2019 Legislative Recommendations
Legislative Water Commission
Combined Recommendation
DRAFT, for discussion
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Background: In 2008 Minnesota's citizens passed the Clean Water, Land and Legacy Amendment to the Constitution that dedicated a portion of the state sale's tax for water. These resources created significant opportunities to achieve a sustainable water future for our state. Much has been accomplished, including research, monitoring, mapping, planning and implementation. However, recent information suggests that improvements to our state's water, when the amendment expires in 2034, may not meet citizen expectations. As the amendment period reaches a half-way point, there is need to reflect and refocus on a desired future state for water for 2034 and beyond. The citizens of Minnesota, local governments, the Clean Water Council, the Lessard Sams Outdoor Heritage Council, the Legislative-Citizen Commission on Minnesota's Recourses, the Administration, and the Legislature each have important roles and responsibilities to work together in prioritizing, funding, implementing, and evaluating environmental programs aimed at improving our water, increasing our return on investment, and reaching a desired future state for water. To ensure adequate and clean water for the future, we must balance long-term plans for conserving and protecting our natural resources with those for ensuring a healthy public and healthy economy. This is a long-term issue that will require our leaders to think about the future and in the best interest of our children and grandchildren.

There are several plans and reports that lay the groundwork for a strategy for the desired future for our water resources. Some of those recommendations have been accomplished. Others are included in the following draft recommendations from the Legislative Water Commission. The recommendations employ an interdisciplinary approach with multiple perspectives and expertise.

The draft recommendations that follow represent those having the greatest support, based on stakeholder input. They are listed in two ways.

- **The first list is abbreviated. The underlined recommendations have strong stakeholder support. The others also had significant stakeholder support. Recommendations with little support have been eliminated.**
- **The second part of the document provides additional detail.**

In addition, there are six background papers that provide a foundation for these recommendations. Those papers also are available on request. The following recommendations are not listed in priority order.

2019 Legislative Recommendations
Short Recommendation Descriptions
Focused Water Legislation:

A1) Over-use of salt impairs our lakes, rivers and groundwater--Limit overuse of chloride deicing chemicals on public and commercial parking logs and sidewalks (short term issue).
A2) Minnesota's water-related infrastructure is aging and presents threats to public health. We need to continue to place emphasis on upgrading our aging wastewater, storm water and drinking water infrastructure (on-going issue)
A3) Provide support to implement efficient alternatives to address problems of our aging water infrastructure and the possible effects on environmental health. Conduct cost-effectiveness reviews of best-management practices at drinking water and wastewater facilities (on-going issue)
A4) Provide needed MDH funding to ensure the safety of publicly-supplied drinking water. Increase the MDH drinking-water service-connection fee. This needed increase will allow MDH to complete condition assessments and asset management plans for drinking-water supply systems (short term issue).
A5) Flushable wipes clog our waste-water treatment plants (short term issue)
A6) Provide long-term, independent peer review of wastewater standards—memorialize, in statue, the current MPCA practice. (short term issue)

A7) Allow wastewater districts the use of to use existing revenue to address the significant inflow and infiltration (I/I) problems associated public and private wastewater infrastructure (on-going issue)
A8) Begin to address the worst of our leaking septic system problem areas (on-going issue)
A9) Recognize the value of storm water and wastewater. Enable groundwater recharge and re-use (on-going issue)

