

# **Policy Technical Work Team Report**

## **Minnesota Water Sustainability Framework January 2011**

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## **A. Key Findings**

- In managing water, we fail to treat it as a system connected to other natural and human systems.
- Minnesota's water laws and policies are abundant but piecemeal and siloed.
- BMPs are low priorities for funding.
- Current policies do not recognize the long-term health of the water resource and the ecosystem services it provides.
- Minnesota state water policy lacks big-picture goals and priorities.
- Water governance is fragmented and reactive.
- Water policy is fragmented across agencies and scales of governance, with each unit of government at each scale focusing on individual and sometimes conflicting statutory mandates.
- We lack an effective source of sustainable, long term, dedicated funding to address the most important priorities.
- We lack adequate capacity in leadership, knowledge, and other areas.
- Some water policies and tools are not fully used, and some appear inadequate.
- Minnesotans are concerned about but not fully engaged in water issues.
- We lack an integrated water-related information and data management system.

## **B. Introduction**

The policy technical work team was charged with developing a short white paper to address: "What has been accomplished in terms of water policy? Gaps or issues that haven't been addressed? A statement of issues that should be addressed in the Framework plan."

The team (Appendix A) met seven times from November to March. Major entities in the state that directly deal with water policy (Appendix B) presented answers to questions developed by the team (Appendix C). The team discussed water policy issues, gaps, and needs; developed themes; ranked criteria; and wrote worksheets to help produce this white paper.

## **C. Overview of Minnesota Water Policy**

Minnesota's water policy has changed over time. Its evolution is seen in the transition from wetland drainage toward protection and restoration; from farming practices that did not recognize adverse impacts on natural resources and natural systems toward the statewide adoption of soil and water conservation practices; and from discharge of raw sewage and pollutants into water bodies toward implementation of water quality standards. Water policy changes also reflect decisions and actions made in other policy areas, including energy and land use, transportation and agriculture, public health and education, budgeting and economic development, and electoral politics and campaigns.

Although Minnesota has been nationally recognized as a leader in water resources management, we do not have a comprehensive state water policy. Our strengths include ensuring that basic human water needs are met; ensuring that water remains an important economic asset for

Minnesota; and reversing destructive trends in water use. Our level of technical expertise is high. We historically have been quick to respond to threats to surface water quality and have, more recently, expressed growing concern about groundwater.

Minnesota's water policy was shaped by our state's early reliance on agriculture. When Minnesota achieved statehood in 1858, one of the first laws enacted allowed private corporations to be formed "for the purpose of draining lands and creating privileges." This law reflects the view of many early settlers that our state's abundant water was an enemy. The lesson from these early years may be that perspectives change as needs change.

In 1931, creation of the state Department of Conservation brought recognition of adverse impacts of wide-scale drainage, and practices were adopted to reduce it. In 1937, the Legislature established our public waters system, a water appropriation permit program, and programs regulating construction of systems to appropriate water, dams, and waterway structures.

In 1947, the Legislature amended the public waters law to include in the concept of public water "all waters providing substantial public use and that are navigable in fact," thereby reducing drainage possibilities. In the 1950s it adopted the "Save the Wetlands" program, which used state and federal money to buy wetlands for state wildlife management areas. Also in the 1950s, reporting requirements were developed for large water users, and watershed districts were granted authority to levy taxes for water management.

In the 1960s, the Department of Conservation warned that some parts of the Twin Cities metropolitan area were approaching the situation where the "margin of safety between [water] supply and demand is too small." The Legislature passed a law requiring state agencies to conserve precipitation where it falls. In 1967 the Minnesota Pollution Control Agency (MPCA) was formed.

In 1972, Congress passed the Federal Water Pollution Control Act of 1972 and the Federal Safe Drinking Water Act. These laws were key drivers for state legislation intended to understand surface-water pollution sources, educate the public, and regulate water quality. Laws include broad-based environmental laws such as the Environmental Rights Act and the Environmental Policy Act as well as extensive legislation protecting water resources, including laws calling for protection of flood plains, shorelands, and wild and scenic rivers; expansion of the public waters definition to include certain wetland types and the start of a complete public waters inventory; consideration of environmental concerns before improving drainage systems; creation of the Water Pollution Control Fund for wastewater treatment facilities; and environmental program coordination (see Appendix D). In 1977 the Legislature created the Water Planning Board.

During the 1980s, the Legislature adopted recommendations of the Water Planning Board calling for a new local role in statewide comprehensive water planning and establishment of a consolidated board of water and soil resources to administer local water planning and related programs. Policy programs were created to prevent pollution and to address nonpoint pollution. Discovery of pesticides in Minnesota groundwater increased awareness of the importance of land use/surface water/groundwater connections and heightened concern about surface wells. The

Groundwater Protection Act of 1989 established a state groundwater degradation prevention goal and programs and measures by which the state might achieve it.

In the 1990s, the Legislature established the Legislative Water Commission, called for no net loss of wetlands under the Wetland Conservation Act, and enacted measures to deal with emergency drought concerns, nutrient loading in water bodies, and nonpoint pollution issues. It also proposed natural water detention opportunities for new developments and required public water supply planning and the elimination of wasteful water uses.

The first 10 years of the 21st century have seen interest in policies for protecting water resources, stimulated in part by efforts to address impaired waters, climate change, and invasive species. Identifying and restoring impaired waters through the TMDL process has led to an increased role for water monitoring. We have begun to deepen our understanding of systems needed to assess water sustainability and to develop mechanisms to conserve water.

Today, many state agencies and LGUs work together to protect and conserve Minnesota's water resources. Minnesota agencies and organizations with authority over water are listed in Appendix E.

## **D. Issues, Needs, and Gaps**

After hearing presentations and reviewing information and reports from state agencies, organizations, and LGUs, the policy team identified key issues, needs, and gaps and grouped them into nine primary themes. We then assessed the themes against ranking criteria (Appendix F), explored cause-and-effect relationships, and developed a causal diagram for three themes we identified as needing greater focus. From this analysis we derived two overarching themes, four priority themes, and three themes of concern to sustainable water use in Minnesota's future.

### ***1. Overarching Themes***

- a. In managing our water, we do not recognize or act in recognition that water is a system and is connected to other natural and human systems. Our actions in one part of the system can result and have resulted in significant adverse impacts in other parts of the system.
  - (1) Land use and water quantity and quality are intimately connected, but this connection is not always recognized in our land use or other resource management policies.
    - i. In general, we do not use a comprehensive approach to land use, water quality, water quantity, and population growth. We do not have integrated water policy across large water basins (e.g., Lake Superior basin, Rainy River basin, Upper Mississippi basin). Our focus has been at water/land buffer zones and not across whole watersheds.

