWCD

## **Session 2:**

### **What is already Working?**

- 1W1P – targeting, analysis of important problems
  - Accelerate this
  - WRAPS inform 1W1P
  - Not Metro
    - NPDES permits – wastewater and stormwater
- WDs could be expanded for local funding and capacity in combo with SWCDs
  - Cover whole state
- CWC – policy recommendations, not just \$ recommendations – comprehensive
  - Legislature needs to address these policy recommendations
- PFA funding prioritization
  - For public infrastructure – wastewater, stormwater, drinking water
  - not for nonpoint source, thought
- U of MN lake water quality monitoring / LCCMR wetland mapping – tells us what do you have, where is it, what is the quality – this is mgmt. 101
- On groundwater - DNR/PCA/MDH/MDA – good agency capacity
  - No need for new agencies
  - They say in their individual tracks
  - Concern about MDA being a separate authority on GW
    - This was a political compromise
- RIM
- CWF image and brand to be leveraged further – powerful

### **Barriers to Success?**

- CWLL Amendment \$ siloed; other water funds are also siloed

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- Ex. – wetland mapping done, but not used for implementation
- 1W1P needs statewide implementation
  - Need plan 1ST to prioritize implementation
  - No funding source – CWF will not continue to fund this
- Need watershed plans to focus work; shared responsibility for outcomes – not competition
  - NPS system not like PS system
- Lots of \$ to PS to reduce pollution; money should be used on NPS to get real reductions
- Under federal CWA - PS regulated, tough requirements
  - NPS not regulated – can't get important reductions
- Ontario required drain tiles to be mapped
  - Important for water planning
- Lots of CWF goes to implementation; Minimal amount of CWF goes to:
  - Research
  - Monitoring - \_\_\_\_\_
  - Targeting – local and larger scales
- Lot of monitoring of water conditions, not so much monitoring of BMPs
  - Hard to measure success
- Effectiveness monitoring needs to be part of plan
  - Pollutants in and out of management practices/systems
- Farm Bill pushes production; No market for perennials, prairie grass, wildlife, biofuels

#### **What can Governor do?**

- Reduce burden of grant proposal submittals
  - Fund what 1W1Ps call for
- Manage aquifer recharge – accelerate by infiltration
  - Now we take a lot out, but put little back to recharge/replace
  - Injection wells in right areas
  - Need research and policy
- Wetland restoration
- Lack of State Agency coordination – niches
  - Governor should designate a lead state water agency per major drainage basin for groundwater and surface water – Basin Boards; use a military central command-type framework for the basins
- SWCDs should have levy authority like Watershed Districts do to raise project funds so they don't have to apply for grants
- Fund statewide tech tools – like LIDAR, PTMF – centralized creation for local use
- Educate public on CWF Roadmap - realistic expectations; what else needs to be done to get in there
  - Not enough \$ - only ~25% of grant applications funded
    - wastewater needs overwhelming the fund
  - Goals with no perimeter – targeting needed

#### **Harvesting Key Themes**

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- 1W1P State wide
- Need a funding solution overall
- Adequate R&D funding, including monitoring at multiple scales (“measuring the landscape continuously”)
- Get out of issue/source silos.
- River Basin outcomes/coordination needed (ex – Lake Superior is different than MN River).
  - Entities coordinated
  - Surface and ground water
- Recognize limits of CWF and publicize
  - Supplement with policy + \$; also optimize CWF

## Session 1:

### What is already working?

- Competitive grants are a good thing
  - Takes staff time to prepare
  - Spend time working to choose grants
- More grants to smaller groups
- How much money do we need? Several billion
- We don’t have much success – not succeeding
- Have sealed 100s of wells – protecting GW
- It took years to cause the problems – it will take some time to fix

