Subcommittee on Minnesota Water Policy
February 2020

Draft Legislative Issue for the 2020 Session

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Members,

Legislative issues from the Subcommittee. They are listed in priority order, based on your compiled rankings from the committee members. Most of these issues involve policy decisions and would require minimal funding this session. Generally, the issues require reports to the legislature that would inform funding decisions for the next budget cycle. In so doing, this subcommittee is preparing a substantive legislative agenda for the 2021-22 budget cycle. At our meeting, we will discuss your interest about introducing or supporting bill for each of these issues

Issues Ranked based on greatest support:

1: Address Soil and Water Conservation District Funding (JT191 (#1) SWCD Funding)
SWCDs need stable funding that does not confound the Clean Water Council's funding process.

2: Compensation for Agricultural Buffers:
Agricultural producers should be compensated for lands lost from productivity due to the buffer law

3: Drinking Water Safety for Private Well Owners: JT188 & JT189 (#3) Private Wells
Private well owners need help in protecting the safety of their drinking water

4: Encourage efficient wastewater and storm-water technology and treatment options
Cities struggle in maintaining wastewater and drinking water infrastructure

5: Provide Incentives for Healthy Soil: Soil Health is good for agriculture and water
Improving soil health is good for agricultural productivity while improving water quality

6: Ensuring Safe and Sustainable Drinking Water for the Future--Enhanced regional and digital Groundwater Atlas derivative products
As a state, we need to plan for a future with safe and adequate drinking water

7: Reduce the over-use of salt
We overuse deicing salt and it degrades the waters of the state

8: Support to Improve Minnesota's Drinking Water Infrastructure
Minnesota's drinking water infrastructure is aging and threatens our health and economy

9: Forever Chemicals (PFOA and PFOS) in food waste compost: JT205 (#9) – PFAS/Compost
Forever chemicals in food packaging threaten the organic composting industry and threaten the organic recycling industry

10: Policy to guide enhanced groundwater recharge
Policy is needed to allow and increase enhanced groundwater recharge projects in priority locations

11: Evaluate and supplement MDA's Ag BMP Loan Program: JT201 (#11) – AgBMP Program
MDA's Ag BMP program is an efficient method of improving water quality. The program lacks necessary funding

12: Encourage and Fund Research and Outreach that Promotes Precision Agriculture
Precision agricultural practices increase agricultural productive, save water, and improve water quality
13: Changes to the Water Appropriation Priorities for Golf Courses
Golf courses that focus on water conservation and water-quality should be allowed to irrigate during drought
14: Simplifying the Water-Quality Standards Review and Revision Process
The process of reviewing and amending water quality standards should be efficient and timely
15: Simplifying the Irrigation Water Appropriation Process
The state should ensure that the process for obtaining water appropriation permits, and the environmental review of proposed projects, is as efficient and timely as possible
16: Leveraging Dedicated Funding Programs to Maximize Conservation Outcomes
The state should ensure that environmental programs are efficient and focus on common environmental benefits
17: Policy to address the Waters of the United States (WOTUS) rule & Section 401 of CW Act
The subcommittee should follow this process and consider policy, based on discussions with agency staff
18: Keeping Water on the Land-Quantifying Impacts and Encouraging Water Storage
The state needs to increase efforts to retain runoff to reduce peak flows and to improve water quality
19: State Assumption of Federal Wetlands Permit Responsibilities (Clean Water Act, Section 404)
The committee needs to stay informed regarding requirements accomplish the state's planned wetland assumption
20: Change the structure and Function of the Clean Water Council and the subcommittee on Water Policy
The subcommittee should discuss the existing bill, make suggestions, and reach consensus on a path forward
21: Emerging Contaminants Sentinel Monitoring Program
We do not know the extent or threat of forever chemical in drinking waters used by the citizens of the state
22: Encourage Water Quality Trading JT206 (#22) – Water Quality Trading
We need to enable watershed-scale pollutant trading and banking to reduce nutrients and sediments in rivers
23: Prioritizing Outcomes for Clean Water Programs
The subcommittee should consider suggestions that improve water-related programs outcomes
24: Creation of a Department of Water Resources, Water Governance: Review and consider the benefits and concerns that could result by consolidating the state's water programs
25: Monitoring Beach Health J T202 (#25) – Beach Monitoring
Bacteria threaten the safety of those who use beaches in the state. A state-wide monitoring should be considered
26: Flushable wipes clog our waste-water treatment plants—similar bills exist in the House and Senate
Flushable wipes present significant problems for wastewater treatment plants SF3139, HF 3181
27: Recommending Efficiency and Consistency in Evaluation Best Management Practices by using appropriate models and estimators for best management practice prioritization: JT192 (#15) – Water Use Permit Process: There are too many water quality models. This creates confusion and difficulties in comparing methods
28: Water Train controversy
New policy may be needed to address interest in exporting the state's waters to other states
29: Evaluate conduct an evaluation of the 1989 Groundwater Act and prepare a legislative report that includes accomplishments, short comings and needs
A review of the 1989 Groundwater Act is needed to examine accomplishments, unfulfilled goals and recommendations.
30: Preparing for an Uncertain Future

The subcommittee needs to track results and conclusions in the EQB Water Plan in order to address inadequacies

31: Policy evaluation regarding urban storm water capture and retention JT204 (#31) – Storm Water Retention. Impacts from storm-water capture and retention are not well understood. Research and policy are needed

32: Generic Environmental Impact Statements

The Generic Environmental Impact Statement process provides a method to understand big environmental issues

33: A plan and Research that promotes mining for northeastern Minnesota

A plan and process is needed to assure environmental and economic conditions in northeastern Minnesota that includes environmentally responsible mining

34: Disclosure of wells to buyer: JT188 & JT189 (#3) Private Wells

Issue 1: Address Soil and Water Conservation District Funding
Pertains to Clean Water Council Goal 3- Surface waters are swimmable and fishable.
Why is this important? SWCDs need stable funding that does not confound the Clean Water Council's funding Process.

SWCDs are special-purpose units of government, established under state law, to carry out conservation programs at the local level. Districts work with landowners to provide technical expertise and financial assistance to maintain and improve the quality, quantity, distribution and sustainability of natural resources including surface water, groundwater, soil, and ecological resources. Each SWCD has a five-member, locally elected, Board of Supervisors to set policy, provide local input, and ensure oversight and accountability for the district. Issue 1X

SWCDs receive local (county), general fund (state), and state capacity funding. In FY16-17 and FY18-19, SWDCs received $11 million per year from a Clean Water Fund, for capacity funding. During the 2019 legislative session, SWCDs were appropriated $12 million per year from the Clean Water Fund for FY20-21 for capacity funding. Clean Water Funding has enabled SWCDs to hire resource professionals who work with landowners to design and install conservation practices in prioritized and targeted areas to achieve measurable water quality results. However, funds from the Clean Water Fund alter the planning effort of the Clean Water Council and are not a logical or sustainable use of the Clean Water Fund. Even with Clean water funding, current funding falls short of meeting current needs by about $16 million dollars per year.

Similar to other locally elected units of government who get state aid, SWCDs need an adequate, committed, and ongoing investment from the state. Without it, SWCDs will not be able to fully deliver on statutory obligations. In 2017, $11 million was half of an estimated $22 million annual shortfall. Revised estimates in 2018, showed SWCD funding shortfalls totaling $28 million per year. The FY20-21 appropriation of $12 million per year in Clean Water Funds brings the shortfall just under $16 million per year. This does not include project funding needs.

Proposed Recommendation (Policy): Suggestions for the bill: The subcommittee has held hearings to discuss how best to provide the financial support needed for SWCDs. Options discussed included aid from the tax bill, local fees, optional SWCD levy authority, new additional dedicated sales tax, Ad valorem levy authority, or fees on property. SWCD's have strong support from members or the committee. However, increased to local taxes were not supported. A suggested proposal would invlove a 4-year phased-reduction in funding provided by the Clean Water Fund. Beginning in 2021, this reduction would be balanced by a 4-year increase in support from the general fund, at 1.5 times the reduction in support from the Clean Water Fund. This formula would, over time, reduce the burden on the Clean Water Fund while gradually increasing overall total funding to the SWCD's. General funding increases would be comprised of three components. One-third would be provided equally to each of the SWCDs. The second third would be provided to counites with the lowest total assessed real estate values, and the final third would be allocated based on measures of perfomance as well as merit-based proposals for envronmenal ourcomes.

Issue 2: Compensation for Agricultural Buffers
Pertains to Clean Water Council Goal 3- Surface waters are swimmable and fishable
Why is this important? Agricultural producers should be compensated for lands lost from productivity due to the buffer law.

The buffer law provides a major step in improving the waters of the state. The law requires buffer strips along lakes, rivers, streams and some ditches to filter phosphorus, nitrogen and sediment. The requirement has resulted in dissatisfaction among farm organizations and farmers, because of the costs association with taking land out of production, the effectiveness of the regulations, and the implementation process. Agricultural trade groups support an option to be paid for land lost to agriculture for buffers. Other options include a tax credit or subsidies for the loss of tillable lands.

Proposed Recommendation (Policy) Propose a tax credit for land lost to farming from buffers as well as policy to propose a compensation mechanism and a process

Issue 3: Drinking Water Safety for Private Well Owners
Pertains to Clean Water Council Goal 1- Drinking water is safe for everyone, everywhere in Minnesota
Why is this important? Private well owners need help in protecting the safety of their drinking water.