- ii. In developed communities, community planning and growth planning are not tied to water availability, so in some cases we are developing where we have the least amount of water. Economic incentives for growth and business development do not consider water availability. There may be a conflict between the call for increased recognition of private property rights and sustainable growth that has the potential to direct growth without regard to water availability.
- (2) Agricultural communities are a primary source of nonpoint pollution. A key question is how we reduce pollution from agricultural practices. Agricultural land use is not well linked to state water policy.
  - (3) Water policies are not integrated across natural water systems—they do not consider the interconnected nature of surface waters and groundwater and their connections to other natural systems. This has resulted in adverse impacts on water quantity, water quality, and other natural systems. Nor are they adaptive.
  - (4) Water policy is not always integrated across agencies and scales of governance, and statutes do not encourage integration. For example, much more might be accomplished if we align the requirements of the Clean Water Act and the Safe Drinking Water Act.
  - (5) We operate from a position of abundance, but water use (both urban and agricultural) is growing faster than population (Freshwater Society Guardianship Council 2008).
  - (6) We are extracting water from some aquifers at rates that may exceed rates of replenishment. Some parts of Minnesota are running short or are in danger of running short of water.
  - (7) Cumulative impacts of water extraction permits on aquifers or natural systems are not calculated or evaluated in the permitting process. Minnesota does not regulate water uses under 10,000 gallons per day, so we do not have a clear picture of cumulative water use in individual aquifers.
  - (8) Effective water management is predicated upon government institutions that cooperate and coordinate with each other. This requires incorporating education, research, planning, and technical needs together with regulation. Water is a finite resource, and groundwater availability and extraction interrelate with surface water availability and quality.
  - (9) Actions on land harm water; without understanding and acting on this interrelationship, we are not in a position to protect, preserve, and enhance natural water systems.

- (10) A healthy water resource is not only sustainable in both quality and quantity, but is also able to adapt with little diminishment to new conditions.
  - (11) We lack meaningful comprehensive planning that reflects an understanding of how activities on land affect water.
  - (12) Water resources are part of numerous complicated systems (human, natural, economic, etc.). Work on any part of the system(s) can have complex and even contradictory results and consequences. Impacts can differ in the short term and long term.
  - (13) As public policy pieces have been added, there has been little real consideration of how they interact with the existing pieces. There is almost always a gap between expectations for new programs and actual delivery, given the resources allocated to carry it out. Further, given the complexities of the system, a fix for one issue may cause a negative result somewhere else. The pieces will not always fit together to create a seamless whole because they were cut at various times, by various people, out of different materials.
- b. Current policies do not recognize the long-term health of the natural system and the ecosystem services it provides. These concerns are paramount to state water policy and the outcomes of state water programs.
- (1) Water decision making tends to emphasize short- over long-term values and does not always balance current needs, policies, and values against long-term priorities.
  - (2) We do not do a good job of documenting the impacts of land-use decisions on natural systems, including water systems, using biological indicators.
  - (3) We don't have a water budget that considers the needs of natural systems and the interconnected nature of surface water and groundwater when we allocate water use.
  - (4) We lack the inventory necessary to understand the capacity of the water system so society can value it appropriately. We cannot take for granted that there are sufficient water resources in this state. Without a comprehensive water budget it is difficult to monitor water flows and quality to develop appropriate plans and responses. This challenge will become more complex as we attempt to identify the impact of different climate scenarios.

## **2. *Priority Themes***

- a. Our state water policy lacks big-picture goals and priorities. While Minnesota Statutes, chapter 103A, identifies policy objectives, programs, or implementation, authority does not always accompany them; while agencies have individual goals and priorities, they are not governed by overarching goals or priorities. We do not do a good job of balancing the competing interests impacting our water system in light of overall policy goals.
  - (1) Short-term goals tend to defer long-term costs to water (e.g., development in the Twin Cities, some alternative energy programs, some economic development programs).
  - (2) The state has no sustainable water plan or vision and no single entity to hold other units of government and scales accountable to the larger vision. Needs are different across the state. State agencies and LGUs focus on their individual missions, not on the big picture, possibly due to limitations in funding and statutory authority.
  - (3) Adaptive and flexible state water plan and policies will be important as we begin to face the challenges presented by climate change.
  - (4) We lack a method for dealing with emergent contaminants. Often the burden falls on LGUs and their sanitary sewage systems. LGUs lack sustainable funding mechanisms to meet the challenges of removing each new contaminant from the waste stream. In addition, this model ignores emerging contaminants coming from nonpoint sources.
  - (5) Current plans do not connect water quantity and water quality.
  - (6) Our funding system appears to be based on random acts of conservation rather than a common vision of water priorities and where they can have the greatest impact.
  - (7) There is no water budget for surface waters and groundwater to help us track at various scales water input to and discharge, amounts of water allocated and consumed, needs of the natural system, and water available to meet future needs.
    - i. Sound resource decisions depend on water budgets done at the appropriate scale.
    - ii. What demands can we expect from other parts of the country for water as water becomes scarce?

- iii. Are we too dependent on groundwater?
  - iv. Do we need to think about groundwater injection before it happens?
  - v. How can we align water supply planning with comprehensive planning in a meaningful way at local, regional, and state scales?
- (8) We operate from a paradigm that water is free except for the cost of delivery. This causes us to undervalue our water resource.
  - (9) Our water policy is inconsistent. Inconsistencies are reflected in state policy. LGUs noted that the target from both the state and federal level was constantly moving and sometime state and federal targets were inconsistent.
  - (10) Our water policy lacks equity. A number of presenters expressed concern about the inequity between the requirements imposed on LGUs and businesses and the fact that the agriculture industry was exempt from many water requirements but is believed to be the largest contributor to nonpoint pollution. Under the "polluter pays" principle, a polluter would pay whether it is a point source or an unregulated nonpoint source.
  - (11) Conflicts between the governor's office and the Legislature have prevented a water vision from being realized, leaving each state agency to try to maximize water protection with its own limited resources and within its limited jurisdiction. This is a direct cause of the fragmentation of current water policies.
- b. Water governance is fragmented and reactive rather than proactive. It operates at different scales, each with strengths and weaknesses. Agency goals and objectives sometimes conflict.
    - (1) Water governance has been driven by specific issues, problems, and special interests followed by a reaction from the Legislature, which has no groups with a long term dedication to water policy. There has been little comprehensive assessment and strategic intent to protect and manage Minnesota's waters.
    - (2) Laws related to energy, economic development, land use, food production, water quality and quantity, and land acquisition or land retirement issues are adopted and implemented on a silo basis.
    - (3) There are conflicts in both perception and law concerning individual property rights and protection of public resources such as water.

- (4) Our water laws are neither flexible nor adaptive across landscapes. A one size fits all approach creates a challenge for LGUs because different parts of the state have different water issues. Water governance has been dealt with on a statewide basis, yet there is a lack of policy focusing on geographically based hydrologic conditions (with a notable exception being the Wetland Conservation Act).
  - i. The uncertainty regarding the impact of climate change on landscapes across the state suggests we should transition to an adaptive management scheme.
  - ii. We employ a reactive, crisis management approach to emerging contaminants and likely will continue to do so until we change society's approach to the design and introduction of chemicals. For example, Minnesota's water policy system does not provide for an integrated way to address emerging issues such as invasive species, emerging contaminants, and climate change. Systemic problems such as these will require close connections, coordination, and development of policy implementation by governing water bodies.
- (5) The number of state agencies with authority over water makes it hard for LGUs to determine who's in charge, and agencies and the Legislature often shift the target.
- (6) LGUs are responsible for implementing many state water policies, but are given inadequate resources, tools, and authority to do so. LGUs perceive there are too many requirements, especially overlapping planning requirements (e.g. comprehensive plans, watershed plans, county water plans).
- (7) The number of state agencies and local entities with authority over water issues has led to a fragmented and reactive approach to water management across the state. Programs concerning lakes in particular are fragmented.
- (8) LGUs perceive many state water policies as overlapping and duplicative.
- c. We do not have an effective method to generate sustainable, long term, dedicated funding to best manage and allocate funds to address the most important priorities.
  - (1) Some of the resources required for sound water management over the next 25 years may be provided by Legacy Amendment funds, if these funds are spent wisely. But three longer-term questions arise: (1) What is the cost of meeting Minnesota's priority water needs over the next 25 years? (2) How will we understand and decide what must be done and when to meet those needs? (3)

How can we devise an enduring source of funding to meet these needs and to encourage problem prevention and stewardship?