### Barriers to Success?

- Great writers get the money – the money needs to be focused and targeted
- Local perception is a barrier - need to educate locally
- Need above ground storage facilities to store large rain events
- Funding is short term - education and maintenance - often not funded
- Barriers around research – result in unintended consequences if you don’t know
- Retention structures aren’t being maintained but can’t pay for maintenance through grants  
Sediment and erosion control basins “638”
- Money goes for report – instead of boots on the ground
- Terrible deficit in research
- Research is not targeted- wait for a disaster to practice targeted research
- Farm bill policy has driven soybean and corn rotations
- Educational and Engagement needs to be part of eligible cost of projects
- Need more animal agriculture
- Rainfall events are more extreme, can’t control mother nature
- Aquifer recharge and storage
  - Research – need to keep water in state and not export water
- Reuse waste water

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- Need a Clean Water Cluster – like silicon valley has a technology cluster – need solutions for farmers and mining
- Wetland restorations and recharge
- Increase local capacity to work
- Need to educate county Commissioners and SWCD Commissioners
- Fund the plans – that exist
- Learn from what has been funded

#### **What Can Your Constituency Do?**

- Socially conscious artisan designers – should be funded
- Farm program that establishes irrigation is going to need
- Can't get things through local boards – City Boards are not willing to do much– Staff is limited by what Board willing to do
- Soybean grower – use farmer \$ to invest in U of M Research through check offs
- Make conservation as profitable as farming
- (must farm the land you own no matter how erosive)
- Shouldn't have to wait 3 years for a conservation plan or funds
- More private public partnership

#### **Harvesting Key Themes**

- Need funding and money to make grants and structure changes
- Local – action needs to occur locally
- Recycle this resource
- Research
- Education, Communication and Outreach
- Set realistic expectations for the amount of money available.
- Source reduction
- Educate legislators labors and local politicians

## Session 2:

### What is Already Working?

- CWF has allowed for 1W/1P work to be started and state wide monitoring
- Watershed based planning
- Many programs successfully implemented at the county level. Joint powers organizations don't have authority to tax they may be required to collect from the counties.
- Where there is support for the activity the funding is identified and the projects are successful
- Watershed protection programs are working well and need to be scaled up.
- Local SWCD is very effective. 1W/1P muddies the waters – it's too many government and Non-Government Organizations [NGOs] to manage
- SWCD have taken the lead on ag issues across the state and work well with the ag community
- Some Landowners who are passionate about ensuring clean water: their work could be progressed through NGOs
- WSDs that work well with ag community bring the resources for solutions. Fragmentation exists does exist across the state.

### What Barriers Exist?

- Mismatch between watersheds and county boundaries is a major problem – New Zealand Model: redistricted based on watersheds. County Administrative process use more resources than what gets to the ground
- No funding to implement Watershed Restoration and Protection Strategies [WRAPS] – focus is on restoration, need to equalize with protection. Resources to write WRAPS but no money to implement. Local capacity and funding – interest is there but not funding. Logistical nightmare if multiple watersheds [as in 1W/1P] in one county.
- SWCDs cover 100% of state with no funding. WSD cover 30% of the state and have funding - divergent funding availability across the state
- NGO's - lots of them all over the state could be in partnership with SWCDs and WSDs.
- WSDs are established by county action or by petition – not a great political solution – county board limits it due to another layer of government and the boards desire to implement.
- Lack of public education about the limits of current funding. Public thinks CWF will fix all water issues.
- Cost of implementation is driven up by using government funds – too much administration. CWFs resources are eaten up by administrative costs. We need to move towards precision spending based on comprehensive plans
- Administrative controls by government impact the ability to spend resources such as wetland grants at a local level. Government funding is not worth the frustration for the required report generation
- E-LINK is a problem!!!! Reports – arrgh
- Need an adaptive management system that is improving continuously. Need to innovate and experiment as we go. Money for WRAPS is not well spent. Slow the cycle so we can catch up and deliver.

