

**LCC Subcommittee on Minnesota Water Policy: December 18
Draft Legislative Issue for the 2020 Session
December 10, 2019: DRAFT**

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Members,

The legislative topics that follow contain next steps. Some of them contain proposed legislative language. I hope you can reach consensus about next steps, on some or all of these issues, at our December 18 meeting. I'm also working a several new issue that I'll have ready for the December meeting.

- *Open the following file: Legislative_Priorities_2020_November_Handoutrev1ShortVersion.docx*
- *If you want more detail, open: Legislative_Priorities_2020_November_Handoutrev1.docx*

Please let me know if you have questions or concerns.

The topics are grouped in three categories as follows:

1. Topics, similar to bills introduced last session, that are in bill form and need committee comment
2. Topics that need informational hearings to determine whether policy recommendations are needed and to determine next steps
3. Topics that are new and put in bill form

Detailed position papers, for each issue, are available on request.

The following topics are in draft bill form for committee comment and decision. They are similar to bills introduced in 2019:

- Issue 2C: Provide Incentives for Healthy Soil
- Issue 3D: Ensuring Safe and Sustainable Drinking Water for the Future
- Issue 5D: Reduce the over-use of salt to protect lakes, rivers and groundwater
- Issue 5E and 6B: Encourage efficient wastewater and storm-water technology and treatment
- Issue 6C: Legislative Support to Improve Minnesota's Drinking Water Infrastructure

The following topics need additional input at committee meetings to determine whether policy recommendations are needed and to determine next steps:

- Issue 1A: Simplifying the Water-Quality Standards Review and Revision Process
- Issue 1X: Addressing Soil and Water Conservation District Funding
- Issue 1B: Simplifying the Irrigation Water Appropriation Process
- Issue 1C: State Assumption of Federal Wetlands Permit Responsibilities
- Issue 7A: Creation of a Department of Water Resources
- Issue 7B: Change the structure and Function of the Clean Water Council and the LCC Subcommittee
- Issue 7D: Leveraging Dedicated Funding Programs to Maximize Conservation Outcomes:
- Issue 2A: Prioritizing Outcomes for Clean Water Programs
- Issue 3A: Preparing for an Uncertain Future

The following topics are new issues this session:

- Issue 4A: Keeping Water on the Land-Quantifying Water Storage and Retention:
- Issue 4C: Encourage and Fund Research and Outreach that Promotes Precision Agriculture
- Issue 2X: Changes to the Water Appropriation Priorities for Golf Courses

The following topics are revised into draft bill form for committee comment. They are similar to bills introduced in 2019

Issue 2C: Provide 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, housed at the University of Minnesota, collaborates 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 to 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.*

Draft Legislation: STATEWIDE SOIL HEALTH ACTION PLAN; APPROPRIATION: \$... in fiscal years 2021 is appropriated from the general fund to the Board of Regents of the University of Minnesota to prepare a statewide soil health action plan in consultation with the Board of Water and Soil Resources and the commissioners of agriculture, natural resources and the Pollution Control Agency. The plan must include recommendations for protecting and improving the state's soil health for agriculture and water quality purposes, including recommendations for research, implementation and outreach. The plan shall be submitted to the Chairs and ranking members or the House of Representatives and Senate committees and divisions with jurisdiction over agriculture and the environment and natural resources by January 15, 2021. This is a one-time appropriation that is intended to result in funding for an implementation process in subsequent years.

Issue 3D: Ensure Safe and Sustainable Drinking Water for the future: **The safety of our 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 half-century, including the dramatic reductions in disease and improvements in longevity. The value of Minnesota's water goes beyond human health and the health of our environment. Jobs and economic development depend on communities having a reliable source of clean and safe water. The following recommendations are intended to cover the most important steps in providing safe and sustainable sources of drinking water.**