- (2) Geographic distribution of financial resources is not necessarily what is best for our water resource. "Fair share" distribution of financial resources is potentially "failure in action." Not all impaired waters are a priority in the short run. What are our crisis waters? What are our most challenged water basins? What are the waters that need protection? Should we be placing our financial resources in these places?
- (3) As general fund dollars shrink, there may not be enough money, even with legacy amendment dollars, to adequately address water quantity and quality issues.
- (4) Limited resources call for good decisions about how to best use available funding. Too often funding priorities are based on "random acts of conservation" rather than on the greatest problems or the sites with the greatest potential impact.
- (5) Should money be distributed geographically or targeted to the greatest need?
- (6) There is a tendency to chase the money rather than to let priorities drive policy.
- (7) A number of our water requirements create unfunded mandates for LGUs.
  - i. Some money needs to be spent on land solutions that impact water regardless of whether the land is adjacent to the water.
  - ii. Cost of municipal water treatment is increasing because of new chemicals.
- (8) The state's shift from general fund to fee-based funding affects flexibility and scope of government expenditures and shifts focus from managing the water for the public to providing service for the fee payer rather than protection and management of a public resource.
- (9) We do not clearly understand the connection between water and market incentives. Where can we best use these incentives?
- (10) The federal 319 grant process is too cumbersome to wade through and the state two-year funding cycle is too short.
- (11) Getting access to the necessary funding for water projects is unduly complicated.

- (12) Our infrastructure is starting to fail. How will we fund its replacement?
- d. In addition to funding, we need capacity at all scales, including leadership and knowledge.
  - (1) A sustainable water resource requires knowledgeable and wise people at all levels of governance. Needs include long-term continuity, knowledge (science, policy, social or human behavior, economic), experience, and systems thinking.
  - (2) LGUs need help building capacity to address changing water needs.
  - (3) We need a continuity of leadership over time.
  - (4) The Legislature is not prepared to provide continuing oversight of water quality and quantity.

### **3. *Themes of Significant Concern***

- a. Water policy and the tools we use to implement it—planning, regulation, BMPs, incentives, grants, demonstration projects, tax credits, etc.—can influence human and natural systems in positive and negative ways. Some laws and tools are not fully used, and some appear inadequate to meet the task.
  - (1) A broad array of social (government) and economic tools can be used. The challenge is to determine what mix to use, where to use them, and who will use them. The issue is further complicated because there are a number of tools through the various levels of government and agencies that struggle to interact in a positive and productive way without duplicating or contradicting each other. Water policies and tools do not sufficiently address current issues, but there are few drivers for change and many against. What is the appropriate scale at which to address water issues? Should we be looking at a large water basin approach for some things?
  - (2) Some NPDES sources argue there is a need to simplify permits and align permit and environmental review requirements.
  - (3) Nonpoint sources are our largest water quality problem in the TMDL program. The present system and tools do not adequately address the nonregulated, nonpoint problem in agricultural and nonregulated developed communities.
  - (4) Nonpoint programs are primarily voluntary, and we have no assurance they are implemented.

- i. We don't know if or how effective most BMPs are.
  - ii. Many doubt voluntary programs will work or have worked. Many feel we need tools with more clout than voluntary BMPs to address nonpoint.
  - iii. The TMDL program requires that water bodies meet TMDLs, but provides no tools other than regulation of point sources to do so. The state has imposed regulations on nonpoint sources such as septic fields and storm runoff, but row agriculture remains largely uncontrolled. Many perceive there are no real effective tools to deal with this significant contributor to water pollution. Additionally BMPs are low priorities for funding.
- (5) We are not managing our drainage system for the benefit of water resources. Longstanding statutes establish and preserve drainage benefits that may be incongruous with downstream interests or the environment.
- i. Drainage tile installation in some parts of the state is largely uncontrolled.
  - ii. There is a presumption that if wetlands are drained or filled they should be restored elsewhere, but wetlands are not always easily replaced.
- (6) There is confusion and a lack of clarity in the legal framework governing water.
- (7) Water quantity issues include:
- i. How should we best address water permit applications where water is scarce?
  - ii. We lack allocation plans by aquifer and watershed.
  - iii. Although Minnesota statute encourages water conservation, we do not adequately conserve or reuse water.
  - iv. We have not adequately explored the use of gray water in preparing for water scarcity.
  - v. Is water pricing a good thing? How might we best use it? Who would administer it? We have no legal framework for water pricing beyond appropriation fees, which cover infrastructure costs.

- (8) We have no timely method to deal with emerging contaminants or invasive species.
  - i. For emerging contaminants, we are moving from acute and chronic toxicity endpoints to more subtle endpoints (e.g., endocrine disruption).
  - ii. We assume LGUs can adjust sewage and wastewater systems to capture emerging contaminants. However, this imposes added costs and burdens they are not equipped to shoulder.
  - iii. We do not sufficiently consider synergistic impacts of chemicals in water.
  - iv. How do we control invasive species? How do we keep them out? Who is primarily responsible for keeping them out? Who will pay the cost?
- b. While Minnesotans are very concerned about water issues, they are not fully engaged. There appears to be a growing value shift.
  - (1) People appear to be less connected to the land. They do not necessarily understand Minnesota's water resource or how their actions contribute to water quantity and quality challenges. This is likely due to many factors, including a perception of abundance, a history of cheap water, and a lack of understanding of hydrology and geology. It makes it challenging to resolve pressing water issues.
  - (2) Low trust of science and government makes solving some of our more pressing environmental issues a challenge.
  - (3) Local engagement in these issues is insufficient. Some citizens do not perceive engagement processes as meaningful or worth their time.
  - (4) There is a tension between the private right to, and public ownership of, water.
    - i. While most Minnesotans value water as primarily a public, common-pool resource, growing sentiment emphasizes private rights over public good as it relates to land use and its impact on water as well as private withdrawal of water.
    - ii. We don't know how much water is withdrawn from public wells or the impact on groundwater tables, and we have no method to document these impacts.

- iii. Strong property rights culture is a challenge in farming communities at urban fringes where the city has no influence on how the tracts are developed but, after annexing them, inherits the water problems associated with development.
- c. We lack an integrated information and data management system that is available to and usable by citizens, political decision makers, agency staff, scientists, and educators.
- (1) Data are not fully accessible to the public or easily usable for government at all scales.
  - (2) Data collection is not fully integrated across agencies.
  - (3) Gaps include: data synthesis, modeling, and monitoring; ability to test effectiveness of BMPs; water supply and aquifer mapping; research and learning from other states and countries; documenting ecosystem impacts of land and water management practices and uses; adequate laboratory capacity to do proper analysis; technical and financial assistance to local officials; the right kind of information, including an understanding of system flux and surface water/groundwater interconnections, to make responsible water use decisions; refinement of aquifer protection thresholds; and defensible criteria to assess critical water levels or flow conditions to support healthy ecosystems.

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## **Appendix A. Minnesota Water Sustainability Framework Policy Technical Work Team**

### *Co-Chairs*

**Sherry Enzler**  
**University of Minnesota**  
**Institute on the Environment**

Sherry Enzler is executive director of the NorthStar Consortium at the Institute on the Environment and a research fellow in the Department of Forest Resources at the University of Minnesota, where she teaches environmental law and policy and conducts research at the intersect of law, society, water, and ecosystems. Enzler is also an adjunct faculty member at William Mitchell College of Law. She has served on the Minnesota Environmental Quality Board and as executive director of the Minnesota Office of Environmental Assistance, and practiced environmental law in the Minnesota Attorney General's Office.