Legislation that Enables New Initiatives

B1) Protect our lakes by funding an agency comprehensive program, policy and plan to protection our lakes for the future. Use conservation easements as a tool to protect our most important lakes. (on-going issue)
B2) Increase data collection and analysis for lakes. Maintain and enhance agency programs that collect and assess lakes (deep lakes, shallow lakes and wetlands) (on-going issue)
B3) Protect vulnerable aquifers. Improve monitoring, public information and education, about contaminants in drinking water used for private wells.)(on-going issue)
B4) Protect groundwater that serves as sources of public drinking water. Increase support for programs that address source-water protection for groundwater. (on-going issue)
B5) Protect sources of drinking-water sources that use lakes and streams. Initiate source-water program for surface waters that are a source of drinking water (on-going issue)
B6) Promote and encourage pilot watershed-scale pollutant trading and banking programs should be considered as potential significant management practices to reduce nutrients and sediments in rivers and lakes (on-going issue)
B7) Our natural environment is changing—we need to plan for an uncertain future (long-term issue)
B8) In conjunction with the University of Minnesota, create and support an agency program focused on healthy soil and healthy water (long-term issue)
B9) Implement a Statewide Water Policy (long-term issue)
B10) Urban storm-water retention is encouraged and required. However, we do not understand the environmental consequences of urban storm-water retention. Support programs that provide information that can assist in a better understanding on-going issue)
B11) Support programs that provide a better understanding of the hydrologic consequences of tile drainage. Provide funds for an agency effort focused on understanding the effects of drainage on underlying aquifers (on-going issue)
B12) Support efforts to understand the extent of the tile drainage. Direct estimates of the extent of subsurface drainage do not exist (short-term issue)
B13) Open-time inlet structures provide a direct pathway for the introduction of sediments and nutrients to streams and lakes. Inlet structures retrofits can reduce the impacts on receiving water. However, we do not know the full extent of the problem. (short-term issue)
B14) Fund a cost/benefit/return on investment analysis of conservation drainage-management practices to understand the benefits of remedial incentive programs.(short-term issue)
B15) Rural ditches present significant water quality and ecological problems in waters of the state. However, we do not know the extents of the problem (on-going issue)
B16) Increase the Understanding and Water Management Focus on Ecosystem Services (long-term issue)

Legislation that Supports or Increases Agency Initiatives

C1) Continue to support agency efforts to collect information needed to manage and improve waters of the state. Collect the information that is needed (on-going issue)
C2) Improve our understanding of our water balances (Water Bank Account) (on-going issue)
C3) Use the best tools to manage our water (Groundwater Analysis and Modeling) ((on-going issue)
C4) Promote agricultural diversity to protect groundwater used as sources of drinking water. (on-going issue)
C5) Expand the role of the Drainage Working Group (DWG) to include all drainage and water retention activities, rural and urban, or use the DWG as a model for a new working group to include other drainage and water retention activities (short-term issue)
C6) Support and identify and promote best-management practices, at the proper locations, in order to retain water on the land (on-going issue)
C7) Promote local implementation of clean water projects (on-going issue)
C8) Increase Public Education-- The role of education is undervalued in protecting water resources (long-term issue)
C9) Provide incentives to fix failing septic systems that affect drinking water drinking water (on-going issue)
C10) Protect our sensitive aquifers (Provide Incentives to Protect Groundwater used as Sources of Drinking Water) (on-going issue)
C 11) Recognize and manage water as single resource (long-term issue)

Detailed List
2019 Legislative Recommendations
Recommendation Descriptions
Focused Water Legislation:

A 1) Over-use of salt impairs our lakes, rivers and groundwater--Limit overuse of chloride deicing chemicals on public and commercial parking logs and sidewalks. Support legislation to limit liability for deicing applicators and property owners, after providing training and certification *(Survey description: Limit over use of deicers in commercial areas-limit liability)*

A 2) Minnesota's water-related infrastructure is aging and presents threats to public health. We need to continue to place emphasis on upgrading our aging wastewater, storm water and drinking water infrastructure. Increase efforts to address our aging water infrastructure. The Public Facilities Authority's (PFA) on-going General Obligation Bond requests support treatment upgrades, repairs, and replacement of aging water mains and storm water and wastewater infrastructure. Continue to provide, and increase, support, through the PFA process, for local efforts to assess and to prioritize infrastructure needs to address risks to public health, such as lead service-line replacements. In conjunction with MDH, provide local governments and water utilities with support and tools to inventory, assess, and strategically invest in water assets. Provide drinking-water protection programs that engage experts an in identifying regulatory, technological, and behavioral barriers and enable the development of public-health policies and implementable action plans to address emerging threats and to ensure long-term, safe drinking water. Examples include notification of the existence of lead in drinking-water distribution systems from the main water lines to the tap, and education on possible actions at property transfers. *(Survey description--Ongoing financial aid for wastewater and storm water and drinking-water infrastructure)*