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- We live in a world of Silos – all projects need to factor in water impacts. Example – transportation, land use, development
- Too many organizations at the state level with a hand in water. Conflicting standards and difficult to implement at the local level.
- State agencies have their own models rather than working together on a single model. BWSR – MPCA – PTM Maps
- Need to ask does funding actually put a program on the ground. Less study is needed because every group has a different approach.
- Targeting of implementation is based on technical issues and failure is the result of social factors – agile conservation
- If we do good practices to scale will they provide us with clean water. Versus good at small scale with limited impact. Need to be more strategic. There is good data to prioritize.
- Where other public dollars outbid clean water – energy, transportation, land use, other infrastructure – allocation and prioritization is needed. Impacts on water need to be built into all projects [similar to a Health Impact Assessment]

#### **What can Governor do?**

- Priority setting on what will move the dial the most
- Prioritize protect and restore – by looking at everything we are focusing on nothing
- Think long term to build capacity to sustain at various levels. Beyond the money we have today. Can be economic driver to change
- We all know 25 years won't move the dial. Is there another way to talk about progress that will make sense to citizens with the money spent.
- What is our vision – clean water promise. Need to think bigger and to the future.
- Avoid this becoming a political fight – needs leadership to have a bi-partisan solution.
- We need to change the way we value water – there is no value to water other than the cost to extract. Ground water should be more expensive due to the time to regenerate. This will result in a negative situation
- CWC- disconnect between council and admin budget making process. Better incorporate CWC recommendations into the admin budget process.
- The various Government commissions need to be educated about trends that are coming – situational awareness
- Put a price on water [or nutrients in water], similar to carbon and the impact on eco systems we would unleash a lot of entrepreneurship.
- Tendency to jump to new governance structures. Capitalize and building on successful structures that currently exist.
- Lead from a standpoint of bringing rural and metro together on resolving.
- There is a lot of rural water issues that are not caused by farmers – Governor needs to stop the blame game directed at farmers
- Focus energies on primary sources. Use data to drive priorities

#### **What role for Your Constituency?**

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- Collaborate to have farmers be economically successful for ground cover vs row crops. Need to change incentives
- Annual limit on # of dairy cows for permitting purposes is counterproductive to having more cover crops on the ground. Encourage animal agriculture.
- Lake associations are part of the solution. Collaboration amount advocacy groups
- Fractured funding and goals – focus is on single parameters. Needs to be multiple
- Better measures of benefits – more holistic benefits
- People have been asked for taxes and time. Need to show the results of their investment will be a success.
- Need to culturally change the perception of clean water
- Promote success stories increased demand
- Promote clean water in school curriculums – limitations for schools to meet state and federal requirements
- Storm water research and sharing possible solutions – needs a sustainable source
- NGO and private sector – use them to do more implementation and prevent loss of healthy waters – needs to be all the agencies working towards this.

### **Harvesting Key Themes**

- There is fragmentation. Need to prioritize and stream line. Use social science to accomplish this. Educate broader group – adaptive integrated management [learn by doing]
- Don't miss best practices – all should do them where they will have an impact
- Carrot approach works better – build and communicate success
- Capitalize on existing strengths and abilities.

## **Session 2:**

### **What is Already Working?**

- CSP – rewards conservation on working lands
- DofAg – nitrate township testing in private wells
  - Where are/not issues
- Coordinated water planning

### **Barriers to Success?**

- WD – lack of willingness of local leaders to spend implementation \$ they have for fear of backlash from landowners
- MCES directives to cities, homeowners, etc. not funded
  - Ex – city must improve sewer – no tax base dedicated to this (City of Mound)
  - Fines sometimes used to fix the problem – good model
- Need long – term guaranteed funding
  - Ex – for research (only 2 years of funding given for a much longer term project)
- CWF 3 year grants not long enough