**John Helland**  
**Board Member**  
**Minnesota Center for Environmental Advocacy**

John Helland is recently retired from the Minnesota House of Representatives, House Research, where he was a nonpartisan longtime legislative analyst on environment and natural resource issues. He was a founding member of the Rivers Council of Minnesota and an advisory board member of Northwoods Audubon, and is presently a board member of the Minnesota Center for Environmental Advocacy and an advisory board member of Conservation Minnesota.

### *Members*

**Dave Dempsey**  
**Director Communications**  
**Conservation Minnesota**

Dave Dempsey is communications director for Conservation Minnesota. Originally from Michigan, he is the author of four books on the Great Lakes and Michigan's environmental history. Dave served as environmental advisor to Michigan governor James J. Blanchard from 1983 to 1989. President Clinton appointed Dempsey to the Great Lakes Fishery Commission in 1994. Dempsey is author of two award-winning books on the environment.

**Shannon Fisher**  
**Director, Water Resource Center**  
**Mankato State University**

Shannon Fisher is associate professor of biology and director of the Water Resource Center at Mankato State University. Fisher also serves as executive director of the Minnesota Rivers Board. Fisher's background is in fisheries management, environmental planning, and watershed assessment. Research foci are currently on watershed drainage issues, aquatic biota ecology in relation to impaired waters, and water quality credit trading.

**Ann Glumac**  
**President**  
**Glumac Enterprises Executives**

Ann Glumac is a business communication consultant in the Arrowhead region and works with businesses and other interests on environmental issues. Ann has served as assistant commissioner of the Minnesota Pollution Control Agency, assistant commissioner of the Iron Range Resources and Rehabilitation Board, and director of the Great Lakes Aquarium. She began her career working with the late Representative Willard Munger.

**Ron Harnack**  
**Citizen**

Ron Harnack recently retired from the position of executive director of the Minnesota Board of Water and Soil Resources and currently serves as project coordinator of the Red River Watershed Management Board. Harnack has also served in the Water Resources Division of the Department of Natural Resources.

**Craig Johnson**  
**Intergovernmental Relations Representative**  
**Minnesota League of Cities**

Craig Johnson is the environmental policy coordinator for the League of Minnesota Cities. Johnson began his career with Clean Water Action and has served as a legislative lobbyist for the Minnesota Center for Environmental Advocacy. During the Ventura administration, Johnson served as the clean water legacy coordinator for the Minnesota Pollution Control Agency before he was transferred to the governor's office, where he served as chief environmental advisor to Governor Ventura.

**Brad Karkkainen**  
**Professor of Law**  
**University of Minnesota**

Brad Karkkainen is a professor of law at the University of Minnesota, where he teaches environmental law, water law, and land use law. He is a nationally recognized authority in the fields of environmental and natural resources law. Karkkainen holds the Henry J. Fletcher Chair at the University of Minnesota Law School. Prior to joining the University of Minnesota faculty, Karkkainen held a visiting appointment at the University of California-Berkeley (Boalt Hall) in 2002-03, and was associate professor at Columbia Law School in New York City from 1995 to 2003.

**Kent Lokkesmoe**  
**Director of Waters**  
**Minnesota Department of Natural Resources**

Kent Lokkesmoe has spent the bulk of his professional career serving the citizens of Minnesota at the Minnesota Department of Natural Resources. For the past 20 years Kent has served as the DNR Water Resources division director.

**Brad Moore**  
**Senior Advisor – Public Affairs**  
**Barr Engineering**

Brad Moore serves as a senior advisor and public affairs consultant at Barr Engineering, a regional environmental consulting firm. Prior to joining Barr, Moore served as commissioner of the Minnesota Pollution Control Agency and as assistant commissioner at the Minnesota Department of Natural Resources. Moore began his career at the DNR as a planner.

**Tim Scherkenbach**  
**Deputy Commissioner**  
**Minnesota Pollution Control Agency**

Tim Scherkenbach is deputy commissioner of the Minnesota Pollution Control Agency. Scherkenbach has worked on water-related issues at the MPCA since the agency was founded in 1967. Tim has held numerous management positions at the MPCA.

**Shelley Shreffler**  
**Assistant Director**  
**Legislative Citizens Commission on Minnesota Resources**

Shelley Shreffler is the assistant director of the Legislative-Citizen Commission on Minnesota Resources (LCCMR). Prior to joining the LCCMR, Shreffler worked on numerous water-related projects at the Minnesota Environmental Initiative, the McKnight Foundation, and the St. Paul Energy Neighborhood Consortium.

**Rob Sip**  
**Environmental Policy Specialist**  
**Department of Agriculture**

Rob Sip is the environmental policy coordinator for the Minnesota Department of Agriculture. Sip formerly worked for a soil and water conservation district in western Minnesota.

**John Wells**  
**Strategic Planning Director**  
**Minnesota Environmental Quality Board**

John Wells is the water policy director for the Minnesota Environmental Quality Board. Wells began his career in state service as a water planner for the Minnesota Water Planning Board.

*Ex-Officio*

**Martha Brand, Esq.**  
**Citizen**

Martha Brand is an experienced environmental attorney and immediate past director of the Minnesota Center for Environmental Advocacy (MCEA). Prior to joining the MCEA she served as a partner in the Minneapolis Law firm of Leonard, Street and Dienard practicing environmental law. Martha served for several years as committee chair of the Water Resource Committee and as board chair of American Rivers. She currently serves on the board of the Minnesota Environmental Initiative.

## **Appendix B. Presenters**

**Freshwater Society**  
**Minnesota Citizens League**  
Gene Merriam  
President Freshwater Society  
Chair Citizens League  
Water Policy Study Committee

**University of Minnesota**  
David Fairbairn  
Graduate Student  
Water Resources Center  
University of Minnesota

**Association of Minnesota Counties**  
Victoria Reinhardt  
Ramsey County Commissioner  
AMC Natural Resource Committee  
Chair

**Minnesota League of Cities**  
Craig Johnson  
Intergovernmental Relations  
Representative

**Metropolitan Council**  
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## **Appendix C. Policy Technical Team Questions for Presenters**

The Water Policy Team of the Minnesota Water Sustainability Framework has asked the various state and local agencies/units of governments to provide input to the Water Policy Team, which is charged with developing a white paper on the history of water policy in Minnesota for presentation to the Headwaters Council. The paper will include: what has been accomplished in terms of water policy in Minnesota; gaps or issues that have not been addressed by Minnesota's water policy; and a statement of issues to be addressed in the Minnesota Water Sustainability Framework.

To focus the Policy Team's inquiry we ask that you focus on the following questions in your presentation and limit your presentation to 15-20 minutes, as we would like to leave 10 minutes for questions from Team Members.

### ***Questions***

What is your agency's understanding of the State of Minnesota's current water policy?

Outline that portion of the state's water policy under your agency's jurisdiction.

From your agency perspective where are the major gaps in Minnesota's water policy? Where do you think we lack policy directives?

From your agency perspective what are the primary water policy issues that we will be facing in the next 20 years, 50 years? Are we prepared to meet them? Why or why not.

Are there any existing state policies that conflict with or undermine the state's water policies or the adoption of a sustainable water future for Minnesota? What are they?

Are there any existing water policies that are not being implemented? What are they?

From your agency's perspective what should the state do if it wants to assure the sustainability of the state's water resources?