A 3) Provide support to implement efficient alternatives to address problems of our aging water infrastructure and the possible effects on environmental health. Conduct cost-effectiveness reviews of best-management practices at drinking water and wastewater facilities. The societal benefits of cleaner water, resulting from improvements in wastewater and drinking water facilities practices are difficult to measure because they are qualitative. Therefore, we need to move toward with infrastructure-improvement decisions based on cost-effectiveness reviews that examine feasible alternatives to meet required needs relative to the cost. Some wastewater and drinking water facilities should be encouraged to undergo an "alternatives review" process that includes improvements to best-management practices. Increase those efforts by moving forward with pilots of watershed-scale trading programs that involves stakeholders. Identify efficiencies for regional drinking water and wastewater administration, operation and maintenance. Define the level of infiltration and inflow considered excessive--above which corrective action should be funded. These practices can help our state address and fund improvements to our aging infrastructure. The U.S. Environmental Protection Agency (EPA) estimates that in the next 20 years more than $6 billion will be needed to improve drinking water systems throughout Minnesota. The Minnesota Pollution Control Agency (MPCA) estimates that in the next 20 years more than $4.5 billion will be needed to improve public wastewater systems, and more than $1.2 billion to upgrade and maintain individual wastewater systems. (Survey description: Increase alternative efforts to improve aging water infrastructure)

A 4) Provide needed MDH funding to ensure the safety of publicly-supplied drinking water. Increase the MDH drinking-water service-connection fee. This needed increase will allow MDH to complete condition assessments and asset management plans for drinking-water supply systems. *(Survey description: Increase MDH water-connection to protect safety of public drinking water)*

A 5) Flushable wipes clog our waste-water treatment plants: Flushable wipes are significant issues for wastewater treatment facilities. Legislation is needed to ban flushable wipes, to change labeling language, and to provide accurate consumer education. Change flushable wipes labels on personal care wipes. *(Survey description: Legislation to ban flushable wipes or to change product labels)*

A 6) Provide long-term, independent peer review of wastewater standards—memorialize, in statue, the current MPCA practice. Incorporate the exiting (MPCA Commissioner's order into statute. This recommendation would support MPCA efforts to provide additional scientific and public review of new and revised water-quality standards, and would ensure that the process continues on under future administrations. Background--A Minnesota

Pollution Control (MPCA) Commissioner's Order (Order) was issued in 2017 to address ongoing confusion about MPCA's reliance on independent, scientific peer review in the development of water quality standards. The Order establishes a transparent process for peer review of the scientific basis for proposed water quality standards, and allows for public comment on both the scientific information and the peer review. The order applies to only new, or revised, numeric water-quality standards that differ from U.S. Environmental Protection Agency's (EPA) criteria that have been through peer review. The MPCA peer-review process identified in the order is based on the EPA's Peer Review Handbook (4th Edition, 2015). A technical-support document (TSD) has been developed to document the scientific basis for a proposed standard and under the Order each TSD must undergo external, scientific peer review. A draft TSD is released for public comment prior to peer review. The MPCA takes public comments on questions to pose to the peer reviewers. The TSD is then revised in response to public comments, and peer review, and becomes the basis for the water-quality standard rulemaking effort. The MPCA's Web site identifies water-quality standards under development, the lead agency scientist for each development effort, and opportunities for public input. The full Commissioner's Order: (115.035) is available from the MPCA. *(Survey description—Peer review of wastewater standard- incorporate MPCA order into statute)*