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- Need longer timelines
- Need ability to extend at times based on factors like weather
- Need flexibility on \$/grants
- Provide money for whole programs vs. just for a few practices and projects
- Rural staff don't have great writing capacity of Metro consultants
- Funnel \$ to the most needed areas to help WQ, not based on best grant writers
  - 1W1P
- Change competitive grant model
  - More \$ needed – tax? – other sources?
- Ex. - Levy limits tighter in N Fork Crow River WD than in a Metro WD
  - But Crow River Watershed– impacts Minneapolis water quality
- % of General Fund to conservation has gone down – CWF supplanting issue
- Should we be dedicating more \$ + regulations to generation vs restoration
  - Some want regulation, some don't
- Small % of CWF goes to prevention - need more
  - Polluter not paying, everyone else does
- Pointing finger at “polluter” – need a system of incentives so folks can afford to do the right thing
  - Comes down to profitability - need strong incentives
- 1W1P being done by 2025 to involve local solutions
- “Polluter pays” is wrong concept - incentivize prevention
  - Not ok to pollute and just pay the damage
- incentives to perpetrate good practices for ag
  - we have shifted to monoculture, we have shifted to big scale animal ag
  - need more pasture
  - need diverse crop and livestock operations
  - need cover crops
  - Ensure research on small dairy
- Ex. - Le Sueur Watershed – engagement of landowners to reduce pollutants
  - Incentivize engagement
  - 10 year process
  - Getting to point of no money if no water plan – 1W1P – a good thing

### **What can the Governor do?**

- Federal farm policy contributes to big ag, fewer people in rural areas
  - Shift money from insurance to conservation/CSP
  - Work with Congress people
- MN make a 50 year commitment to clean water future
  - Need to elevate consciousness of public
  - We all have a respectability to pay and to plan
- Streamline funding process for projects/grants
- Need more funding

### **What can your Constituency Do?**

- LGU/rural – collaborate with state funding agencies
  - Tiresome to justify need for project funding
  - Too much admin – streamline
  - If 1W1P approved should not have to apply for grants
  - Reduced admin saves \$ to put on the ground
- LGU's play a role in stakeholder engagement
  - Designing implementation
  - Securing \$ (taxes)
  - No NPS authority
- Need permanent contract for BMPs, not just 10 year contracts – frustrating when they are removed after the end of contracts

### **Harvesting Key Themes**

- Need more \$; long term increase General Fund for water quality
- Minimize \$ admin – streamline system, flexibility
- More local conversations to engage landowners
- Incentives to prevent pollution – cheaper
- Metro could incent rural areas to prevent pollution vs. clean-up
- Farm Bill funding model production and insurance incentives need to be fixed – focus on CSP model
- Long term commitment to clean water – cultural commitment – community based planning

## **Session 2:**

### **What is Already Working?**

- Stormwater credit program, if people install practices they get a credit on their stormwater fees.
- Clean Water Fund is working – but it is not going to solve the problem
- Flood mitigation goals are working
- MN Conservation Corp is working
- Efforts at city and local level – a lot if being done but there is not enough money
- Need public willingness and need staff to educate them.
- Must invest in people to deliver the programs
- WRAPS – good step but need to implement the activities identified in WRAPS
- Citizen participation from non gov. people

### **Barriers to Success?**

- Level is bare 2/3 of the year – need 20% living cover by 2020
- Public policy has created problems for farmers
- Need long term funding for maintenance and operation of practices.

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- Too many moving parts – too many government levels – fragmentation of government –
- 1W1P will help
- Private foundations – have looked away from giving since the Clean Water Fund was created
- Some practices doesn't last long – so how do we make them permanent
- Some grants require match but it is hard for local to come up with match
- Public ignorant about NPS – lack of education, we need education for public
- Small business can't afford to chase funds - need entrepreneurial solutions streamlined entry to funds
- CWF – is only scratching the surface
- Need special purpose districts – SWCD/WD are not adequate, they need more funds
- Stormwater research – need research to get right solutions, need more funds for research
- We rely on Government – to fund – CWF can't do it alone
- Need to free up local sources – to do what government does best – should regulate solid waste and free up money for water work
- Need a waste framework
- Leg – CWF is being used to supplement the general fund.
- What do we do when this is a crisis?
- Where should resources come from now that we are in a crisis mode
- We don't calculate the value of Clean Water – need to appreciate the value.
- Life cycle costs
- Make the cost and benefits of clean water explicit so they are understood
- Educating legislators – set some knowledge standards before they can vote so they can make some informed decisions.
- Much more cost effective to protect than to restore
- We don't tell our story – we should market that MN is a great place