Private well owners have difficulty ensuring the safety for their drinking water. After well installation, ensuring the safety of drinking water from private swells is the responsibility of individual well owners. There is a great need to provide educational programs that focus on water safety for well owners. We have not paid enough attention to drinking water policy for private wells because, with the exception of construction and testing of new wells, they fall outside the statutory scope of MDH. A statutory requirement for well testing at property transfer would protect the health of buyers and send a signal that the quality of water from private wells needs to be taken seriously. Providing more readily available resources for owners, to identify hazards associated with local aquifers and wells of particular designs and ages, would encourage well owners to develop their own cost-effective approach to water safety planning.

Legislative proposal. Suggestions for the bill:
- Develop an educational program, for later implementation for private well owner water safety (MDH). Report to the Legislature.
- Introduce a bill that requires testing at property transfer

Issue 4 (5E and 6B) Encourage efficient wastewater and storm-water technology and treatment options
Pertains to Clean Water Council Goal 4: Minnesotans value water and take action to sustain and protect it
Why is this important? Cities struggle in maintaining wastewater and drinking water infrastructure.

Cities struggle with maintaining and upgrading water supply and wastewater-treatment facilities. There is an urgent need to support, encourage and provide new technology and alternative approaches, particularly for small cities. The committee should support innovative technology, regional partnerships, improved asset management, coordinated administrative and operational activities, shared wastewater operators, and decentralized utility services.
Legislative Intent:

- Support and recommend full-capacity PFA funding at $200 million per biennium. Recommend allocation of a portion of the funding for innovative wastewater treatment upgrades and replacement for cities and unincorporated communities with aging wastewater infrastructure—not a bill activity
- Create and fund additional regional wastewater coordinator positions (MPCA) to assist in regional training programs, to encourage cross-jurisdictional cooperation, and promote cost effective and innovative waste-water practices.
- Policy and legislative direction and policy to facilitate, implement and develop an adaptive approach for pollutant trading or pollutant banking at a watershed scale. Expand the ability for cities to participate in water-quality trading by creating a policy model. Establish a means for third-party credit seller and credit seller brokers for trading.
- There is an estimate that the state has 100,000 failing individual septic systems. Generally, areas with the greatest problems are known (MPCA). Support (funding) is needed to provide funds for low income households with assistance for fixing failing systems. Support regional facilitators (UM or Minnesota Rural Water Association) to provide advice and coordination with home owners and county staff to navigate options that exist for upgrading systems. (Based on a conservation with Jim Siegler, MPCA)
- Re-activate the Advisory Council on Water Supply Systems and Wastewater Treatment Facilities (statutory reference for this council is M.S. 115.741) to address water supply systems, impacts of climate change, waste-water treatment facilities and operator certification (MPCA)
- Support the preparation of a research plan that would encourage innovative wastewater options by creating a Small Wastewater Innovation Center at the University of Minnesota Water Resources Center. Prepare a small amount of funding to develop a plan for:
    - Coordinating stakeholder and facility input on research and technology transfer needs.
    - Supporting the identification of failing septic systems
    - Providing technical facility support through regional UM offices and with Minnesota Rural Water, to provide community facilitation, technical advice, and management support.
    - Performing a technical and economic evaluation of current permitting limits and rules to determine if changes are needed based on risk.
    - Supporting enhanced cost-effectiveness review process for wastewater treatment facilities.
- Enable Independent, qualified, cost-effectiveness review of best-management practices at wastewater facilities: The societal benefits of cleaner water, resulting from improvements in wastewater treatment, are difficult to measure directly because they are qualitative. We need to improve our wastewater infrastructure based on proactive cost-effectiveness reviews that examine feasible alternatives to meet required pollutant reduction relative to the cost before new standards are initiated. Provide support for a cost-effective reviews focused water quality improvements for small cities. (Building and implementing on the current LCCMR project) (MPCA) (Aaron Luckstein, MPCA)
- Policy and legislative direction and policy to facilitate, implement and develop an adaptive approach for pollutant trading or pollutant banking at a watershed scale. Expand the ability for cities to participate in water-quality trading by creating a policy model. Establish a means for third-party credit seller and credit seller brokers for trading.

Issue 5 (2C) Provide Incentives for Healthy Soil: Soil Health is good for agriculture and water. Pertains to Clean Water Council Goal 4: Minnesotans value water and take action to sustain and protect it:
Why is this important? Improving soil health is good for agricultural productivity while improving water quality.

Providing incentives for Healthy Soil: Healthy soils are good for agriculture and water. Building healthy soils is a long-term process requiring commitment from citizens across the state, and a holistic approach to agricultural land cover, tillage practices, and other aspects of the agronomic operation. The Minnesota Office for Soil Health, at the University of Minnesota, will collaborate with state and local agencies, agricultural businesses and organizations, and farmers to lead outreach and research to build statewide expertise and information networks for incorporating soil health management into agricultural systems. Legislative support is needed for long-term support for the Office for Soil Health (UM) that includes recognition and funding for the development of a state-wide soil-health action plan with increased outreach for implementing practices that build soil health and an evaluation of effectiveness.

Committee Recommendations: Continued and long long-term support for soil health programs from the University of Minnesota's Office of Soil Health, supported by the General Fund, beyond the current Clean Water funding. This policy should provide recognition of the long-term nature and need for improving soil health through funding for preparation of a state-wide soil-health action plan. The plan would be a cooperative effort among the University of Minnesota, BWSR and MDA. It would incorporate long-term research, outreach and implementation to improve soil health, across the state that recognizes the long-term nature of soil health improvement. It should include implementation and outreach activities as well as irrigation management and fertilizer management. Funding: Support activities at the University of Minnesota, BWSR and the MDA. This funding would supplement and be coordinated with work being done by the USDA. *(Developing the statewide Soil Health Action Plan would be $130,000 for one biennium.-Expanding the work, including extension activities and long-term research and trials would be approximately $500,000-$700,000 per biennium. A budget* estimate for maintaining the Office for Soil Health is approximately $500,000 per biennium).

Legislation;

- Signal intent to endorse and to provide long-term funding for soil health programs for the University of Minnesota's Office of Soil Health, supported by the General Fund, beyond the current Clean Water funding. Provide a policy recommendation that recognizes the long-term nature and need for improving soil health by providing funding for the preparation of a state-wide soil-health action plan. The plan would be a cooperative effort or the University of Minnesota, the BWSR and MDA. Based on a report to the legislature, propose that the plan be funded in subsequent years.
- The plan would include long-term research, outreach and implementation to improve soil health across the state. The plan also would reference the long-term nature of soil health improvement, document soil improvement resulting from activities and include implementation and outreach activities as well as irrigation management and fertilizer management.
- Financial support would be required to develop the plan in 2020 and report to the legislature
- Long-term funding would support activities at the University of Minnesota, BWSR and the MDA. This funding would supplement and be coordinated with work being done by the USDA.

Issue 6: (3D): Ensuring Safe and Sustainable Drinking Water for the Future--Enhanced regional and digital Groundwater Atlas derivative products.
Pertains to Clean Water Council Goal 1: Drinking water is safe for everyone, everywhere in Minnesota.
Why is this important? As a state, we need to plan for a future with safe and adequate drinking water.

The MGS/DNR County Geologic/Groundwater Atlas Program is widely seen as a great success that has laid the foundation for enhanced drinking water protection statewide. The urgently-needed, and well-planned completion of Geologic Atlases for every county is within sight. In this context, two opportunities are at hand: 1) to apply emerging science and technology to synthesize the Atlas Products into a complete statewide database (much as Google Maps has assembled road maps), and 2) to enhance the assembled mapping with improved specification of material properties on an ongoing basis. These new database products could be powerful tools for managing aquifers and watersheds across county boundaries, as well as supporting priority efforts of each water agency, such as the One-Watershed/One Plan process. By better facilitating application of the Atlas Program products, new tools will be developed for the future groundwater management needs of the state."

Sustainable drinking water
Sustainable drinking water is one of the most critical responsibilities of government. Safe drinking water has been key to some of the greatest public-health achievements of the last century including dramatic reductions in disease and improvements in longevity. The value of Minnesota's water goes beyond human health and includes the health of our economy and environment. Jobs and economic development depend on communities having a reliable sources of clean and safe water. Therefore, we need to prepare for new groundwater related information products that can be used as a part of an assessment tool for future drinking-water protection.

- **The 1989 Groundwater Act (Act)** was a groundbreaking piece of environmental legislation. The Act established a foundation for effective groundwater planning and management by establishing an agency framework for groundwater monitoring, mapping, modeling, and evaluation. However, some of the objectives of the plan have not been realized in part because required science and technology are only now available. These include information needed to manage groundwater regionally as well as a complete understanding of the limits of sustainable groundwater use. Because technology is advancing, new and more effective ways to apply MGS/DNR County Atlases can now be developed, to provide for the expanding needs of groundwater managers for the new decade.
- **Enhanced regional and digital groundwater atlas products**: The MGS/DNR County Geologic/Groundwater Atlas Program (Program) is widely seen as a great success. They have laid the foundation for enhanced drinking water protection statewide. The urgently-needed, and well-planned completion of an Atlas for every county is within sight. In this context, two opportunities are possible: 1) applying emerging science and technology to synthesize the Atlases as a progressively more complete statewide database, and 2) enhancing the assembled mapping, for example with improved specification of material properties, on an ongoing basis. These new database products will be powerful tools for managing aquifers and watersheds that cross county boundaries, as well as supporting the priority efforts of each water agency. By better facilitation and enhancement of Atlas products, new tools will be developed for the future groundwater management needs of the state."