A 7) Allow wastewater districts the use of to use existing revenue to address the significant inflow and infiltration (I/I) problems associated public and private wastewater infrastructure. Inflow and infiltration infrastructure repair needs affect groundwater quality and wastewater treatment demands. Legislation is needed to allow wastewater districts to use existing revenue for public and private property inflow and infiltration mitigation. (Survey description—Improve funding process for inflow and infiltration improvement)

A 8) Begin to address the worst of our leaking septic system problem areas. Develop a program to assess leaking septic systems that impair lakes and groundwater and support legislation to provide support to fix inadequate septic systems. *(Survey description: Assess leaking septic systems and incentives to fix inadequate septic systems)*

A 9) Recognize the value of storm water and wastewater. Enable groundwater recharge and re-use. Allow managed recharge where it is feasible and needed. Protect areas where managed recharge makes hydrologic sense. *(Survey description: Promote managed recharge and water re-use where feasible and needed)*

Legislation that Enables New Initiatives

B 1) Protect our lakes by funding an agency comprehensive program, policy and plan to protection our lakes for the future. Programs, policies and incentives, aimed at protecting lakes, are needed. They should be based on a tiered priority approach that considers lake status. Establish a status of lake-priority consensus document that includes criteria for lakes to be maintained, improved, protected and preserved. Establish policy to promote those goals**.** Prepare an interagency plan to integrate lake-assessment results into regulatory programs to protect all lakes and to preserve and protect our most significant and valuable lakes. Coordinate, prioritize, and encourage funding, within established programs (LCCMR, LSOHC), that increase environmental and conservation easements in watersheds that contain our most important lakes—those that need preservation and protection. Incorporate robust water- budget information about lakes for water planning**.** Improve our understanding of classes of lakes, groundwater and surface interactions, water balances, and water sustainability using vigorous assessments of lakes into the one watershed/one plan program. Use existing information (groundwater recharge, streamflow, and water use) to identify priorities for sustaining lake ecosystems, based on objective criteria. Use this analysis to assess priority areas for future lake-management. Provide legislation focused on stopping the progression of invasive species across lakes. Provide additional agency support to understand stressors and best-management practices to preserve and to enhance deep lakes. Provide programs that assess lakes across the state, focused on the potential effects of climate change and management practices that can mitigate those impacts. Provide analyses, funding and incentives, and support legislation to address and to fix inadequate septic systems that impair lakes. Support legislation to limit liability for de-icing applicators and property owners to reduce salt in lakes. Promote legislation focused on eliminating emerging contaminants from wastewater across the state. Provide funding for a sentinel lakes program. Consider legislation and incentives aimed at protecting shorelines of lakes. (*Survey description: Prepare a strategy to integrate lake-assessment into regulatory programs and increase use of conservation easement to protect our most important lakes.)*

B 2) Increase data collection and analysis for lakes. Maintain and enhance agency programs that collect and assess lakes (deep lakes, shallow lakes and wetlands). Establish an interagency working group to coordinate data collection and analysis that includes continuous monitoring. Support systematic lake assessments by re-assessing existing data programs in order to collect needed data. Increase support for collecting information to understand groundwater and surface-water interactions in lakes. *(Survey description: Prioritize our lakes for assessment, monitoring, protection, and preservation)*

B 3) Protect vulnerable aquifers. Improve monitoring, public information and education, about contaminants in drinking water used for private wells. Supplement agency programs that identify and protect vulnerable aquifers that are important sources of groundwater to private drinking-water wells. Create programs that address source-water protection for groundwater used by domestic wells. Support MDA programs focused on protecting private wells from nitrate and chemical contamination. Monitor and identify risks to private wells from land-use activities and naturally occurring contaminants and prepare strategies to reduce risks. Begin a program of real-time monitoring to detect potential threats to water supplies, develop early responses, and provide public reporting. Provide programs for a comprehensive and systematic testing of the water quality in private wells including the notification of testing results and education on possible actions. For consideration, possible testing of domestic wells during property transfers and notification of testing results to buyers. Also, for consideration periodic testing of private wells providing drinking water to rental properties and requiring notification of results before rental property owners can rent to new tenants or enter into new lease agreements. *(Survey description: Ensure that domestic wells are safe)*