For purposes of our discussions "water use is sustainable when the use does not harm ecosystems, degrade water quality, or compromise the ability of future generations to meet their own needs." 2009 Minn. Laws Ch. 172, Art 2 § 30(a) at 45.

**Appendix D. Minnesota Water Policy Statutes and Rules**

<i>CHAPTER</i>	<i>SECTION</i>	<i>DESCRIPTION</i>	<i>AGENCY</i>	<i>THEME</i>
<i>Minn. Stat. Ch. 1</i>	<i>Minn. Stat. § 1.21 -- Great Lakes Basin Compact</i>	<i>Comprehensive development, use, and conservation of the water resources of the Great Lakes Basin</i>		<i>Policy - Great Lakes</i>
<i>Minn. Stat. Ch. 17 -- Department of Agriculture</i>	<i>Minn. Stat. § 17.114 -- Sustainable Agriculture</i>	<i>MDA provides education, assistance, information, coordination, etc., re sustainable agriculture (resource conserving practices that enhance the enrichment of the environment) and integrated pest management</i>	<i>MDA</i>	<i>Policy - Sustainable Ag</i>
	<i>Minn. Stat. §§ 17.4981-17.4997 -- Aquatic Farms</i>	<i>Prevents public aquatic life from entering an aquatic farm; release of nonindigenous and exotic species into public waters; and release of disease pathogens. Protects private and natural aquatic life.</i>	<i>MDA</i>	<i>Aquaculture</i>
	<i>Minn. Stat. § 17.80 -- State Agricultural Land Preservation and Conservation Policy</i>	<i>Re water: Conservation and enhancement of soil and water resources to ensure their long-term quality and productivity</i>	<i>MDA</i>	<i>Policy - Conservation</i>
<i>Minn. Stat. Ch. 18B -- Pesticide Control</i>	<i>Minn. Stat. § 18B.045 -- Pesticide Management Plan</i>	<i>Requires development of a pesticide management plan for the prevention, evaluation, and mitigation of occurrences of pesticides or pesticide breakdown products in groundwaters and surface waters of the state</i>	<i>MDA/Reports to EQB/Cooperation with stakeholders</i>	<i>Planning - Pesticides</i>
	<i>Minn. Stat. § 18B.10 -- Action to Prevent Groundwater Contamination</i>	<i>Commissioner may take action to prevent contamination of groundwater by pesticides</i>	<i>MDA</i>	<i>Enforcement - Pesticides</i>
<i>Minn. Stat. Ch. 40A</i>	<i>Minn. Stat. § 40.01 -- State Agricultural Land Preservation Policy</i>	<i>Preserve and conserve agricultural lands and soil and water resources</i>	<i>MDA</i>	<i>Policy - Conservation</i>

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<i>Minn. Stat. Ch. 84</i>	<i>Minn. Stat. §§84.941-84.942 -- Fish and Wildlife Resources Management Plan</i>	<i>Fish and wildlife are renewable natural resources to be conserved and enhanced through planned scientific management, protection, and utilization</i>	<i>DNR</i>	<i>Policy - Conservation</i>
<i>Minn. Stat. Ch. 84C -- Conservation Easements</i>		<i>Maintaining or enhancing water quality valid grounds for establishment</i>	<i>DNR</i>	<i>Policy - Conservation Easements</i>
<i>Minn. Stat. Ch. 84D -- Invasive Species</i>		<i>Prevent and curb the spread of invasive species of aquatic plants and wild animals</i>	<i>DNR</i>	
<i>Minn. Stat. Ch. 97A -- Game and Fishing</i>		<i>Fish consumption, hatcheries, waterfowl, access, fishing in protected areas, inspections, enforcement possession and transportation of fish</i>	<i>DNR</i>	
<i>Minn. Stat. Ch. 97C -- Fishing</i>		<i>Habitat and protected waters, no pollutants in water, regulations on specific types of fishing, seasons</i>	<i>DNR</i>	
<i>Minn. Stat. Ch. 103A - - Minnesota Water Policy</i>	<i>Minn. Stat. §103A.201 -- Regulatory Policy</i>	<i>Conserve and use water resources in best interest of people, state controls public waters, wetlands provide public value, no net loss, wetlands protection and restoration</i>		
	<i>Minn. Stat. §103A.202 -- Wetland Policy</i>	<i>Public interest to preserve wetlands and wetland functions</i>		<i>Policy - Wetlands</i>
	<i>Minn. Stat. §103A.203 -- Hydropower Policy</i>	<i>Public good promoted by use of hydropower, leasing of sites for power generation is a valid public purpose</i>		<i>Policy - Hydropower</i>

<p><i>Minn. Stat. §103A.204 -- Groundwater Policy</i></p>	<p><i>EQB: coordination of state groundwater protection programs, preparation of report on policy issues to be included in assessment in 103A.43 and Minnesota Water Plan in 103B.151; PCA: water quality monitoring and reporting and the development of BMPs and regulatory mechanisms for protection of groundwater from nonagricultural chemical contaminants; MDA: sustainable agriculture, IPM, water quality monitoring, and the development of best management practices and regulatory mechanisms for protection of groundwater from agricultural chemical contaminants; BWSR: reporting on groundwater education and outreach with local government officials, local water planning and management, and local cost-share programs; DNR: water quantity monitoring and regulation, sensitivity mapping, and development of a plan for the use of integrated pest management and sustainable agriculture on state-owned lands; MDH: regulation of wells and borings, and the development of health risk limits under section 103H.201</i></p>	<p><i>EQB/PCA/MDA/BWSR/DNR/MDH</i></p>	<p><i>Policy - Groundwater</i></p>
<p><i>Minn. Stat. §103A.205 -- Conservation Policy for Rainwater</i></p>	<p><i>It is the policy of the state to promote the retention and conservation of all water precipitated from the atmosphere in the areas where it falls, as far as practicable</i></p>		<p><i>Policy - Rainwater</i></p>
<p><i>Minn. Stat. §103A.206 -- Soil and Water Conservation Policy</i></p>	<p><i>Maintaining and enhancing the quality of soil and water for the environmental and economic benefits they produce, preventing degradation, and restoring degraded soil and water resources of this state contribute greatly to the health, safety, economic well-being, and general welfare of this state and its citizens</i></p>		<p><i>Policy - Conservation</i></p>

<i>Minn. Stat. §103A.207 -- Floodplain Management Policy</i>	<i>It is the policy of this state to reduce flood damages through floodplain management, stressing nonstructural measures such as floodplain zoning and flood proofing, and flood warning practices.</i>		<i>Policy - Floodplains</i>
<i>Minn. Stat. §103A.208 -- Scenic River Protection Policy</i>	<i>Certain rivers and adjacent lands possess outstanding scenic, recreational, natural, historical, scientific and similar values. It is in the interest of present and future generations to retain these values, and a policy of the state, and an authorized public purpose to preserve and protect these rivers.</i>		
<i>Minn. Stat. §103A.209 -- Marginal, Erodeable Land Retirement Policy</i>	<i>It is state policy to encourage the retirement of marginal, highly erodible land, particularly land adjacent to public waters and drainage systems, from crop production and to reestablish a cover of perennial vegetation.</i>		<i>Policy - Land Retirement</i>
<i>Minn. Stat. §103A.211 -- Water Law Policy</i>	<i>Statutes must be considered as a whole to systematically administer water policy for the public welfare. Seemingly contradictory law creates need for a public forum and consideration of the whole body of water law.</i>		<i>Policy - Water Law</i>
<i>Minn. Stat. §§103A.301-103A.341</i>	<i>Vests with BWSR authority to intervene in any proceeding brought under Minn. Stat. Ch. 103B - 103G to determine questions of water policy. Intervention premised on petition brought by applicant in the proceeding, any party in the proceeding, the governor, the agency or executives within agencies or other persons</i>	<i>BWSR (primary)/Any state agency (petitioner)</i>	<i>Policy - Determination</i>
<i>Minn. Stat. §§103A.401 et seq</i>	<i>Requires creation of statewide water information system</i>	<i>DNR -- Lead agency/EQB insure groundwater nitrate data in</i>	<i>Data Collection</i>