Defining our water bank accounts: The 1989 Groundwater Act and the Minnesota Water Sustainability Report (University of Minnesota, 2009) each stress the need for understanding water budgets (yields) as fundamental components in determining sustainable water-use limits. Resource managers increasingly need information about groundwater budgets and sustainable use limits. Over the past decade, enhancements to the Atlas Program, as well as other state agency programs funded by the Clean Water

Fund, provide much of the information needed to define groundwater budgets and sustainable limits. This information is now ready to be used by applying modeling and other methods, to fully assess the consequences of groundwater appropriations. The current Atlas Program provides the foundation for a complete evaluation of sustainable limits for our aquifer systems. However, the Atlas products are now ready to be supplemented by including additional information needed for sustainable management of aquifers. This would include a rigorous assessments of water budgets to establish the water-use limits.

Groundwater budgets define the "bank accounts" for aquifers and provide the information needed to understand water sustainability. Like our personal finances, we can't spend more than we deposit, without consequences. The basic groundwater budget equation is as follows:

$$Inflow - Outflow = Change\ in\ Storage$$

Inflow, to aquifers, includes flow from rivers, recharge and flow from other aquifers. Outflows include flows to rivers and lakes, evapotranspiration, withdrawals, and leakage to other aquifers. Storage generally refers to changes in groundwater levels in aquifers. Expanded forms of the water-budget equation can be used to elaborate on inflow, outflow, and storage components.

A key component in developing water budgets is quantifying groundwater recharge and discharge. Recharge is the amount of water that replenishes a groundwater system. Statewide, spatial information on recharge is now available. These estimates can be used as input to groundwater models. Estimates of groundwater discharge are also fundamental. Because of increased emphasis on streamflow gauging over the past decade, streamflow information is now available for all of the state's major watersheds and for areas influenced by primary aquifer systems. Hydrograph separation techniques are available to estimate groundwater discharge to streams in those areas.

Because recharge and discharge information is widely available, they can be coupled with the geologic framework available from the Atlas Program to determine water budgets and sustainable water use estimates, primarily through the use of groundwater models. This information makes it possible to understand the effects of pumping, in time and space, and to predict the effects on surface-water and groundwater levels. These models would also have value beyond their use as purely predictive tools. They can be used to identify additional data needed to better define and understand groundwater systems.

Priority aquifers and watersheds frequently cross county boundaries. The mapping information provided by the Atlas Program, coupled with new information available on recharge and discharge now make it possible to comprehensively synthesize geologic and hydrologic information across county boundaries. These derivative and supplemental programs, that build on Atlas Program products, can support enhanced understand needed to manage groundwater quality and sustainability for aquifers and watersheds, particularly as part of the One Watershed/One Plan process.

Safe drinking water:
Safe drinking water involves protecting all sources of drinking water, including groundwater, rivers and lakes that provide public and private sources or drinking water. To do this efficiently, we need to identify and protect our most-vulnerable sources of drinking water. This is being done, in part, by supporting the Clean Water Council's recommendations and by adopting policy and market-driven approaches to increase continuous vegetative cover on cropland in areas with elevated nitrate in groundwater. There are several efforts underway that focus on wellhead protection areas and vulnerable aquifers. However, this approach also needs to consider sources of water to those who use private wells.

Twenty-one percent of Minnesotans (1.2 million people) get their drinking water from private wells. Private-well users are not afforded the same water-quality safeguards as people who get their water from

public systems. While public water system operators make sure water is safe, private-well users are responsible for making sure their water is safe to drink. The MDH well code ensures that private wells are properly located and constructed. However, after wells are put into service, private well users are responsible for maintaining their well, testing wells, and treating the water when necessary. Since 2013, MDH has received some funding from the Clean Water Fund to evaluate the occurrence and distribution of contaminants in private wells and to develop additional education and outreach to protect private well users. However, this program is not adequate.

The Minnesota Department of Health (MDH) has delegated authority from the EPA to regulate approximately 6,900 public water-supply systems. That includes 961 community systems. Community systems include 729 municipal systems (towns or cities) and 232 systems that provide water to manufactured home parks, nursing homes, and treatment or correctional facilities. In addition, MDH also regulates about 6,000 non-community systems that provide water to people in schools, lodging facilities, and businesses not connected to community systems. Source-water protection is an important part of MDH efforts to protect public drinking water supplies. However, source water protection for private wells is not managed with the same level of scrutiny as are our groundwater aquifers that supply water to public-supply wells.

The Minnesota Department of Agriculture (MDA) is the lead state agency for addressing contamination in groundwater from agricultural chemicals (pesticides and fertilizer). The Minnesota Department of Agriculture (MDA) is responsible for the management of pesticides and fertilizer that may affect waters of the state. MDA's programs include: the Agricultural Water Quality Certification Program; the Nitrogen Fertilizer Management Plan; Targeted Township Water Testing Programs; the Central Sands Private Well Monitoring Network: Irrigation Water Quality Protection Programs; Technical Assistance and On-Farm Demonstrations; Agricultural Research and Evaluation, the Forever Green Initiative; Pesticide Monitoring and Assessment Programs; the Private Well Pesticide Sampling projects, the Agricultural Loan Program; and the Manure Applicator Education Program. The MDA has developed and is implementing the legislatively mandated Pesticide Management Plan (PMP) and Nitrogen Fertilizer Management Plan (NFMP) which describe state strategies for reducing pesticides and nitrate from fertilizer in groundwater. The NFMP outlines a process for developing and promoting fertilizer Best Management Practices (BMPs) and other practices including vegetative cover in areas vulnerable to groundwater contamination. This includes sampling some private wells to identify areas with elevated nitrate and working with local farmers to implement selected practices to reduce nitrate levels in these areas. Approximately 10 percent of private wells that MDA tested in vulnerable areas exceed the drinking water standard for nitrate. The MDA has also developed a proposed Groundwater Protection Rule which would address potential sources of nitrate pollution to the state's groundwater and protect drinking water. The proposed rule restricts fall application of nitrogen fertilizer in areas vulnerable to contamination and it outlines steps to reduce the severity of the problem in areas where nitrate in public water supply wells is already elevated.

The Environmental Quality Board (EQB) is charged with coordinating comprehensive water resources planning and policy through preparation of a Minnesota Water Plan every ten years. The EQB also prepares a consolidated report on groundwater policy and water assessments every five years, consolidating reports by the MPCA, MDA, and DNR on assessment and analysis of water quality and quantity; groundwater degradation trends; efforts to reduce, prevent, minimize and eliminate degradation of water; and surface and groundwater quantity. The EQB consists of nine state agency heads and five citizen members.

The Minnesota Department of Natural Resources (DNR) has primary responsibility for inventorying and managing the state's public waters, including public water wetlands, and for regulating any activities that obstruct or alter these waters, including dams, reservoirs and other structures. The agency is responsible for water allocation and use, including groundwater appropriations. Water appropriations permits are considered on a case-by-case basis,

based on a statutorily defined order of priorities that gives the highest priority to domestic water supplies, followed by uses such as irrigation, power production and industrial use. The DNR also oversees shore land and floodplain management, wild and scenic rivers, and lake and stream hydrology.

The Minnesota Pollution Control Agency (MPCA) has primary responsibility for water quality protection, as the agency responsible for implementing much of the Federal Clean Water Act in Minnesota. As such, the MPCA is responsible for establishing state water quality standards for lakes, rivers, streams, and wetlands, assessing the quality of all waters in the state, identifying waters that fail to meet state water quality standards, and administering the federal NPDES permitting program (under a cooperative agreement with the EPA). The agency is required to develop a total maximum daily load (TMDL) – essentially an allowable pollution budget – for each impaired water body segment, and a plan for achieving the TMDL goals. The MPCA monitors water quality in lakes, streams, watersheds, and groundwater. It issues and manages waste water permits for municipal and industrial users, storm water permits for municipal, construction and industrial activities, and works with local units of government to implement a statewide subsurface sewage treatment system (SSTS) program. The agency also regulates the collection, transportation, storage, processing and disposal of animal manure and other livestock operation wastes.

In order to protect safe drinking water, we need to expand and identify our most-vulnerable aquifers used as sources of private drinking water. This should include programs to improve monitoring for private wells. Public information and education also are needed regarding contaminants in drinking water used for private wells. Continued support of the Clean Water Council's recommendations are needed to adopt policy and market- driven approaches to increase continuous vegetative cover on cropland, with an initial focus on wellhead protection areas and vulnerable aquifers. This may include new agricultural production systems, markets, and supply chains.

Legislative Request:

Water Sustainability
Select a pilot study area. This would include a multi-county area that includes a multi-county, regional aquifer or multi-county watershed, in counties with completed county atlases. The area should coincide with a one-watershed, one-plan project area. (MGS and MDNR). This effort would be coordinated with work being conducted by the One-Watershed/One Plan program, recognizing that water budgets can provide the foundation for effective groundwater sustainability planning and management.

MGS in cooperation with the MDNR and the USGS: This proof of concept effort would initially require minimal funding to prepare a study plan for the following activities:

- Synthesize atlas data across county boundaries, as a pilot
- Compile recharge and discharge data for this area
- Prepare a plan and budget to construct and calibrate a flow model based on these existing data.
- This model would be capable of defining water budgets for a multi-county aquifer and/or watershed as well as defining limits for groundwater pumping
- A legislative report would be prepared that would:
  - Summarize the work, results and benefits of the effort
  - Present a plan for an data synthesis covering major aquifers and watersheds of the state
  - Present a plan and funding proposal to complete this work, statewide.