STATEWIDE DRINKING WATER SAFETY PLAN; APPROPRIATION

\$... in fiscal years 2021 is appropriated, from the general fund, to the commissioner of health to prepare a statewide drinking-water safety plan, in consultation with the Board of Regents of the University of Minnesota and the commissioners of agriculture, natural resources and the Pollution Control Agency. The plan shall include recommendations for protecting and improving the state's drinking water through research, implementation and outreach. The plan shall include a process to apply existing and on-going monitoring and mapping information to identify state's most vulnerable sources of drinking water and to coordinate groundwater management in those areas to assess vulnerability across county and watershed boundaries. The plan should also include a process to coordinate the Safe Drinking Water Clean Water Acts in order to address regulated and non-regulated contaminants in the most vulnerable sources of public and private sources of drinking water. The plan should also include a plan to identify and address areas with the most significant non-compliant individual septic systems. The plan must be submitted to the chairs and ranking members or the House of Representatives and senate committees and divisions with jurisdiction over agriculture, environment and natural resources by January 15, 2021. This is a one-time appropriation that is intended to result in funding for an implementation process in subsequent years,

Issue 5D: Reduce the over-use of salt: *Protect 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. The committee should consider providing support for limiting liability for applicators and to provide applicator training. There also is a one-time need to the significance of other sources of chloride, such as water softening and dust suppression.*

Policy recommendations: Draft language: Drinking Water: A bill for an act relating to the environment and appropriating money to reduce chloride pollution. \$... in fiscal year 2021 is appropriated, from the general fund, to the of the Pollution Control Agency , in consultation with the commissioner of health and the Regents of the University of Minnesota to develop a statewide plan that would reduce chloride contamination to our lakes, streams and groundwater. The bill supports the Clean Water Council's recommendation for ongoing training and licensure for applicators by providing general funds for that training. The bill also provides support for the development of an implementation plan at the University of Minnesota. The plan would investigate the feasibility and significance of requiring alternatives to sodium chloride; quantify the significance of other sources of chloride; and determine the feasibility, scope, impact, and consequences of requiring centralized softening at drinking water treatment plants. The plan should also explore the feasibility of eliminating the sale of water softeners that cannot be programmed to reduce the use of salt.

Issue 5E and 6B: Encourage efficient wastewater and storm-water technology and treatment options: **Cities and towns struggle with maintaining and upgrading water supply and wastewater-treatment facilities. There is a great need to encourage and provide new technology and alternative approaches. The committee should consider supporting and encouraging innovative technology, regional partnerships, improved asset management, coordinated administrative and operational activities, shared wastewater operators, and decentralized utility services.**

A bill for an act relating to water; appropriating money to improve water and wastewater treatment: APPROPRIATIONS Wastewater and storm water infrastructure:

(a) \$..... in fiscal year 2021 is appropriated, from the general fund, to the commissioner of the Pollution Control Agency, in cooperation with the Minnesota Rural Water Association, to accelerate and enhance cost-effectiveness plan reviews and asset management plans for waste-water treatment facilities and to encourage innovative best management practices at wastewater and storm water facilities.

(b) Policy Statement: Support and recommend full-capacity PFA funding at \$200 million per biennium. Allocate a portion of the funding for innovative wastewater treatment upgrades and replacement for cities and unincorporated communities with aging wastewater infrastructure.

(c) \$..... in fiscal year 2021 is appropriated from the general fund to provide assistance, including training, tool development, and technical assistance, to the Minnesota Rural Water Association, or the Minnesota Technical Assistance Program at the University of Minnesota.

(d) \$... in fiscal year 2021, to the commissioner of the Pollution Control Agency, to prepare a plan to identify areas with worst areas of leaking septic systems and to propose an incentive programs to address the problem for areas with limited resources

(e) Support the preparation of a research plan that would encourage innovative wastewater options at the University of Minnesota, by creating a Small Wastewater Innovation Center which would focus on.

(f) \$..... in fiscal year 2021 is appropriated from the general fund o the Public Facilities Authority to assess, encourage, develop, and implement wastewater infrastructure alternatives to cost-effectively maximize wastewater treatment, including plan development, regionalization, and cooperative management. The Public Facilities Authority may work with the Minnesota Technical Assistance Program at the University of Minnesota to implement this paragraph.

(g) \$..... in fiscal year 2021 is appropriated from the general fund to the commissioner of the Pollution Control Agency to develop and implement market-based water quality trading options for wastewater and storm water in several areas.

(h) \$..... in fiscal year 2021 is appropriated from the general fund, to the commissioner of The Pollution Control Agency, in cooperation with the commissioner of health, to identify and to address areas where subsurface sewage treatment systems pose the most serious risk to the environment and human health and to provide technical assistance, grants, and other Financial assistance to incentivize upgrades, replacements, and alternatives to improve water Quality.