B 4) Protect groundwater that serves as sources of public drinking water. Increase support for programs that address source-water protection for groundwater. Identify vulnerable aquifers that are sources of drinking water. Provide incentives for perennial crop cover in those these areas. Implement the groundwater protection rule to protect private drinking water wells Enable sub-regional programs to address inter-city well-head protection planning and implementation. Begin a program of real-time monitoring to detect potential threats to water supplies, develop early responses, and provide public reporting. *(Survey description: Increase efforts for source-water protection for groundwater)*

B 5) Protect sources of drinking-water sources that use lakes and streams. Initiate source-water program for surface waters that are a source of drinking water. Require that surface water-based community public-water systems prepare source-water intake protection plans with implementation activities for review and approval by the MDH. Begin a program of real-time, surface-water monitoring program to detect potential threats to water supplies, develop early responses, and provide public reporting. Prepare and implement drinking-water preparedness plans to respond to spills, storms, harmful algal blooms, and other disruptions. *(Survey description: Provide source-water protection programs for rivers that supply drinking water)*

B 6) Promote and encourage pilot watershed-scale pollutant trading and banking programs should be considered as potential significant management practices to reduce nutrients and sediments in rivers and lakes. A pilot program is needed to develop an adaptive approaches for pollutant trading or pollutant banking, at a watershed scale, possibly using a third-party broker to facilitate and to provide a mechanism for exchange. The approach should include the agricultural community and should include wastewater or storm water contractors to facilitate planning and exchange because stakeholders would include many participants. Interested partners may include: MPCA, Minnesota Department of Health (MDH), Board of Water and Soil Resources (BWSR), Chambers of Commerce, League of Minnesota Cities, Minnesota Environmental Science and Economic Review Board, Minnesota Environmental Partnership, Metropolitan Council, and the Minnesota Storm Water Coalition. Brokers could include BWSR, the Minnesota Technical Assistance Program, the Environmental Initiative, or another organization. The Minnesota River Basin may be ideal for pilots because there is a wealth of phosphorus and chloride data. There also is an opportunity to incentivize more storage in the Minnesota River basin using non-point source trades. Provide funds to allow the state to develop basin-wide data that shows where "potential to emit" conditions exist that would necessitate facility upgrades (under way for phosphorus and chloride in the Minnesota River Basin). These data could be related to impairments, possible trading areas, and to watershed boundaries, to determine where opportunities are greatest for successful point source to point source or point source to nonpoint-source trades. Storm-water quality credit trading options are being examined through an LCCMR grant to the Shell Rock River Watershed District that is included in the ML 2018 Environment and Natural Resources Trust Fund Bill. (ML2018, Sub 04K: Implementation Pilot Credit Trading System for Storm water in the Shell Watershed to Promote Water Quality) *(Survey description—Encourage pilot programs for pollutant trading or banking)*

B 7) Our natural environment is changing—we need to plan for an uncertain future. Prepare policy to manage water in the face of uncertain future conditions that considers emerging contaminants, emerging technology, changing demographics, technology and land use, climate change, economic uncertainty, and aging infrastructure. Formulate a plan to better understand the importance that water and water use plays in providing ecological services. Include a process to address the impacts of long-term variations in precipitation and temperature on water supply and on ecological services. Adopt a state-wide climate change adaptation policy. Develop policy to guide adaptation for changes that likely will occur to landscapes, biota, hydrology and infrastructure. New technology and industry growth may exert demands on water resources and technology may provide avenues to improve water quality and water sustainability. Our understanding of existing and potential technologies is not insufficient to evaluate all impacts. New technology needs to be carefully considered relative to feasibility and potential unintended consequences. Consider funding projects, within established funding program, such as the LCCMR that involve technological uncertainty. In to order initiate a future-state process, strengthen communication and ties between the Legislative Water Commission and the Environment and Natural Resources Committees in the House and Senate. *(Survey description: Prepare policy and manage water in the face of an uncertain future)*