MDA: Safe Drinking Water (MDA)

- Present a plan for increased monitoring and education to well owners in areas where aquifers, that supply groundwater to domestic wells, are vulnerable to contamination from nitrate and other chemicals. Include the development of a sentinel well network that can be used to document trends and changes in water quality over time. Prepare a report to the legislature.

MDH: Drinking Water Safety for Private Wells

- In cooperation with MDAQ, prepare a plan for increased monitoring and education to well owners in areas where aquifers that supply groundwater to domestic wells, that are vulnerable to vulnerable to contamination. Prepare a report to the legislature.
- This report shall include the development of a sentinel well network to document trends and changes in water quality over time. Prepare a report to the legislature.
- Prepare a plan to increase support, for source-water protection for groundwater used by private wells that incorporates groundwater management area concepts. Identify drinking water that is most vulnerable to surface contamination. Design a sentinel monitoring well network in those areas as an early warning system.
- Initiate a source-water program for surface waters that includes real-time monitoring upstream of city water intakes. Implement at two selected sites as a pilot. Prepare and implement emergency preparedness plans to respond to spills, storms, harmful algal blooms, and other disruptions.
- Policy: Support legislation that requires water quality testing for private wells at point of sale.

Issue 7 (5D) Reduce the over-use of salt.
Pertains to Clean Water Council Goal 4: Minnesotans value water and take action to sustain and protect our waters.
Why is this important? We overuse deicing salt and it degrades the waters of the state.

Bill pertains to the protection of our lakes, rivers and groundwater**:** De-icing roads, parking lots, and sidewalks, water softening, and dust suppression each introduce chloride to lakes, streams and groundwater. Chloride degrades our waters and it is very difficult and expensive to remediate. It is feasible to reduce the use of salt. This bill provides for applicator training. There also is a one-time need to determine the significance of other sources of chloride, such as water softening and dust suppression.

Proposed Legislative Intent. The bill should include the following:

- Support the Clean Water Council's recommendation for ongoing training and licensure for applicators--not a bill activity
- Recommend continued general budget funding for long-term applicator training
- Support and provide funding for a research plan to address alternatives to using salt (University of Minnesota)
- Includes policy to prepare a process for salt-use reporting for cities, counties and agencies (MPCA)
- Legislative initiative to quantify the other significance sources of chloride to waters of the state (septic systems, water softeners, roadway dust suppression) Determine if these are important? (MPCA) Report to the legislature.
- Determine the scope and impact of centralized softening. Hold hearings to address the goal of requiring centralized softening for public water supplies. Require an evaluation by the Water Policy subcommittee to assess the potential for central softening, primarily for small cities and towns that could result in a recommendation for central softening. This evaluation is required because central softening creates can create unintended consequences such as mobilization of lead in distribution lines and increased phosphorus in receiving streams. (Water Policy Committee)
- Plant operators and training is a growing problem. A report by the Water Policy Subcommittee is needed that outlines possible solution (Water Policy subcommittee)
- A plan is needs to explore feasibility of eliminating the sale of water softeners that cannot be programmed to reduce the use of salt. Explore a bill for the 2021 session after holding hearings (Water Policy Subcommittee)

Issue 8 (6C): Legislative Support to Improve Minnesota's Drinking Water Infrastructure.
Pertains to Clean Water Council Goal 1- Drinking water is safe for everyone, everywhere in Minnesota
Why is this important? Minnesota's drinking water infrastructure aging and threatens our health and economy.

Minnesota's water-related infrastructure is aging and threatens our economic and public health. The Legislature needs to consider ways to encourage cost-effectiveness reviews, alternative best-management practices, asset-management reviews, and efficient infrastructure alternatives,

Legislative Recommendations for bill language:

1. Support and recommend full-capacity PFA funding at $200 million per biennium—not a bill issue.
2. Policy to re-activate the Advisory Council on Water Supply Systems and Wastewater Treatment Facilities Advisory Committee to advise water supply systems, climate change, waste-water treatment facilities and operator certification issues.
3. Provide a plan for general funding to increase innovative best-management practices at drinking water facilities including accelerated technical assistance for facility efficiencies through training, tools and technical support (MDH)
4. Provide a plan to increase general funding to conduct asset-management reviews and implement efficient infrastructure alternatives. Include plans to increase resources to assist communities in developing and maintaining assets management plans. This is a critical first step to advancing the asset management approach among small communities. (MDH)
5. Recommend a process to enhance MDH's cost-effectiveness reviews for treatment-alternatives to optimize operations (MDH, Minnesota Rural Water Association and MNTAP)
6. Provide a plan to increase efforts to assess the locations of lead service-line connection issues. Support effort to address risks to from lead service line replacements. This may require funds for cities to address lead service connections after an MDH inventory and data base of areas having lead service line connections.

A bill for an act relating to water; appropriating money to improve drinking water infrastructure: Legislative Support to Improve Minnesota's Drinking Water Infrastructure. In fiscal years 2021, general funds are appropriated to the commission's s of health to provide greater support for drinking water infrastructure improvements for towns and cities acres the state of Minnesota. (Old language)

Issue 9: Forever Chemicals (PFOA and PFOS) in food waste compost.
Supports Clean Water Council Strategy Goal 1 Drinking water is safe for everyone, everywhere in Minnesota.
Why is this important? Forever chemicals in food packaging is threatening the organic composting industry and present a threat to organic recycling.

There is a long list of forever chemicals that are used in food packaging. As a result, they contaminate food and food packaging waste at composting sites and make the food packaging compost unusable for land application. The chemicals are in the process of being phased out by the food industry. However, the problem at composting sites likely will continue for some time. There are options to keep from derailing efforts to compost food waste and to keep the composting industry viable. Options would include limited sampling to determine whether compounds are leaching into groundwater at compost-application sites in order to determine the extent of the problem. This would help to determine whether there is a significant problem at these sites. If so, a temporary ban on food containers containing these compounds may be needed. Another option may be a temporary ban on composting food packaging.

Legislative request: Provide funding and policy to support the continuation of the food compost industry and the continued recycling of food waste. (MPCA) This would include water sampling at selected and a temporary ban on the composting of food packaging materials

Issue 10: Policy to guide enhanced groundwater recharge.
Supports Clean Water Council Strategy Goal 2: Groundwater is clean and available to all.
Why is this important? Policy is needed to allow and increase enhanced groundwater recharge projects in priority locations.

Natural groundwater recharge occurs as precipitation falls on the land surface, infiltrates into soil, and moves to the water table. Groundwater levels in some parts of the state are declining because withdrawals exceed the rate at which aquifer are naturally replenished. In areas of groundwater depletion, artificial recharge can increase natural recharge. This can be accomplished using injection wells or surface infiltration. Artificial recharge is a common practice in many parts of the county. However, the practice has generally been discourage in Minnesota. The legislature is currently funding a project (Freshwater Society and the University of Minnesota) to explore the feasibility of expanded groundwater recharge. In order to capitalize on the study, as well as on the benefits being realized in other states, the legislature should adopt policy to encourage the practice with restrictions.

Legislative request: Create policy, by statute that outlines the state's policy on enhanced groundwater recharge in areas with water sustainability challenges.

Issue 11: Evaluate and supplement MDA's Ag BMP Loan Program.
Supports Clean Water Council Strategy Goal 4: Minnesota value water and take actions to sustain and to protect our waters.
Why is this important? MDA's Ag BMP program is an efficient method of improving water quality. The program lacks necessary funding.

The Ag BMP Loan Program (program) provides funding for local implementation of clean water practices at a low cost. It is unique in structure and is not duplicated by any other source of funding. The program provides low interest loans, through local lenders to farmers, rural landowners, and agriculture supply businesses. Funds are used for proven practices that prevent non-point source water pollution or solve existing water quality problems. The program helps landowners purchase equipment that results in less erosion and runoff to rivers and streams. It helps landowners fix septic systems that are discharging to surface or groundwater. It provides funds to seal wells and relocate new wells in areas that are less environmentally sensitive. It helps landowners fix and stabilize gullies, waterways, shorelines and riverbanks. The funds, however, are not adequate.

Practices that solve water quality problems are eligible. Loans support local implementation of conservation practices. Loans fund proven practices that improve water quality and can be used with cost share programs. The cost to the state is low, averaging less than $200 per loan in administrative costs. The program is a revolving fund: money is used, repaid and used repeatedly to provide a perpetual funding source for continued financing of more projects to support conservation. This program bases the eligibility of practices on recommendations from the University of Minnesota, MPCA, Minnesota Department of Agriculture, United States Department of Agriculture-Natural Resources Conservation Service (USDA NRCS), and the knowledge and skills of local government unit staff including the county environmental offices, county feedlot officers, local water planners, local soil and water conservation districts, and consulting engineers.

The Minnesota Department of Agriculture provides loans to local lenders. The lender is the fiscal agent. The lender is responsible for dispersing and servicing loans, collecting repayments, and guaranteeing repayments to the program. Soil and water conservation districts (SWCD) or County Environmental Offices are local administering agencies. Since the MDA provides only loans that are fully guaranteed and always repaid and funds provided by the program are leveraged. Ultimately, there are no state funds in a loan since the loans are repaid and because the Program does not offer grants. As of 2018, the program has used Clean Water Funds to support loans in excess of 21 million dollars. By practice type, 158 loans were for agricultural waste management projects, 34 for conservation tillage equipment, and 718 for septic systems upgrades or relocation. At that time the program has leveraged 42 percent of the total cost of projects. Overall, Clean Water funded program loans that have leveraged over $18 million dollars in other funds. The needs far exceed the value of the fund. Much more could be accomplished if the fund balance could be increased slowly by the general fund.