(I) \$... in fiscal year 2012, is appropriated to the commissioner of the Pollution Control Agency to create a pilot regional wastewater coordinator- facilitator position, within a regional development organization, or at the UM, to assist in regional training programs, to encourage cross-jurisdictional cooperation and to promote cost effective and innovative waste water practices.

(j) The appropriations in this section are onetime *and are available until June 30, 2021.*

Issue 6C: Legislative Support to Improve Minnesota's Drinking Water Infrastructure: Minnesota's water-related infrastructure is aging and threatens our economic and public health. The committee should consider ways to encourage cost-effectiveness reviews, alternative best-management practices, asset-management reviews, and efficient infrastructure alternatives,

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 and the Pollution Control Agency and to the Public Facilities Administration to provide greater support for drinking water infrastructure improvements for towns and cities across the state of Minnesota.

APPROPRIATIONS; DRINKING WATER INFRASTRUCTURE.

(a) \$ in fiscal year 2021 is appropriated, from the general fund, to the commissioner of health, in cooperation with the Minnesota Rural Water Association, to accelerate and enhance cost-effectiveness plans for drinking water facilities.

(b) \$ in fiscal year 2021 is appropriated to the commissioner of health, from the general fund, to provide assistance, including training, tool development, and technical assistance, to the Minnesota Rural Water Association and to the Minnesota Technical Assistance Program at the University of Minnesota, and to cities to encourage innovative best management practices at drinking water facilities.

(c) \$ in fiscal year 2021 is appropriated, from the general fund, to assist applicants for programs administered by the Public Facilities Authority and other communities with developing and maintaining asset management plans for drinking water. Of this amount, \$ is to the commissioner of health and \$ is to the Public Facilities Authority.

(d) \$ in fiscal year 2021 is appropriated from the general fund to the Public Facilities authority and to the commissioner of the department of health to address public health risks from public water supplies, including grants to public water suppliers to replace lead service lines.

(e) \$ in fiscal year 2021 is appropriated from the general fund to the commissioner of the Pollution Control Agency, in cooperation with the commissioner of health, to identify and address areas where subsurface sewage treatment systems pose the most serious risk to the environment and human health and to provide technical assistance, grants, and other financial assistance to incentivize upgrades, replacements, and alternatives to improve water quality.

(f) Recommend full-capacity PFA funding at \$200 million per biennium

(g) Recommend re-activation of the Water Advisory Committee (at the MPCA) to address water supply systems, impacts of climate change, waste-water treatment facilities and operator certification

(h) The appropriations in this section are onetime *and are available until June 30, 2021.*

The following topics need additional input at committee meetings to determine whether policy recommendations are needed and to determine what the next steps should be:

Issue 1A: Simplifying the Water-Quality Standards Review and Revision Process: 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 want to request a legislative report, or hearing, that describes the process and explores efficiencies. Based on the findings and results from that report, or hearing, changes to policy may be considered.

Recommendation: Direct the preparation of a legislative report, or hold hearings, to address the process, issues and concerns for all classes of water. Based on the findings, determine if changes to policy or processes are needed. MDH would like to also consider Class 1 water by aligning Safe Drinking water and Clean Water Act requirements.

Issue 1X: Addressing Soil and Water Conservation District Funding: SWCD's are important special-purpose units of government that carry out local conservation programs. SWCD staff work with landowners in providing technical expertise and financial assistance to maintain and improve the quality, quantity and sustainability of water. Capacity funding falls short of the need. The committee may wish to propose supplemental aid, in the tax bill, or through options for local fees, a SWCD levy authority, or additional sales taxes.

Recommendation: The committee should hold a hearing to determine how to best provide the financial support needed for SWCDs. Options may include aid in the tax bill, local fees based on sediment runoff, optional SWCD Levy Authority, new additional dedicated sales tax, Ad valorem levy authority, or fees on property.

Issue 1B: Simplifying the Irrigation Water Appropriation Process: The time required to obtain an irrigation water-appropriation permit is of concern to some members of this committee. The committee should facilitate a hearing, or briefing paper with DNR staff to determine whether a legislative review or agency report is appropriate. This 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.