B 8) In conjunction with the University of Minnesota, create and support an agency program focused on healthy soil and healthy water. Encourage the expansion of existing programs to improve soil health, aimed at increasing agricultural productivity and water retention. *(Survey description: Promote programs for linking healthy soil and healthy water)*

B 9) Implement a Statewide Water Policy. --Statewide water- quality and quantity regulation and management is coordinated by state agencies. However, rigorous processes, involving multiple agencies often creates delays in decisions. This could be improved by establishing an interagency/legislative water-policy process that includes the Future State of Water. The policy should include specific and emerging issues such as a statewide guide for mineral development that includes constraints, goals, and expectation. *(Survey description: Prepare and implement statewide water policy)*

B 10) Urban storm-water retention is encouraged and required. However, we do not understand the environmental consequences of urban storm-water retention. Support programs that provide information that can assist in a better understanding. Storm-water ponds may be detrimental to the quantity and quality of shallow groundwater in urban areas and we do not understand these effects. Accelerate programs to quantify potential problems associated with urban storm-water retention, both on the quantity and quality of groundwater. *(Survey description: Determine impacts of urban storm-water ponds)*

B 11) Support programs that provide a better understanding of the hydrologic consequences of tile drainage. Provide funds for an agency effort focused on understanding the effects of drainage on underlying aquifers. A basic understanding of the impacts on aquifers is necessary to quantify the effects (quantity and quality) of agricultural drainage on groundwater and to prioritize remediation. An improved understanding of historical water-balance shifts, from pre-to post-drainage periods, is needed to understand long-term implications on groundwater recharge. More direct field-scale studies and modeling are needed to characterize water budgets for fields with subsurface drainage. *(Survey description: Support efforts to evaluate impacts of drainage on underlying aquifers)*

B 12) Support efforts to understand the extent of the tile drainage. Direct estimates of the extent of subsurface drainage do not exist. However, several indirect methods can now be utilized to estimate the extent of tile drainage. Support agency efforts to map the extent of tile drainage in order to address the overall extent and consequences of this agricultural practice. *(Survey description: Determine extent of tile drainage and open-tile inlets—support alternatives)*

B 13) Open-time inlet structures provide a direct pathway for the introduction of sediments and nutrients to streams and lakes. Inlet structures retrofits can reduce the impacts on receiving water. However, we do not know the full extent of the problem. Quantify extent and distribution of open-tile inlet structures and create additional incentives to replace them with alternatives. *(Survey description: Determine extent of tile drainage and open-tile inlets—support alternatives)*

B 14) Fund a cost/benefit/return on investment analysis of conservation drainage-management practices to understand the benefits of remedial incentive programs. *(Survey description: Increase efforts to keep water on the land using best management and cost-efficient practices)*

B 15) rural ditches present significant water quality and ecological problems in waters of the state. However, we do not know the extents of the problem, Create an agency program to evaluate and address the effects of rural ditches and culverts to reduce erosion and encourage fish passage. *(Survey description: Map and provide incentives to upgrade rural ditches and culverts to reduce erosion and encourage fish passage)*