Legislative request: Provide legislation to increase the AgBMP fund balance for the current budgetary surplus. A one-time supplement to the fund that would increase the value of the fund (MDA)

Issue 12 (4C): Encourage and Fund Research and Outreach that Promotes Precision Agriculture: Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state
Why is this important? Precision agricultural practices an increase agricultural productive, save water and improve water quality.

Self-managing and sustainable farming is imperative to ensuring agricultural competitiveness and to protect our waters. This requires modern and emerging technologies such as satellites, advanced data analytics, automated sensors, and robotics. The committee should consider policy, and a legislative initiate, that provides additional resources for research and outreach through the UM Precision Agriculture Center. Precision agriculture is increasingly being adopted by the agribusiness industry and growers. However, adoption is limited by gaps in knowledge which can be overcome through scientific research and outreach. Research and outreach are particularly important on the following topics:

- Variable rate nitrogen and phosphorus
- Variable rate irrigation
- Estimating N mineralization from soils to make better N fertilizer recommendations
- Remote sensing for early detection of crop stress (nutrients, insects, disease)
- Delineation of management zones
- Extension programming to promote accelerate adoption of precision agriculture

Precision agriculture research is multidisciplinary, involving collaboration between agricultural scientists and engineers. Research teams are most effective when they involve individuals from diverse backgrounds such as soil scientists or entomologists working with computer scientists or agricultural engineers. Multidisciplinary research teams are generally more successful and innovative (leading to significant breakthroughs) when they involve a combination of science, engineering, and data analytics.

Precision Agriculture Research, Outreach, and Evaluation Priorities and Funding Requests (Pilot studies)
Variable Rate Nitrogen and Phosphorus
Applying nitrogen and phosphorus fertilizer at rates that vary across the field in response to differences in soil type, soil fertility levels and crop growth potential can help improve crop yield and improve fertilizer use efficiency, while protecting surface and ground water quality. Research is needed to develop remote sensing and soil sampling strategies techniques that allow producers to quickly customize the rate and timing of fertilizer application so that it best matches these differences across the field. The impact of these strategies on crop yield and water quality should be quantified through field research at multiple locations and across years.
Annual cost of research for each location: $95,000
Variable Rate Irrigation
Applying irrigation at rates that vary across the field in response to differences in soil type and crop water stress levels can help improve crop yield and improve water use efficiency, while protecting ground water quality. Research is needed to develop crop water stress and soil moisture sensing or modeling technologies that allow producers to quickly adjust the rate and timing of irrigation water application so that it best matches these differences across the field. The impact of these strategies on crop yield and nitrate leaching to ground water should be quantified through field research at multiple locations and across years.
Annual cost of research for each location: $80,000
Estimating Nitrogen Mineralization from Soils
Minnesota soils average 6% organic matter content, and this organic matter supplies large (but difficult to estimate) quantities of nitrogen to crops through mineralization during the growing season. The accuracy of nitrogen fertilizer recommendations could be greatly improved if better estimates of nitrogen mineralization from soil were available. Nitrogen mineralization varies from year to year and from location to location within a field in response to soil organic matter content, soil moisture content and soil

temperature. Research is needed to develop simple approaches for estimating the rate of nitrogen mineralization in response to these factors using a combination of soil modeling and soil monitoring. Research is needed to incorporate nitrogen mineralization estimates into fertilizer recommendations, and determine the impact of these estimates on crop yield, nitrogen fertilizer use efficiency and surface or ground water quality.
Annual cost of research for each location: $75,000
Remote sensing for early detection of crop stress
Pests such as soybean aphids cause serious crop damage every year. Timely detection and treatment of soybean aphids is essential, yet costly and challenging as it involves laborious crop scouting techniques that miss many areas of a field. Remote sensing has the potential to overcome these challenges through timely data collection from large areas and accurate identification of areas that need to be treated due to significant aphid infestation. Research is needed to develop an accurate remote sensing strategy for early detection of soybean aphid (and other pest or disease) infestations using a combination of cameras mounted on drones or satellites. The impact of these strategies on crop yield and pesticide use should be evaluated.
Annual cost of research at each location: $75,000
Delineation of Management Zones
Crop production fields are often managed uniformly, despite variations in soil type, landscape slope, soil fertility and crop yield. Fertilizer, seeding rates, tillage and irrigation can be customized to these variations by dividing fields into from three to five management zones which each receive a different level of management. Research is needed to identify what factors should be used to delineate management zones. Research is needed to evaluate the impact of management zone based fertilizer, seeding rate, tillage or irrigation practices on crop yield and level of management inputs.
Annual cost of research at each location: $65,000
Extension Programming to Accelerate the Adoption of Precision Agriculture
Precision agriculture offers the potential for improvement in crop yield, use efficiency of fertilizer and irrigation water, and surface or ground water quality. Adoption of precision agriculture techniques by producers can be accelerated through increased extension and outreach programming with extension publications, conferences, workshops, field days, blogs, and educational videos. Annual Cost of Extension Programming: $50,000

Legislative Intent: Develop a plan for additional support and funding of a pilot effort at the University of Minnesota that focuses on research and outreach for precision agriculture. Provide policy that includes plans for data privacy, public-private partnerships, research, evaluation and technical assistance focused on the on the most challenges agricultural and water issues. Policy should also consider economic cost and benefits, soil health, irrigation management and nutrient and pesticide management. Provide funding for research and outreach in the following areas: variable rate nitrogen and phosphorus, variable rate irrigation, estimation of nitrogen mineralization from soils to make better fertilizer recommendations, remote sensing for early detection of crop stress (nutrients, insects, disease), delineation of management zones, and extension programming to promote accelerate adoption of precision agriculture. Details, with budgetary implications, are available on request.

Issue 13 (2X): Changes to the Water Appropriation Priorities for Golf Courses, Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? Golf courses that stress water conservation and water-quality improvement should be able to irrigate during times of drought.

The Minnesota golf industry has been working to financially support University of Minnesota research to develop drought-resistant and water conserving turf varieties, pursue new technologies to reduce the need for irrigation, to conserve water and to develop drought management practice

The Minnesota golf industry (a $2.3 billion-dollar industry that employs over 25,000 individuals annually) understands that it is critical that the industry supports environmental stewardship to protect and enhance the waters of the state.

In 2002 the Minnesota Golf Course Superintendents Association partnered with the University of Minnesota to build the Turfgrass Research, Outreach and Education Center on the St. Paul Campus. The industry has contributed over $2.2 million dollars in cash and in-kind contributions to make the facility an internationally recognized destination for turfgrass science. Research plots include an automated rain-out shelter to study drought tolerant turf varieties, a 50,000 square foot green surface to compare the impacts of cultural practices, a lysimeter testing platform used to test nutrient and pesticide fate, wetting agents and management strategies to reduce water use, a bee friendly section to enhance pollinator opportunities and several National Turfgrass Evaluation Test Programs to determine the best suited turf to be grown in Minnesota. On an annual basis the University Turf Scientists pursue a wide variety of experiments intended to emphasize environmental stewardship on golf courses.

Minnesota Golf has embraced two initiatives at the UM. The first, The Science of the Green, involves a UM study about the sustainability of golf in the United States from responsible turf management to property routing intended to reduce the footprint required for the game without impacting the enjoyment of the sport. The second initiative is called the Natural Capitol Project. This program is a cohort effort of the University of Minnesota, Stanford University, The Nature Conservancy and the World Wildlife Fund to study the environmental value of managed green spaces within our urban habitat. The early information embraces the importance of managed turf tracks to mitigate pollution, sequester carbon, generate oxygen, decrease local temperatures, enhance groundwater recharge, reduce solar glare, abate noise, provide safe wildlife habitat and pollinator corridors while providing for recreation, the latter of which is critically important in an ever growing society.

Minnesota Golf has partnered with the Departments of Agriculture and UMN to develop Best Management Practice Guidelines for Turfgrass Fertilization and also Pesticide Management. They have worked with the Department of Natural Resources and UMN to develop a set of industry Best Management Practice Irrigation Conservation and Efficiency Guidelines as well. Minnesota Golf also is involved in discussions regarding groundwater management, water reuse, road salt limits, pesticide review, pollinator habitat and climate change.

Minnesota golf courses are using new technology to enhance irrigation practices, reuse water, reduce water consumption, chemically make water “wetter”, sensing available water and opportunities to reduce the managed footprint while providing viable business and recreational destination. Most recently the Minnesota Golf Course Superintendents Association partnered with the University of Minnesota to create a new and internationally recognized program called the Soil Moisture Management Protocol that uses soil moisture, global positioning and computer programing to maximize turf irrigation efficiency.

Golf courses across Minnesota have shown willingness to work with local watersheds, state agencies, the

Department of Transportation and other entities in availing their properties to enhance the community. Enhanced fisheries, groundwater recharge, pollution mitigation, water reuse and storm water retention are a few examples. Minnesota Golf considers their properties as a, "community's largest rain garden" and encourages partnerships to use it as such.

The golf industry would like to continue to pursue good policies that are beneficial to the game, a community's health, the environment and the state's economy. Golf is a big industry made up of small businesses. Ninety percent of all participants are public players, and the local golf courses provides gainful employment to many as well as a local destination for events beyond golf.

The golf industries business model has a major challenge, that of water accessibility in times of drought, because golf course irrigation is considered in State Statute, non-essential.