#### **What can Governor do?**

- Charge people what it costs for water – currently it is treated as if it is free
- Provide consistent approach across the watersheds of the state
- Provide incentives for cover crops
- Support public education and awareness
- Promote Leg related to barriers
  - Create level playfield
    - Funding
    - Pollution prevention
    - Diversification
- Need to define values of water through research
- Change people the real cost of water
  - Drinking/wastewater
  - Efficiency of usage
- Governor should take a list to Fed and ask for some leadership and changes
- More Money from Fed Government
  - Waters of the US – as an example

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- Dirty water goes downstream – enlist the people in other states esp. to get feds
- Roll out discussions statewide to keep momentum of Summit going
- Provide funding for stormwater research
- Establish watershed management organizations statewide that have levy authority
- U of M to monetize the value of water
- Governor should do a weekly radio show to get message out to public
- Send out information on our true cost of water to help conservation – to the average person its so cheap they don't conserve it.
- Practice cost is should include Operation and Maintenance as well as installation
- Need an innovation Board for Clean Water.
- Voluntary Clean Water stamp to go with fishing license.
- Cost of water
  - Need data to inform conclusions to drive policy change

#### **What will your Constituency Do?**

- Doing a lot – need to do more – education
- Sustainability of water – over reliance on ground water
- Small communities face large cost for Wastewater

#### **Harvesting Key Themes**

- Explicit C/B of water projects, intervention vs. benefits
- We need to Educate - constituencies
- We need more funding
- We need to motivate people to action
- Relationship of General Fund to CWF is it being supported? CWF can't solve all problems
- Governor should use his authority to veto –bad bills/funding if necessary
- Governor use his pulpit to protect and improve water use.
- The Governor should use Donald Trump's play book – how is water going to get paid for
- CWF is to Supplement not supplant the general fund
- Stop bad things from happening that cause water quality problems
- We need to enforce existing laws

### **Comments from Written Comment Sheets:**

#### **Investing in Clean Water**

- 1. What is already working in this area that could be scaled up or enhanced?**
  - One watershed plan. Planning for water quality outcomes.
  - Habitat protection, CWF, RIM, OHE, bonding.
  - Infrastructure funding- invest in water.

- Minneapolis storm water fee reduction for practices WRAPS.
- Federal and state partnerships such as CREP-clean water fund of legacy amend. Point to non-point pollution trading.

**2. What barriers still exist and how should we address them?**

- People think MN water quality is really clean.
- County boundaries moved, no watershed boundaries.
- Lack of local revenue to pay for plan implementation.
- Lack of public education or lack of funding.
- Funding requirements are onerous.
- We have a problem with public policy. Agriculture follows what is allowed in state public policy. Solution: 20% ground cover by 2020 will greatly reduce erosion, run-off, and increase soil permeability, diversity of plant and animal life, nitrogen fixing plants, increase in pollinators. Current ground cover in SW MN is about 2% at present! Our soils is for 2/3 of the year!
- Public policy funding is for implementation not maintenance.
- Anti-taxes – anti watershed district establishment general public sentiment-private foundation are not funding to the level they used to.

**3. What can the Governor and his administration do to advance this solution?**

- Make commitments to use a percentage of public funds to protect health waters to that those healthy waters don't have to be cleaned up at a future date in time.
- Increase incentives for water-based planning. Increase incentives for implementing water-based plans.
- Water quality assessment to public spending. Real cost accounting. Need real adoption management program.
- Change the way we value water.
- No net loss of healthy/unimpaired waters.
- Recognize and find solution to non-point sources without alienating the landowner and operator. The anonymous "them."
- Set up a pollutant trading market for water users. Establish a clean water stamp for fishing licenses.

**4. What role do you see the constituency and sector that you represent in the implementation of this solution? Are there opportunities for partnership and collaboration across sectors?**

- The Nature conservancy has started a private fund to use in leveraging public funds to protect healthy waters.
- Yes, but change in state public policy is all of our responsibilities.
- A big role- the general public and businesses will be willing if done right.