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			<i>database/All other state agencies + LGUs to cooperate</i>	
<i>Minn. Stat. Ch. 103B - Water Planning &amp; Project Implementation</i>	<i>Minn. Stat. §§103B.101-102</i>	<i>Establishes BWSR and gives oversight over "local water management entities"</i>	<i>BWSR</i>	<i>Organizational &amp; Administrative - Oversight</i>
	<i>Minn. Stat. §§103B.151-155</i>	<i>Statewide Water Resource Planning - EQB responsibility for state water policy plan and recommendations, coordinate water resource management and regulation among state agencies. DNR lead to prepare statewide framework and assessment of water and related land resources</i>	<i>DNR/EQB</i>	<i>Planning</i>
	<i>Minn. Stat. §§103B.201-211</i>	<i>Metropolitan Surface Water Management. Purpose = protect and preserve water resources in metro area, minimize flooding, maintain water quality, promote groundwater recharge and secure benefits of proper management of water resources. Establishes cooperation mechanisms through joint power agreements between LGU, watershed districts responsible for water planning. BWSR has oversight</i>	<i>LGUs, Watershed Districts, BWSR</i>	<i>Planning &amp; Policy</i>
	<i>Minn. Stat. §§103B.215-103B.230</i>	<i>Watershed Districts boundaries and Watershed management organizations management, governance &amp; oversight.</i>	<i>BWSR, Watershed Districts</i>	<i>Administrative -- Oversight</i>
	<i>Minn. Stat. §§103B.231-103B.235</i>	<i>Watershed Management Plans. Where watershed management organizations prepared by applicable watershed management organizations, enforced by counties with BWSR, oversight of plan preparation and content BWSR in consultation with state agencies and Met</i>	<i>watershed management organizations, BWSR, Counties, Hennepin or Ramsey County,</i>	<i>Planning &amp; Plan implementation</i>

	<i>Council. LGUs to prepare local water management plan, capital improvement program and official controls to be in conformance with Watershed plans. BWSR to review rules.</i>	<i>Metropolitan council and other applicable LGUs</i>	
<i>Minn. Stat. §§103B.245-103B.253</i>	<i>Watershed District taxing authority, bonding authority, funding capitol improvements and Emergency Projects. LGUs Emergency projects and county levy Authority</i>	<i>Watershed Districts &amp; LGU</i>	<i>Funding &amp; Capital Improvements</i>
<i>Minn. Stat. §103B.255</i>	<i>Groundwater Management in the Metropolitan Area, Groundwater plans by Metro counties</i>	<i>Met. Council, BWSR &amp; Met. Counties</i>	<i>Planning</i>
<i>Minn. Stat. §§103B.301 et. seq. -- Comprehensive Local Water Management Act</i>	<i>Encourages counties to develop and implement a local water management plan &amp; sets forth plan requirements. Plan reviewed by state agencies and approved by BWSR. Local governments may appeal a disapproval. LGU required to amend water and related land plans and controls to conform with approved water management plan. Upon approval of plan County or other LGU has authority to levy taxes</i>	<i>Counties, LGU, BWSR</i>	<i>Planning, Plan Implementation &amp; Funding</i>
<i>Minn. Stat. § 103B.3361 - §103B.3369 -- Local Water Resources Protection and Management Program</i>	<i>Establishes a local water resources management program at BWSR and permits BWSR to give funding to LGUs to protect and manage water and related land quality. State agencies can give priority to local funding request of communities with comprehensive local water plan</i>	<i>BWSR</i>	<i>Funding</i>
<i>Minn. Stat. §103B.451 -- South Dakota - Minnesota Boundary Waters Commission</i>	<i>Est. Minnesota South Dakota Boundary waters commission to facilitate interstate control of water levels, distribute funding etc.</i>	<i>DNR</i>	<i>Interstate Cooperation</i>

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	<i>Minn. Stat. §§ 103B.501-581 -- Lake Improvement Districts Law</i>	<i>Establishes Lake Improvement Districts to preserve, protect and enhance use and enjoyment of lakes. County Boards or DNR establish. Managed by board of directors appointed by county. County can undertake improvement projects and assess cost of projects on benefiting properties within the district. County ordinances are enforced within</i>	<i>Counties, DNR</i>	<i>Organizational &amp; Administrative Funding</i>
	<i>Minn. Stat. §§ 103B.601-103B.691</i>	<i>Special statutory provisions applying to Lake Minnetonka Conservation District, White Bear Lake Conservation District</i>		
	<i>Minn. Stat. §§ 103B.701</i>	<i>Est. Minnesota Star Lake and Rivers Program</i>		
<i>Minn. Stat. Ch. 103C - Soil and Water Conservation Districts</i>	<i>Minn. Stat. § 103C.005 -- Soil and Water Conservation Policy</i>	<i>Policy of the state to maintain and enhance soil and water quality. Land occupiers have responsibility to implement soil and water conservation practices.</i>		<i>Policy - Soil and Water Conservation</i>
	<i>Minn. Stat. §§ 103C.201 et. seq.</i>	<i>Soil and water conservation districts: formation, annexation, consolidation, discontinuation, cooperation with public agencies, elections, powers</i>	<i>SWCD/Other public agencies cooperate</i>	
	<i>Minn. Stat. § 103C.401 -- Board of Water and Soil Resources</i>	<i>Powers and duties - assist, inform, coordinate district boards; identify research needs; develop programs and practices; prioritize</i>	<i>BWSR</i>	<i>Organizational &amp; Administrative</i>
	<i>Minn. Stat. §§ 103C.405 et. seq.</i>	<i>Soil and water conservation projects, planning, funding</i>	<i>SWCD</i>	
<i>Minn. Stat. Ch. 103D - Watershed Districts</i>	<i>Minn. Stat. § 103D.101 -- Board of Water and Soil Resources</i>	<i>Board has authority to establish a watershed district, define boundaries, and appoint first board of managers</i>	<i>BWSR</i>	<i>Organizational &amp; Administrative</i>
	<i>Minn. Stat. § 103D.401 --</i>	<i>Description of existing water and water-related problems within the watershed</i>	<i>BWSR/Met Council</i>	<i>Planning - Watershed</i>