Surprisingly, the only specific industry singled out when the state developed water use and drought suspension guidelines in the early 1970's was golf. This notoriety, likely not assumed as such almost fifty years ago, is now limiting the industry as individual businesses must weight expensive improvements in all management efficiencies against the threat of water suspension during times of drought. As a category six, nonessential water user, golf will be the first, and actually only industry named specifically, to have their permits suspended.

Until the recent litigation over the White Bear Lake area groundwater/surface water interaction concerns, only the 20 percent of golf courses that used surface resources were in jeopardy (most recently, over a dozen courses had their permits suspended in 2011). Now every golf course in the state is much closer to potentially having its water permit suspended.

The industry fully appreciates that, combined and on average, 7.8 billion gallons of irrigation water are used as a business sustaining resource, under 0.8 percent of all water used in the state. Without any water, during times of drought and especially on select fine playing surfaces, an individual course could very well close permanently or experience an economy crippling and environmentally damaging recovery following a period without any irrigation.

The golf industry understands that as water availability becomes tested, every business entity, that has the ability, should and must implement irrigation efficiency, conservation and drought management plans. The golf industry has been working hard to develop a plan as specifically tailored by the individual businesses, approved by the Commissioner of the Department of Natural Resources and implemented by the professional golf course superintendent to, upon demand, reduce water consumption. The initiative, proffered in exchange for limited water resources during times of drought, could be adopted by the state golf industry as their template and for the other, currently uncreated industries' model that will consume water in the future.

There is no incentive for any golf destination in the state of Minnesota to invest in their infrastructure, especially irrigation efficiencies, if, under times of drought, the whole of their allotted water permit could be revoked. The golf industry would like to set the standard of pursuing continuous water efficiencies, conservation and irrigation reduction during drought conditions in exchange for assurances of limited access to water to maintain individual courses business models. Those individual courses that choose to not employ the efficiency, conservation and drought management programing will not receive the benefit of limited irrigation during times of water stress.

It will take legislation to create an "environmental steward" water user category for golf courses, and any future water using industries, as well as mandates to the Commissioner of the Department of Natural Resources to partner with golf and create a workable solution to the current system of water allocation.

The Minnesota golf industry is ready and very willing to implement sound water management initiatives with the support of state agencies, the University of Minnesota and our legislative leadership.

Issue 14 (1A): Simplifying the Water-Quality Standards Review and Revision Process.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The process or reviewing and amending water quality standards should be efficient and timely.

The Clean Water Act requires regular reviews of water-quality standards. The rule regarding conductivity serves as an example. The process of amending standards takes a great deal of time and there is concern, within this committee, that this process negatively affects opportunities for economic growth and development. The committee may decide to direct a request a legislative report, from the MPCA, that follows up on are recent hearing and describes process improvement and that explores efficiencies. Based on the findings and results from that report, or hearing, changes to policy may be considered.

Legislative Recommendation: Direct the preparation of a legislative report to address the process, issues and concerns for all classes of water. Based on the findings, determine what changes to policy or processes may to needed to simplify and to improve the process.

Issue 15 (1B): Simplifying the Irrigation Water Appropriation Process.
Supports Clean Water Council Strategy Goal 2, Groundwater is clean and available to all.
Why is this important? The state should ensure that the process for obtaining water appropriation permits, and the environmental review of proposed project is as efficient and timely as possible.

The time required to obtain an irrigation water-appropriation permit is of concern. The committee should require a legislative report, from the DNR, to determine policy or process changes are needed. The review would consider possible options for simplifying the process while recognizing the need to balance the need for economic development with efforts to ensure sustainable supplies of groundwater.

Committee Recommendation: A first step would be a hearing, with DNR staff, to determine whether an agency/legislative review process or report to the Legislature, or a policy change, are needed. This report would explore options for simplifying the appropriation and permitting process for groundwater withdrawals. The report should incorporate the need to balance economic development with the need to ensure sustainable supplies of groundwater for the future. The first hearing was held on December 18.

Issue 16 (7D): Leveraging Dedicated Funding Programs to Maximize Conservation Outcomes Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The state should ensure that environmental programs are efficient and that the programs focus on common and mutual environmental benefits.

The subcommittee should support policy focused on increased emphasis on mutual benefits from dedicated funding programs. Improvements to environmental outcomes could be improved, based on a comprehensive analysis of those programs. Each program is involved in strategic planning efforts that focuses on outcomes. Greater coordination of common goals and mutual benefits could improve environmental outcomes. The committee may want to consider an analysis the common goals that improve outcomes that provide support for the continuation of the state's dedicated environmental funding programs in the future.

Proposed Legislation: The subcommittee should discuss and prepare a comprehensive analysis of dedicated funding programs, including programs such as the Clean Water Fund Program, the Outdoor Heritage Program and the Legislative and Citizen's Commission on Minnesota Resource's (LCCMR). Each of these programs is involved in strategic planning efforts. By including greater consideration of common goals, objectives and benefits, these programs could provide additional environmental outcomes for the citizens of the state though better communication and cooperation.
Subcommittee Recommendations:

- Direct the preparation of an analysis of the common goals and objectives of the dedicated funding programs that include the Clean Water Fund the Outdoor Heritage and the Legislative and Citizen's Commission on Minnesota Resources Programs with a report to the legislative. Each of these programs is involved in strategic planning efforts. By including consideration of greater mutual benefits, these programs could provide increased environmental outcomes for the citizens of the state.
- Prepare a comprehensive review of strategic plans from the CWC, LSHOC and LCCMR
- Following the recommendations of the plans, prepare a joint analysis of objectives that are in common across the programs focused on the upper Mississippi River Watershed
- Prioritize programs that can leverage efforts that are common to the commissions and councils
- Plan ahead for continuation of vital programs when funding sources expire.

The directors and program managers of the Clean Water Council, the Lessard Sams Outdoor Heritage Council, the Legislative and Citizens Commission on Minnesota Resources, and the LCC Water Policy Subcommittee (councils and committees) have initiated a process of "council-to-council" communication. This should be a step forward in coordinating and promoting common efforts to increase water-related outcomes.
The following opportunities are being explored:

- Finding opportunities to combine program efforts to maximize water-quality outcomes
- Request that program applicants indicate where there is potential for outcomes that fit with the programs of the other councils and committees.
- Requesting funding-applicant information about program coordination with On Watershed One Plan strategies
- Working collaboratively, within the individual strategic planning processes, to identify common elements that could result in significant changes to water quality. The LCCMR is likely that first place where some of the big ideas would emerge through research initiatives.
- The councils and committee directors are planning to meet on a regular basis to move forward on these goals and objectives

Issue 17: Policy to address the Waters of the United States (WOTUS) rule & Section 401 of Clean Water Act Certification.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The subcommittee should actively follow this process and consider policy for the next session based on discussions with agency staff.

The federal government is expanding federal interests in waters of the Unitized States by appealing and narrowing existing federal laws and regulations. Previously, WOTUS had limited impact in Minnesota because state's laws had overriding and more stringent jurisdiction. The proposed changes would significantly limit state control. The MPCA has indicated that these changes are a step backward. Legislative request: No legislation is needed at this time. EQB and the BWSR are developing a plan to address the impacts of climate change on state policy. The subcommittee should actively follow this process in the development of policy considerations for the next session based on discussions with agency staff.

Issue 18: (4A): Keeping Water on the Land-Quantifying Impacts and Encouraging Water Storage Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect it.

Why is this important? There is general agreement that the state needs to increase efforts to retain water on the land to reduce peak flows and to improve water quality.

Water retention: While drainage provides benefits, it also results in environmental concern. There is general agreement that we should increase efforts to retain water on the land to reduce peak flows and to improve water quality. A fundamental obstacle is understanding which best-management practices are most effective in specific landscapes because the beneficial impacts of water storage has not been fully assessed. Information and models are now available to assess the location and numbers of structures that are optimal. This effort would complement work being done by the One Watershed, One Plan process.

Legislative Intent:

- Fund an analysis to identify peak-storage structures opportunities, in the most critical places, in areas such as Area II, the Red River Valley, or the Greater Blue Earth River Basin.
- Provide an assessment of best-management practices for peak storage, appropriate in specific landscape settings. This process would involve existing watershed models, flow data and water quality data.
- Based on that assessment, prioritize best-management practice locations in the most appropriate areas.
- Identify appropriate BMPs for specific landscape settings. Include a cost/benefit analysis of conservation drainage-management practices to understand benefits
- Based on that analysis, identify an appropriate incentive process that can be built into the 1W1P process and move forward with two pilot efforts in a subsequent session.
- Based on success, expand this process to the state's other agricultural watersheds.

Issue 19 (1C): State Assumption of Federal Wetlands Permit Responsibilities (**Clean Water Act, Section 404).**
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The committee needs to stay informed regarding requirements that will be needed to accomplish the state's wetland permit process that likely will take place during the 2021 session.

Committee Recommendation: The EQB received funds, during the previous session, to plan for assumption. BWSR has received an EPA grant to supplement funding for the assumption-application process. Law and Rule changes, state costs and staffing needs, associated with assumption, are unclear at this time. The role of local units of government also is unclear. **There is no legislative need at this time**. The committee should be kept informed about requirements that will be needed to accomplish the assumption process which likely will take place during the 2021 session.

Issue 20 (7B): Change the structure and Function of the Clean Water Council and the LCC Subcommittee on Water Policy.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The subcommittee should discuss the existing bill, make suggestions, and reach consensus on a path forward.