B 16) Increase the Understanding and Water Management Focus on Ecosystem Services--Minnesota's water resources contribute to ecosystem services in several ways. These services include water for agricultural, industrial, and residential use; fish, waterfowl, mussels, and other foods; recreation (boating, swimming, fishing, hunting, collecting food, nature viewing; flood control; and aesthetic, spiritual, and cultural values. Research is underway to increase our understanding of how eco-services can be measured in terms of economic value. Ecosystems are interconnected and complex. Human impacts to ecosystem services vary across the state due to differences in climate, geology, soils, topography, and vegetation. Stressors impact ecosystems in a cumulative and interacting ways that are not all related to human activity. Water resource management and policies need to be focused at watershed scales rather than statewide. There also is need to improve methods used to estimate and manage ecosystem services and to define goals to guide on-the-ground decisions. As a state, we need to enhance our understanding of the connections between hydrology and aquatic biology and aquatic ecology as well as associated eco-services. We need to place more focus on developing criteria for assessing the critical water levels, or flow conditions, required to support ecosystems that including habitat and population-based minimum flows; high-flow protection standards for habitat-forming, and silt-flushing high flows; protections for downstream needs; protection of the natural variability of flows over time (hydrograph shape); and groundwater/surface water interactions. *(Survey description: Prepare and implement statewide water policy)*

Legislation that Supports or Increases Agency Initiatives

C 1) Continue to support agency efforts to collect information needed to manage and improve waters of the state. Collect the information that is needed. Maintain, promote and fund water information and monitoring programs. Continue and accelerate the County Geologic Atlas Program. Increase emphasis on collecting information to understand groundwater and surface-water interactions. Prepare a strategy for generating and managing information needed to integrate water-sustainability assessment results into regulatory programs on a statewide basis. Support systematic water sustainability assessments by re-assessing data programs in order to collect data that are needed. Strengthen the public educational component of all of these programs. *(Survey description: Maintain, promote and fund water information and monitoring programs)*

C 2) Improve our understanding of our water balances (Water Bank Account). Incorporate robust water- budget information needed for water planning. Incorporate this effort into existing programs. Improve understanding of statewide water balances (bank accounts) and water sustainability by enhancing the One Watershed/One Plan program or the County Atlas program. Use existing information about groundwater recharge, streamflow, and water use to identify priorities for sustainability implementation, based on objective criteria. Use these analyses to assess priority areas for future groundwater management area programs. *(Survey description: Incorporate water- budgets into groundwater planning—water bank accounts*)

C 3) Use the best tools to manage our water (Groundwater Analysis and Modeling): Increase efforts to construct and apply groundwater models, like the Metro Model, to assess regional groundwater availability and sustainability. Incorporate groundwater modeling into watershed planning in areas of groundwater concern. Enhance and expand the DNR's groundwater management program. *(Survey description: Increase use of groundwater models to assess regional sustainability)*

C 4) Promote agricultural diversity to protect groundwater used as sources of drinking water. Support the Clean Water Council's recommendations to enhance clean water by increasing continuous vegetative cover on cropland with an initial focus on wellhead protection areas, through development of new agricultural production systems, markets, and supply chains. Create an Agricultural Diversification Steering Council with agriculture-focused representation from public agencies, the private sector, non-profit organizations, and research institutions. Create an Agricultural Diversification Network to accelerate the development and commercialization of new crops (e.g., perennial crops and winter-annual crops) that enhance continuous productive vegetative cover. The University of Minnesota's Forever Green Initiative (FGI) is the national leader in this new approach to achieving clean water via enhancing continuous vegetative cover. (*Survey description: Incentives for agricultural diversity to protect groundwater used as sources of drinking water) (Suggested recommendation)*

C 5) Expand the role of the Drainage Working Group (DWG) to include all drainage and water retention activities, rural and urban, or use the DWG as a model for a new working group to include other drainage and water retention activities. Support consensus recommendations of the DWG. *(Survey description: Expand the Drainage Working Group to include all water retention)*