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	<i>Watershed Management Plan</i>	<i>district, possible solutions to the problems, and the general objectives of the watershed district.</i>		<i>Management</i>
<i>Minn. Stat. Ch. 103E - Drainage</i>	<i>Minn. Stat. § 103E.011 -- Drainage Authority Powers</i>	<i>Drainage authority may construct, maintain or alter drainage systems. Public water subject to replacement/water bank provisions under 103G.215.</i>	<i>County/DNR</i>	<i>Administrative</i>
<i>Minn. Stat. Ch. 103F - Protection of Water Resources</i>	<i>Minn. Stat. § 103F.101-103F.155 -- Floodplain Management Law</i>	<i>It is the policy of this state to reduce flood damages through floodplain management, stressing nonstructural measures such as floodplain zoning and flood-proofing, flood warning practices, and other indemnification programs that reduce public liability and expense for flood damages.</i>	<i>DNR/LGU</i>	<i>Policy - Floodplains</i>
	<i>Minn. Stat. §§ 103F.301-103F.345 -- Minnesota Wild and Scenic Rivers Act</i>	<i>Certain of Minnesota's rivers and their adjacent lands possess outstanding scenic, recreational, natural, historical, scientific and similar values. It is in the interest of present and future generations to retain these values, and a policy of the state, and an authorized public purpose to preserve and protect these rivers.</i>		<i>Policy - Wild and Scenic Rivers</i>
	<i>Minn. Stat. §§ 103F.401-103F.455 -- Soil Loss</i>	<i>Excessive soil loss prohibited. Ag exempted if using BMPs.</i>	<i>BWSR/Counties/SWCD</i>	
	<i>Minn. Stat. §§ 103F.505-10F.531</i>	<i>Restore marginal agricultural land and protect environmentally sensitive areas to enhance soil and water quality, minimize damage to flood-prone areas, sequester carbon, and support native plant, fish, and wildlife habitats. It is state policy to encourage the restoration of wetlands and riparian lands and promote the retirement of marginal, highly erodible land, particularly land adjacent to public waters, drainage systems, wetlands, and locally</i>		<i>Policy - Conservation</i>

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		<i>designated priority waters.</i>		
	<i>Minn. Stat. §§ 103F.612 et. seq. -- Wetland Preservation Areas</i>	<i>Wetland owner may apply for Wetland Preservation Areas. Establishment, duration, conservation practices</i>	<i>LGU</i>	<i>Wetlands</i>
	<i>Minn. Stat. §§ 103F.701-103F.761 -- Clean Water Partnership Program</i>	<i>Competitive matching funds and technical assistance to LGUs to address nonpoint sources of pollution</i>	<i>LGU</i>	
<i>Minn. Stat. Ch. 103G - Waters of the State</i>	<i>Minn. Stat. §§ 103G.222-103G.2373 -- Wetland Conservation Act</i>	<i>In general, draining, filling or excavating a wetland is prohibited unless exempt activity or replaced by new or rehabilitated wetland of "equal public value"</i>	<i>LGU/BWSR</i>	<i>Policy - Wetlands</i>
	<i>Minn. Stat. § 103G.261 -- Water Allocation Priorities</i>	<i>(1) Domestic, (2) Less than 10,000 gallons, (3) Ag irrigation, (4) Power, (5) Other ag, (6) Nonessential uses</i>	<i>DNR</i>	<i>Allocation</i>
	<i>Minn. Stat. §§ 103G.265-103G.271, 103G.295 -- Water Use</i>	<i>Permit required to withdraw well water or divert/pump surface water in excess of 10,000 gallons per day or 1 million gallons per year</i>	<i>DNR</i>	
	<i>Minn. Stat. § 103G.281 -- Water Use Prohibited Without Measuring Quantities</i>	<i>Measuring and recording required for appropriation and use of waters of the state</i>	<i>DNR</i>	

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	<i>Minn. Stat. § 103G.285 -- Surface Water Appropriations</i>	<i>Limits on appropriations, contingency planning</i>		
	<i>Minn. Stat. § 103G.291 -- Public Water Supply Plans; Appropriation During Deficiency</i>	<i>Water conservation restrictions required when critical water deficiency declared</i>		
	<i>Minn. Stat. § 103G.295 -- Irrigation of Agricultural Lands</i>	<i>Issuance of permits requires soil and water conservation and available water supply</i>	<i>SWCD/DNR</i>	
	<i>Minn. Stat. § 103G.801 -- Great Lakes-Saint Lawrence River Basin Water Resources Compact</i>	<i>To protect, conserve, restore, improve and manage waters of the basin; provide for cooperation; prevent significant adverse impacts of withdrawals; promote interstate and state-provincial comity</i>	<i>States/Provinces</i>	
<i>Minn. Stat. Ch. 103H - Groundwater Protection</i>		<i>Requires interagency effort to identify and protect susceptible groundwater areas, monitor groundwater quality, develop and revise drinking water pollutant thresholds, and address sources of contamination via voluntary or regulatory measures</i>		
	<i>Minn. Stat. § 103H.151 -- Best Management Practices</i>	<i>Development, education, promotion, evaluation</i>	<i>PCA/MDA for Ag chemicals and practices</i>	
	<i>Minn. Stat. § 103H.175 -- Groundwater Quality Monitoring</i>	<i>Results submitted to the Minnesota Geospatial Information Office</i>	<i>PCA report to EQB and Legislature</i>	<i>Monitoring - Groundwater Quality</i>
	<i>Minn. Stat. § 103H.201 --</i>	<i>Procedure, adoption, review and revision</i>	<i>MDH</i>	

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	<i>Health Risk Limits</i>			
<i>Minn. Stat. Ch. 1031 -- Wells, Borings, and Underground Uses</i>		<i>Well construction and sealing, licensing and regulation</i>	<i>MDH</i>	
<i>Minn. Stat. Ch. 110A -- Rural Water User Districts</i>		<i>Conservation of the state's water resources is a state function, and the public interest, welfare, convenience, and necessity require the creation of water user districts and the construction of systems of works, in the manner provided, for the conservation, storage, distribution, and use of water.</i>		<i>Policy - Rural Water Use Districts</i>
<i>Minn. Stat. Ch. 114D -- Clean Water Legacy Act</i>		<i>Purpose is to protect, restore, and preserve the quality of Minnesota's surface waters</i>	<i>MPCA/LGU</i>	<i>Water Quality</i>
<i>Minn. Stat. § 114D.20 -- Implementation; Coordination; Goals; Policies; and Priorities</i>		<i>Goal - Achieve compliance with the Clean Water Act through TMDLs</i>	<i>PCA/Clean Water Council</i>	
<i>Minn. Stat. § 114D.30 -- Clean Water Council</i>		<i>Advise on administration and implementation, foster cooperation</i>	<i>Clean Water Council</i>	
<i>Minn. Stat. § 114D.35 -- Public and Stakeholder Participation; Scientific Review; Education</i>		<i>Encourage public participation; make use of expert scientific advice; develop education strategies</i>	<i>MPCA</i>	
<i>Minn. Stat. § 114D.45 -- Clean</i>		<i>An account in the environmental fund made available for implementation of Clean</i>		<i>Funding</i>

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	<i>Water Legacy Account</i>	<i>Water Legacy Act</i>		
	<i>Minn. Stat. § 114D.50 -- Clean Water Fund</i>	<i>Spent to protect, enhance, and restore water quality in lakes, rivers, and streams and to protect ground and drinking water</i>		
<i>Minn. Stat. Ch. 115 -- Water Pollution Control; Sanitary Districts</i>	<i>Minn. Stat. §§ 115.01-115.09 -- State Water Pollution Control Act</i>	<i>Administration of water pollution laws; pollution investigation; establishment of standards; regulation and enforcement; information and monitoring; cooperation</i>	<i>MPCA</i>	
	<i>Minn. Stat. §§ 115.41-115.53</i>	<i>Policy of state to provide for prevention, control, and abatement of pollution of all waters of the state; phosphorus reduction; classification of waters; quality and quantity standards; notification; compliance</i>		
	<i>Minn. Stat. §§ 115.61-115.67 -- Regional Sanitary Sewer District Law</i>	<i>Municipal corporation and governmental subdivision of the state, responsible for acquiring, constructing, improving, extending, operating, and maintaining facilities for the collection, treatment, and disposal of sewage and industrial and other wastes received from the sewer systems of all municipalities within its corporate limits, for the purpose of preventing pollution of public waters</i>	<i>LGU</i>	<i>Organizational &amp; Administrative</i>
<i>Minn. Stat. Ch. 116 -- Pollution Control Agency</i>	<i>Minn. Stat. § 116.16 -- Minnesota State Water Pollution Control Program</i>	<i>Financial assistance for agencies and state subdivisions for prevention, control, and abatement of water pollution</i>		<i>Funding</i>
	<i>Minn. Stat. § 116.21 -- Nutrients in Cleaning Agents and Water Conditioners,</i>	<i>MPCA is encourages to set standards limiting amount of nutrients in cleaning agents and water conditioners</i>	<i>MPCA</i>	<i>Water Quality</i>