HF 2902 proposes far-reaching changes to the structure and function of the Clean Water Council and to the LCC Water Policy Subcommittee by creating the Legislative and Citizens Commission on Minnesota Waters. The bill contains thoughtful suggestions for improvements. If the bill moves forward, several existing functions of the two organizations should be preserved. These include significant and long term support for agency clean-water programs and continued coordination among the administration, stakeholders, the legislature agencies and citizen experts. The subcommittee my want to discuss this bill in detail, make suggestions, and reach consensus on a path forward.

Committee Recommendation: The Subcommittee should hold and informational hearing on this bill s first step. Based on the results of that hearing the subcommittee may decide to request a position paper, or and additional hearing with the Clean Water Council and the Subcommittee, exploring implications, staffing and budgetary considerations. Based on that information, determine whether the Subcommittee can support a decision for restructure. **No legislation is needed at this time.**

Issue 21: Emerging Contaminants Sentinel Monitoring Program.
Supports Clean Water Council Strategy Goal 2-- Groundwater is clean and available to all.
Why is this important? We do not know the extent and threat of forever chemical is the drinking water used by the citizens of the state.

There is a great need to address drinking-water safety by expanding an LCCMR-MDH project into a program at the Department of Health, focused on emerging contaminants in drinking water. The occurrence and distribution of unregulated contaminants, including the forever chemicals (PFOA and PFOS), is unknown outside of Washington County. It is likely that this suite of chemicals is widespread across the state. This proposed program would build on results from an on-going LCCMR- MDH project. The initial step would be the development of a sentinel network of monitoring sites that includes community and non-community (transient and non- transient supply wells) as well as lakes and river that supplement the LCCMR project networks. These sites represent water that Minnesota residents (particularly children by including schools) drink. By strategically developing an appropriate sampling network, and an appropriate list of chemicals for sampling, results can be extrapolated to identify and to prioritize areas where contaminants may be found in other wells (sensitive areas). These results also will be able to be used to identify sensitive aquifers where these emerging contaminants may be found in aquifers that supply private drinking wells. Therefore the program also would address the problem of water safety for those using private wells.

Legislative request: Provide direction and funding to design a monitoring network and reconnaissance sampling as a first step (MDH).

Issue 22: Encourage Water Quality Trading: Encourage pilot watershed-scale pollutant trading and banking programs as a management practices to reduce nutrients and sediments in rivers and lakes.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? Water Quality trading offers a method of meeting water-quality standards in waters of the state. Policy is needed to build a reliable method to conduct trades.

The MPCA has the statutory authority to approve pollutant trading. However, there is no third-party entity to broker pollutant trading. Watershed-scale pollutant trading is needed to encourage adaptive approaches for pollutant reduction using third-party brokers to facilitate and to provide a mechanism for exchange. The approach could include the agricultural community as well as wastewater and storm-water facilities in exchanges a brokerage mechanism would provide opportunities for successful point source to point sources and 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. The broker system in being implemented in Wisconsin.
Legislative action: Adopt policy and direction to allow for third-party brokers and direction to define and to initiate a process (MPCA, UM)

Issue 23 (2A): Prioritizing Outcomes for Clean Water Programs.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The subcommittee should consider suggestions made by non-government entities that suggest ways to improve water related programs for greater outcomes.

Minnesota's citizens passed the Clean Water, Land and Legacy Amendment in 2008. It dedicated a portion of the sale's tax to improving and protecting water. Much has been accomplished. However, recent information suggests that improvements, when the amendment expires in 2034, will not meet citizen's expectations. As the amendment period reaches half way, there is need to place additional emphasis on achieving and demonstrating outcomes. State and local agencies have a great opportunity to work together by making minor adjustments that prioritize programs to improve water, increase our return on investment, and show greater outcomes to ensure clean water for the future. There is a great need to increase efforts to restore, preserve, and protect the waters of the state while ensuring a healthy public and healthy economy.

The directors and program managers of the Clean Water Council, the Lesser Sam's Outdoor Heritage Council, the Legislative and Citizens Commission on Minnesota Resources, and the LCC Water Policy Subcommittee (councils and committees) have initiated a process of "council-to-council" communication. This should be a step forward in coordinating and promoting common efforts to increase water-related outcomes. This process is exploring the following opportunities:

Path forward: The subcommittee should hold a hearing to encourage better coordination among the state's varying clean water programs and commissions (MPCA, MDH, DNR, MDA, BWSR, EQB, CWC, LSHO, LCMR and the LCC Water Policy Subcommittee) to ensure that the programs are synchronized and working together efficiently and effectively. The hearing should be held to provide legislative direction for making minor adjustments to the Clean Water Programs that recognizes the priorities in the Clean Water Accountability Act and Freshwater's Trajectory Report. The process would involve suggestions for policy considerations for subsequent legislative sessions.
These adjustments would: 1) focus on incremental funding increases directed at protecting waters of high quality. This would include a strategy to place additional emphasis in areas that can provide the greatest improvements toward state water-quality goals (areas closest to meeting water quality standards, areas where the protection of high quality unimpaired waters that are at the greatest risk of becoming impaired, and areas needing restoration and protection of water resources important for public use and public health, including drinking water); and 2) include a mechanism to better measure and demonstrate progress at multiple scales (local, watershed and regional). This would provide a method and implementation strategy to quantify results of state investments (including analysis of those investments that provide the greatest return toward the state's goals).
Legislative Direction:

Legislative Direction:

- Prioritize opportunities to combine programs to maximize water-quality outcomes. Hold hearings, resulting in a legislative report that presents opportunities to coordinate programs (CWC, LSOHC, and LCCMR) that can result in maximizing water-quality outcomes. The report shall include a review of recommendations from existing reports and laws, including "Putting Minnesota on a Clean Water Trajectory" by the Freshwater Society and the Clean Water Accountability Act) as a path toward more effective program collaboration. The report also shall explore opportunities for greater coordination with the strategies of the One Watershed/One Plan programs.
- Request funding-proposal applicant information about program coordination with the "One Watershed One Plan" strategies

- Require that funding proposal applicants (Clean Water, LCCMR, and LSOHC) include information about synergy with the strategic goals of the other funding programs. State and local agencies have a great opportunity to work together by making minor adjustments that prioritize programs to improve water, increase our return on investment, and show greater outcomes to ensure clean water for the future. There is a great need to increase efforts to restore, preserve, and protect the waters of the state while ensuring a healthy public and healthy economy.
- Request funding-proposal applicant information about program coordination with the "One Watershed One Plan" strategies
- Require that the Clean Water, LCCMR and LSOHC programs prepare a combined legislative briefing that describes common elements of each of the programs' strategic planning documents, including descriptions of common goals that can result in significant positive changes to the waters of the state. Working collaboratively, within the individual strategic planning processes, to identify common elements that could result in significant changes to water quality. The LCCMR is likely that first place where some of the big ideas would emerge through research initiatives.
- Working collaboratively, within the individual strategic planning processes, to identify common elements that could result in significant changes to water quality. The LCCMR is likely that first place where some of the big ideas would emerge through research initiatives. Require a plan to pilot a collaborative effort to protect, preserve and improve the waters of the Upper Mississippi River watershed.
- The councils and committee directors are planning to meet on a regular basis to move forward on these goals and objectives

Issue 24 (7A): Creation of a Department of Water Resources, Water Governance.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The subcommittee should provide a review of the benefits and concerns that may arise be consolidating the state's water programs into a Department of Water.

Minnesota's waters are governed by hundreds of laws and regulations that involve 20 federal agencies, 7 state agencies, and many local units of government. An introduced bill (SF2102) calls for a reorganization of the state's water governance structure. The issue of a Department of Water been studied and reported on twice. Previous recommendations should be evaluated. The recommendations focus on cooperation, efficiency and service to citizens. The committee should hold a hearing to examine existing recommendations as a guide for reorganization or for policy changes to make agencies more efficient and effective, including impacts on agency budgets (SF 2102)

Committee Recommendation: Based on the call for a reorganization of state-water governance, it is important to evaluate Minnesota's water governance structure. This would allow for the thoughtful review needed as a foundation for a proposed reorganization. The idea has been studied and reported on at least twice in the past (UM Water Sustainability Report and an inter-agency water governance report). The recommendations presented in those reports should be considered prior to a legislative decision on agency reorganization. The suggestions from the previous reports should be evaluated because they focus on agency cooperation, efficiency, and service to the citizens of the state.

Legislative Recommendations—initiate a legislative hearing and report by the Water Policy subcommittee to:

- Discuss a method to assess budgetary considerations of reorganization
- Request an inter-agency report focused on feasibility or governance recommendations from the two previous reports on water governance
- Request an inter-agency report that summarizes the feasibility, costs, efficiencies and governance improvements that would result from consolidation of various agency programs into an overall Department of Water governance
- Request an inter-agency report that summarizes the feasibility, costs, efficiencies and governance improvements that would result from consolidation of various agency programs into a Department of Water governance
- Request an inter-agency report that summarizes the value, efficiencies and governance improvements that result from consolidation of a Department of Water.
- Apply these assessments to guide policy recommendations for agency reorganization, or for changes to make the work of the agencies more efficient and effective.

Issue 25: Monitoring Beach Health.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? Waterborne bacteria are increasingly threatening the safety of those who use beaches in the state. A state-wide monitoring should be considered to ensure the safety of the residents of the state.

During recent summers, many beaches were closed due to E Coli bacteria. E Coli is an indicator of fecal material in water. The reasons for increases in beach closures are unclear, but likely are the result of animals, in and around public beaches, and increases in runoff from summer storm events. The monitoring of public beaches is a fragmented process because it is the responsibility of cities and counties, if they accept that responsibility. Beach closures usually are issued days after waters are contaminated and this is not a proactive process. In order to protect public health, a state regulatory program and funding mechanism is needed for counties.