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, is needed. This report could 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 is planned for December 18.

Issue 1C: State Assumption of Federal Wetlands Permit Responsibilities (Clean Water Act, Section 404): Committee Recommendation: The EQB received funds, during the previous session, to plan for assumption. BWSR has applied for 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 7A: Creation of a Department of Water Resources-- Water Governance: Minnesota's waters are governed by hundreds of laws and regulations that involve 20 federal agencies, 7 state agencies, and many LGU's. 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 in the past. Regardless of or prior to movement on the bill, recommendations from previous reports 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 Recommendations--Initiative a legislative hearing to:

- *Discuss a method to assess budgetary considerations of reorganization*
- *Review recommendations from the two previous reports on water governance*
- *Apply that assessment to guide policy recommendations for agency reorganization, or for changes to make the work of the agencies more efficient and effective.*

Issue 7B: Change the structure and Function of the Clean Water Council and the LCC Subcommittee on Water Policy: 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.

Recommendation: The Subcommittee should decide to hold a hearing on this bill.

1. **Request a position paper, or hearing with the Clean Water Council and the Subcommittee, that explores the implications, staffing and budgetary considerations**
2. **Based on that information, determine whether the Committee can support a decision for restructure.**

Issue 7D: Leveraging Dedicated Funding Programs to Maximize Conservation Outcomes: *The committee may want to request increased emphasis on mutual benefits from dedicated funding programs. Improvements to environmental outcomes could improve, based on a comprehensive analysis of those programs. Each program is involved in strategic planning efforts that focus 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.*

Recommendation: There is probably no need for legislation at this time. 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 programs to maximize water-quality outcomes*
- *Requesting 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 One 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 2A: Prioritizing Outcomes for Clean Water Programs: 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 recent report, “Putting Minnesota on a Clean Water Trajectory” by the Freshwater Society and the Clean Water Accountability Act, provide thoughtful recommendations to move forward toward these goals.

There is no need for legislation at this time. The directors and program managers of the Clean Water Council, the Lessard 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:

- Finding opportunities to combine programs 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.
- Request funding-applicant information about program coordination with the “One 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

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.

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).

Issue 3A: Preparing for an Uncertain 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 as a first step. 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. Committee Recommendation: Provide legislative direction, and additional funding 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 comprehensive 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.

Recommendation: There is no legislative need at this time. This priority, which was introduced last year, is scheduled to be included in the Environmental Quality Board's State Water Plan report. The committee should hear a progress update on this issue.

The following topics are new issues this session:

Issue 4A: Keeping Water on the Land-Quantifying Impacts and Encouraging Water Storage and Retention: While cropland 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.

DRAFT LEGISLATIVE LANGUAGE: WATER RETENTION AND STORAGE: A ONE TIME APPROPRIATION:

\$... in fiscal years 2021 is appropriated, from the general fund, to the Commissioner of the Department of Agriculture, the Board of Water and Soil Resources, the Regents of the University of Minnesota and Minnesota State University, Mankato, and the Red River Management Board, for the preparation of an implementation plan to increase water storage in strategic locations across the state. This plan shall include recommendations for protecting and providing flood control and for improving the waters of the state through research, implementation and outreach. The plan shall include a pilot process to identify peak-storage structure opportunities in the most critical places in areas such as Area II, the Blue Earth River Basin, or the Red River Valley. The effort shall include an assessment of best-management practices for peak storage structure that are appropriate in specific landscape settings, based on available streamflow and water quality information and existing model analysis. Based on outcomes of the assessment, the effort would prioritize best-management practice locations in the most appropriate areas across the state, and would identify appropriate BMPs for specific landscape settings. A cost/benefit analysis of these conservation drainage-management practices would be included that would be used to identify an appropriate incentive processes such as the “one watershed/one plan”. Based on the outcome of the planning effort, a process would be identified to expand these efforts to the most appropriate of the state’s agricultural watersheds. The plan shall be submitted to the chairs and ranking members or the House of Representatives and Senate committees and divisions with jurisdiction over agriculture, environment and natural resources by January 15, 2021. This is a one-time appropriation that is intended to result in funding for an implementation process in subsequent years.