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	<i>Control</i>			
<i>Minn. Stat. Ch. 116A -- Public Water and Sewer Systems</i>		<i>County boards (except metro area) and district courts authorized to make all necessary orders for, and cause to be constructed and maintained, public water or sewer systems or combined water and sewer systems, including outlets, treatment plants, pumps, lift stations, service connections, mains, valves, hydrants, wells, reservoirs, tanks, and other appurtenances of public water or sewer systems</i>	<i>LGU</i>	<i>Organizational &amp; Administrative</i>
<i>Minn. Stat. Ch. 116C -- Environmental Quality Board</i>		<i>Coordination of state agencies on problems and solutions related to the environment</i>	<i>EQB</i>	<i>Organizational &amp; Administrative</i>
<i>Minn. Stat. Ch. 116D -- Environmental Policy</i>		<i>State policy to encourage harmony between humans and environment; promote efforts to prevent damage to the environment; enrich understanding of ecological systems and natural resources</i>		<i>Policy - Environmental</i>
<i>Minn. Stat. Ch. 116G -- Critical Areas Act of 1973</i>		<i>State should identify areas of critical concern and assist and cooperate with LGU in preparation of plans and regulations for wise use</i>	<i>EQB/LGU/Met Council</i>	<i>Policy - Critical Areas</i>
<i>Minn. Stat. Ch. 116P -- Environment and Natural Resources Trust Fund</i>		<i>Trust fund account, expenditures, administration; establishment of LCCMR; loan programs</i>		<i>Funding</i>
<i>Minn. Stat. Ch. 116Q -- Great Lakes</i>		<i>Permanent endowment created by Great Lakes governors</i>		<i>Funding</i>

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<i>Protection Fund</i>				
<i>Minn. Stat. Ch. 473</i>	<i>Minn. Stat. § 473.157 -- Water Resources Plan</i>	<i>Met Council adopts plan that includes management objectives and target pollution loads for metro watersheds, issues recommendations to BWSR</i>	<i>Met Council/BWSR</i>	<i>Planning</i>

## **Appendix E. Minnesota State Agencies, Boards, and Local Units of Government Responsible for State Water Policies**

### Board of Water and Soil Resources:

The Board of Water and Soil Resources works with private landowners and local governments to foster good land and water stewardship by utilizing technical and financial assistance. Programs include the state cost-share with local soil and water conservation districts; comprehensive local water management and planning grants; the RIM program to retire marginal agricultural land; the Wetland Conservation Act implementation; and metro area water plans.

### Department of Natural Resources:

The Department of Natural Resources is responsible for the water appropriation permit system, public waters permits, groundwater monitoring and conservation principles; water recreation and invasive species concerns; flood hazard mitigation and floodplain management; shoreland and wild and scenic river protection; water supply and planning; the Great Lakes Compact; dam safety and water levels; and stream flow monitoring and water mapping.

### Pollution Control Agency:

The Pollution Control Agency works to protect, improve and restores water quality through clean water partnership grants; storm water programs, septic system standards and financing; point source permitting programs and nonpoint source cleanup programs; clean water monitoring; sewage treatment plant capacity; feedlot and impaired waters programs; acid precipitation; leaking landfills remediation programs and the leaking underground storage tanks program. The Pollution Control Agency, through compact with the Environmental Protection Agency, is also responsible for implementing the requirements of the Federal Clean Water Act.

### Clean Water Council:

The Clean Water Council is an advisory body that develops recommendations to the governor and Legislature on priority spending programs for surface water quality programs and projects.

### Department of Health:

The Department of Health administers the Federal Safe Drinking Water Act to insure adequate public drinking water. It is responsible for administration of the Water Well Construction Code, including certifying contractors, analyzing water samples, and issuing permits for construction and sealing of wells. This department also establishes groundwater health risk limits.

### Environmental Quality Board:

The Environmental Quality Board is responsible for development of the state water plan and the coordination of public water programs. It makes periodic reports to the governor and Legislature on the results of water quality and availability trends assessments by the MPCA and the DNR and related policy recommendations on water program needs.

### Department of Agriculture:

The Department of Agriculture implements the state Pesticide Control Act and accompanying federal law and oversees the development and implementation of best management practices

(BMPs) for herbicide application; fertilizer, soil and plant amendment practices; and applicable farm loan programs designed to encourage implementation of BMPs.

**Department of Transportation:**

The Department of Transportation is responsible for replacing wetlands impacted by road projects; managing stormwater runoff, performing road salt and water quality analysis; and regulating materials and waste transported through the state.

**Metropolitan Council:**

The Metropolitan Council conducts water management planning in the Twin Cities seven-county area and operates wastewater treatment plants in the region.

**Counties:**

Minnesota's 87 counties are each responsible for local water management and land use planning (some delegating to SWCDs) and for maintenance of water and sewer systems in unincorporated areas within their boundaries.

**Cities and Towns:**

Minnesota's cities and counties are the primary land use agencies of Minnesota. In that capacity they make zoning, permitting, and land use decisions relating to local water resources; manage water and sewer programs; and are responsible for implementing state stormwater regulations. In their capacity as managers of wastewater treatment facilities they interact with point sources to assure that wastewater treatment discharges comply with state and federal standards.

**Soil and Water Conservation Districts:**

Minnesota's soil and water conservation districts cover most of Minnesota's 87 counties, generally sharing boundaries. The elected board members of these districts manage soil erosion and other land conservation practices that can affect water bodies.

**Watershed Districts:**

Minnesota's 45 watershed districts are located on about one-third of the state's land surface. They employ taxing authority to regulate, conserve, and control the use of water within their jurisdiction. They partner with other water authorities to monitor groundwater and surface water levels and manage drainage systems.

**Watershed Management Organizations:**

Minnesota's watershed management organizations operate in the Twin Cities metro area outside of watershed district jurisdictions under a joint powers arrangement, and perform the same functions as watershed districts, although they do not all have taxing authority.

**Lake Improvement Districts:**

Lake improvement districts are established through local government petition or resolution or by the commissioner of natural resources to protect lakes and shoreland environments. Powers are delegated to lake improvement districts by the county boards.

## **Appendix F. Ranking Criteria**

### **Criteria for Ranking Issues, Needs and Gaps February 4, 2010**

1. From a strategic viewpoint what are the most important issues and needs to address?
  - a. Is the issue a strategic leverage point which can result in broad positive change
  - b. Is the change self-sustaining across social, environmental and economic systems
2. What is the potential impact of resolving this need or addressing this gap on the quality of the resource?
3. What is our ability to impact or change behavior in this area?
4. What is our ability to get it done? What is the level of effort required, the chances of success, and the cost? Do we have the political resources or will to get it done?
5. Does addressing this issue benefit a significant portion of the state's water system?
6. Do we have the scientific knowledge and technical ability to address the issue? Can we afford to wait for scientific certainty to act?