C 6) Support and identify and promote best-management practices, at the proper locations, in order to retain water on the land. Retaining water on the land can provide benefits to water quality, soil health and groundwater recharge: Slowing runoff to streams will reduce erosion as well as reducing the impacts of nutrients, sediment and other contaminants. Prioritize best-management remediation. Existing tools and systems need to be applied and used to identify the appropriate best-management practices at landscape and watershed scale. Support implementation of remedial best-management practices in critical places using the one-watershed/ one-plan process. Focus on retaining water on the land, in all parts of the state, to improve groundwater and surface water quality. Identify conservation practices most likely to reduce the impacts of our uses of the land when tailored to specific landscapes and land uses across the state. This should be a next-step in BMP implementation. Develop plans to support the right conservation practices at the correct landscape locations. These could include a variety of efforts such as more efficient agricultural practices, watercourse BMP implementation, and cover crops. Leverage state and federal funding programs to maximize land-owner involvement and enrollment in conservation practices using existing programs and incentives. *(Survey description: Increase efforts to keep water on the land using best management practices)*

C 7) Promote local implementation of clean water projects. Based on the Governor's Town Hall feedback, our citizens want Clean Water Funds allocated for activities at regional levels rather than all at the state level. They also ask that funding to be available to nonprofit and citizen volunteer organizations and to tribal partners working toward clean water. Citizens want measurable outcomes, accountability, and clear assessments of whether waters are improving. Support locally-led water-management programs that are directed under state goals and guidelines as well as a state water policy. We should support and encourage inter-jurisdictional water planning through the one-watershed/one-plan process. *(Survey description: Support locally-led water management with agency oversight)*

C 8) Increase Public Education-- The role of education is undervalued in protecting water resources. The Governor's Town Hall meetings recognized the need for additional water-resources training and education. Minnesotans understand the need to change behavior in order to reach sustainable water-resource goals. They recognize that we need to learn more about how behavior affects water quality; more about the basics of the water cycle, lakes, and rivers; and more about current water resource

management efforts and how they can help. The diversity of Minnesota's citizens requires tailored messages and tailored methods of delivery. Minnesota has many components of a comprehensive water education system, but needs a better overall strategy and systematic approach. Professional training curriculums in land-use planning, engineering, horticulture, and agriculture need more water-resources content. No system links formal and non-formal, youth and adult water education. Two key messages for all Minnesotans are that there is a strong connection between individual and corporate actions on the land, and that water is important to all living things and to our economic well-being. *(Survey description: Increase public education directed at protecting water)*

C 9) Provide incentives to fix failing septic systems that affect drinking water drinking water. Identify the location and condition of areas of failing septic systems, sewers and storm-water infrastructure—they contaminate groundwater. Establish a uniform standard for septic system performance, inspection and periodic maintenance. It is estimated that many of the state's septic systems are failing but we do not have good information. *(Survey description: Provide incentives to address failing septic systems)*

C 10) Protect our sensitive aquifers (Provide Incentives to Protect Groundwater used as Sources of Drinking Water). The Clean Water Council recommends that the State of Minnesota enhance clean water by increasing continuous vegetative cover on cropland, with an initial focus on wellhead protection areas, through development of new agricultural production systems, markets, and supply chains. Establish a Minnesota Agricultural Diversification Steering Council with agriculture- focused representation Create a Minnesota Agricultural Diversification Network to accelerate the development and commercialization of new crops that enhance continuous productive vegetative cover that produce marketable commodities. The University of Minnesota's Forever Green Initiative (FGI) is the national leader in this new approach to achieving clean water via enhancing continuous vegetative cover. Expand this program to vulnerable aquifers that supply water to domestic wells. (*Survey description: Increase efforts for source water protection for groundwater))*

C 11) Recognize and manage water as single resource: Groundwater/surface water Interactions: Develop programs to better integrate groundwater and surface-water interactions into agency operations. Increase programs to collect information to understand groundwater and surface water interactions. (*Survey description: Prepare and implement statewide water policy)*