Legislative request: Provide policy and funding for an agency plan that would results in a consistent monitoring on a program for beach-health (Minnesota Department of Health).

Issue 26: Flushable wipes clog our waste-water treatment plants.
Pertains to Clean Water Council Goal 3: Surface Wates are swimmable and fishable throughout the state.
Why is this important? Flushable wipes present significant problems for wastewater treatment plants.

Flushable wipes are major concern for wastewater treatment facilities. They clog treatment plans and decrease the efficiency of the plants. This is a significant issue for the Metropolitan Council. Policy is needed to ban to ban flushable wipes, to change labeling language, and to provide accurate consumer education. (MPCA)

Legislative request: Policy to ban to ban flushable wipes, or to change labeling language, and to provide accurate consumer education. (MPCA)

Issue 27: Recommending Efficiency and Consistency in Evaluation Best Management Practices by using appropriate use of models and estimators for best management practice prioritization.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? There are too many water quality models and estimators. The creates confusion and difficulties in comparing predicted water-quality improvements.

Measuring results from water-quality projects and best management practices is an increasingly important outcome issue as the state placed more emphasis on assessment and BMP implementation. The citizens of the state need to understand the benefits that have resulted from clean water programs. Water quality models and estimators are critical for calculating and reporting the measurable environmental outcomes of programs funded by the citizens of the state and carried out by the agencies of the state. There are many models and tools available for use by local and state agencies. All of these tools have value and specified application requirements. The selection of the most appropriate model is confusing and inefficient. The use of many models and tools makes the comparison of result for watershed manages, difficult, inefficient and confusing. As a state we need to determine the best evaluation tools and limit the number of tool that are being used by state and federal agencies.

Legislative request: Prepare for policy that recommends the best policy tools. Recommend and fund an expert panel to provide guidance about suggesting and limiting the number of models and tool options available to local and state agencies for projects funded by clean water programs. Provide a report to the legislature from the Water Policy subcommittee.

Issue 28: Water Train controversy.
Pertains to Clean Water Council Goal 4: Minnesotans value water and thank action to sustain and to protect water of the state.
Why is this important? New policy may be needed to address interest in shipping the state's waters to other states.

Is there need to revise water appropriation policy, based on the recent water train controversy? A Lakeville-based railroad company recently filed an application to drill wells in Dakota County. Water from the wells, 500 million gallons a year, was proposed to be shipped, by train, to the Southwest. A proposal for this action is not likely to be approved because the aquifer involved (Mt Simon and Hinckley) has unique legislatively-mandated protection. However, that may not be the case for other aquifers. The commerce clause may prohibit future appropriation denials. The proposal was the first of its kind in Minnesota and could set a precedent about similar projects that could be allowed based on state statutes and rules.

Legislative request: Prepare for legislation: Explore statues and provide policy that is needed to protect the state from future similar initiatives through a report to the Legislature (DNR)

Issue 29: Evaluate conduct an evaluation of the 1989 Groundwater and prepare a legislative report that includes accomplishments, short comings and needs.
Pertains to Clean Water Council Goal 4: Minnesotans value water and thank action to sustain and to protect water of the State.
Why is this important? A review of the 1989 Groundwater Act is needed to examine accomplishments, unfulfilled goals and recommendations.

The 1989 Groundwater Act was a major piece of environmental legislation. All of the primary environmental agencies played a part in it, as well as other entities (the University of Minnesota, The State Geological Survey, League of Cities, Association of Counties, Association of Townships, watershed districts, soil and water conservation districts, and assorted farm, environmental, and business groups). The law contained ten separate articles that included changes and additions to for groundwater law. The law contained numerous policy and funding provisions. Some of the major goals have been met. After 30 years it is time to focus on accomplishments stemming from the act, unfulfilled goals of the act, and future concerns and recommendations

Legislative Request: In cooperation with the Minnesota Groundwater Association's White Paper process, support a legislative report process that focuses on accomplishments stemming from the act, unfulfilled objectives of the Act, to guide future legislation, funding, and recommendations. Legislation is not needed at this time.

Issue 30 (3A): Preparing for an Uncertain Future.
Pertains to Clean Water Council Goal 4: Minnesotans value water and thank action to sustain and to protect water of the State
Why is this important? The subcommittee needs to track results and conclusions that will develop from the State Water Plan in order to increase emphasis for ensuring safe and adequate water for the future.

The state has a need for an enhanced Statewide Water Plan that adds focus to preparing for changes that are taking place to our climate, landscapes, biota, hydrology, lakes, and infrastructure. Legislative direction and support is needed for greater interagency/legislative planning and reporting to the Legislature. An enhanced interagency/legislative water-policy team should be considered to develop this Future State of Water as part of an enhanced water policy plan for the Legislature. The plan should include return on investment reviews of best management practices to improve water quality that provides a better understanding of where to place emphasis that provides the greatest benefits at the lowest cost.

Legislative Request: Provide legislative direction, and additional support for an interagency/legislative planning process that includes a report to the Legislature as a first step, coordinated by the Environmental Quality board. This would include a comprehensives Statewide Water Policy to guide policy climate, landscapes, biota, hydrology, lakes and infrastructure adaptive management. The report also should address Issue 7D: Leveraging Dedicated Funding Programs to Maximize Conservation Outcomes, and Issue 2A: Prioritizing Outcomes for Clean Water Programs. There is no need for legislation at this time. This priority, which was introduced last year, is included in the Environmental Quality Board's State Water Plan report. The committee should express support for the EQB process and hear progress reports as a planning vehicle for the following session.

Issue 31: Policy evaluation regarding urban storm water capture and retention.
Pertains to Clean Water Council Goal 4: Minnesotans value water and take action to sustain and protect it.
Why is this important? The water quality impacts of storm-water capture and retention are not well understood. Research and policy are needed to ensure the quality or groundwater quality.

Storm-water retention is required for construction and development in our cities. However, we do not have a clear understanding of the impacts of retained water that infiltrates into groundwater. An unproven assumption is that infiltrated storm water improves streamflow and lake levels during periods of drought. The effects on groundwater quality also are unclear. There are reasons for concerns that involve mobilization of legacy pollutants in urban soils and groundwater and movement of soluble pollutants and legacy pollutants, such as PAH compounds chloride and "forever chemicals, into groundwater systems. However, infiltration of water from pavements with low contaminant concentrations may not be a source of contamination. The policy of requiring storm water retention may have unintended negative consequences on our groundwater.
Legislative directive: (MPCA) Draft policy regarding whether, and where, storm water infiltration should be encouraged, or discouraged, by funding a report from the MPCA as a first step.

Issue 32: Generic Environmental Impact Statements.
Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? The Generic Environmental Impact Statement process provides a method to understand the impact of complex, regional environmental issues.

Generic Environmental Impact Statements (GEIS) are tools that can be used to understand complex and regional environmental issues. They should be used with greater efficiency. The GEIS process is directed by Minnesota Rules. The process can result in Comprehensive assessments that consider information and recommendations for making informed decisions about issues of regional importance. A GEIS can be ordered, by the EQB, when environmental issues cannot be adequately reviewed on a project-by-project basis. The process is a means of informing the public and regulatory agencies by providing a comprehensive analysis of a given region, issue, or type of activity. The GEIS process has been used sparingly in the past. Some examples include forestry and animal agriculture. Last session, the MPCA requested a GEIS related to agribusiness impacts in karst areas in southeast Minnesota. However, the process was not funded.

Proposed Legislative Action: Provide policy and funding for greater utilization of the GEIS process in advance of regularity concerns. Create an interagency advisory board to suggest topics. Provide for issues that would benefit from the GEIS process. Examples include efforts to examine agriculture in karst areas of southeast Minnesota, forest to agriculture conversion, and cumulative impacts of existing and potential mining in northeast Minnesota. Legislative request: Direct the potential benefits of the GEIS process by funding a pilot of one of these priority issues.

Issue 33: Create a Plan for a Research Program that promotes mining for northeastern Minnesota. Supports Clean Water Council Strategy Goal 4: Minnesotans value water and take actions to sustain and to protect the waters of the state.
Why is this important? A plan and process is needed to improve social, environmental and economic conditions in northeastern Minnesota that include environmentally responsible mining.

The goal of this effort is to improve social, environmental and economic conditions in northeastern Minnesota. The bill would create a program, at the University of Minnesota, and within the Natural Resources Research Institute. The mission of the program would be to conduct and support research that promotes mining and mining practices, and that provides increased economic benefits while protecting the environment. Emphasis would be placed on mining and mining practices that benefit the operation of proposed and existing mines as well while providing for the social, economic and environmental well-being of northeast Minnesota. The program would be guided by an advisory board. The board would include members representing environmental advocacy organizations, the mining industry, academic researcher specialists with interests in mining, economic and environmental issues, and citizens representing communities with a substantial mining-based economy. The institute would provide grants to individuals and organizations conducting research on issues consistent with the institute's mission, facilitate and provide opportunities for workforce training, internships, and other practical skills-based experiences that encourage mining practices, and conduct appropriate programs and outreach activities consistent with the organization's mission. Examples of research may include a study of the cumulative impact of existing and proposed mines as well as a study of baseline environmental condition in areas where mines or mining activity is proposed. Legislative request:

Legislative action: Request an implementation plan from the University of Minnesota and provide funds for development of this plan