Issue 4C: Encourage and Fund Research and Outreach that Promotes Precision Agriculture: Self-managing and sustainable farming is imperative to ensuring agricultural competitiveness and to protect our waters. This required modern and emerging technologies such as satellites, advanced data analytics, automated sensors, and robotics. The committee may wish to consider policy, and a legislative initiate, that provides additional resources for research and outreach through the UM Precision Agriculture Center.

Legislative Intent: Increase funding for 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 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.

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

DRAFT LEGISLATIVE LANGUAGE: Funding Research and Outreach to Increase Precision Agriculture

\$... in fiscal years 2021, is appropriated, from the general fund, to the Commissioner of the Department of Agriculture, the Board of Water and Soil Resources, and to the Regents of the University of Minnesota to provide resources for additional research and outreach through the UM Precision Agriculture Center. This bill would:

- *Increase funding for the University of Minnesota focusing on research and outreach for precision agriculture*
- *Provide a policy direction regarding data privacy, public-private partnerships, research and technical assistance focused on the most important agricultural and water challenges. The draft policy would consider economic cost and benefits, soil health, irrigation management, and nutrient and pesticide management.*
- *Increase research 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), and delineation of management zones*
- *Develop extension programming to the adoption of precision agricultural practices.*
This is a one-time appropriation that is intended to result in funding for an implementation process in subsequent years.

Issue 2X: Changes to the Water Appropriation Priorities for Golf Courses: 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. Golf is a big industry made up of small businesses. Ninety percent of all participants are public players. The golf industries business model has a major challenge, that of water accessibility in times of drought, because golf course irrigation is considered in statute, non-essential. The Minnesota golf industry has been working to support University research: to develop drought-resistant and water conserving turf varieties; to pursue technologies to reduce the need for irrigation; and to conserve water and to develop drought management practices.

The Minnesota golf industry has embraced two initiatives at the University of Minnesota. 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, the Natural Capitol Project, 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. Minnesota Golf has partnered with the Department of Agriculture and University of Minnesota to develop Best Management Practice

Guidelines for Turf grass Fertilization and 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 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. 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 communities. Minnesota Golf considers their properties as a communities largest rain gardens.

The golf industry would like to continue to pursue policies that are beneficial to the game, a community’s health, the environment and the state’s economy. Golf is the only industry singled out when the state developed water use and drought suspension guidelines in the early 1970’s. As a category six, nonessential water user, golf will be the first, and 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. Now every golf course in the state is much closer to potentially having its water permit suspended.

The golf industry understands that as water availability becomes tested, every business entity, that has the ability, should 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 could be adopted by the state’s golf industry as their template for water use during time of drought.

There is little incentive for the Minnesota golf industry to invest in their infrastructure, especially irrigation efficiencies, if, during drought, their allotted water permits 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. Individual golf courses that choose to not employ the efficiency, conservation and drought management programing would not be able to receive the benefit of limited irrigation during times of water stress.

It likely will require legislation to create an “environmental steward” water user category for golf courses, and any future water using industries to create a workable solution to the current water allocation rules for golf courses.

Draft Legislative Language: WATER ALLOCATION PRIORITIES.: A bill for an act relating to waters; modifying water allocation priorities; amending Minnesota Statutes 2018, sections 103G.261; 103G.291, subdivision 1.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. Minnesota Statutes 2018, section 103G.261, is amended to read:

- (a) The commissioner shall adopt rules for allocation of waters based on the following priorities for the consumptive appropriation and use of water:
- (1) first priority, domestic water supply, excluding industrial and commercial uses of municipal water supply, and use for power production that meets the contingency planning provisions of section 103G.285, subdivision 6;
 - (2) second priority, a use of water that involves consumption of less than 10,000 gallons of water per day;
 - (3) third priority, agricultural irrigation, and processing of agricultural products involving consumption in excess of 10,000 gallons per day;
 - (4) fourth priority, power production in excess of the use provided for in the contingency plan developed under section 103G.285, subdivision 6;
 - (5) fifth priority, uses, other than agricultural irrigation, processing of agricultural products, and power production, involving consumption in excess of 10,000 gallons per
 - (6) sixth priority, irrigating golf courses that implement best management practices as part of a commissioner-approved plan for conserving water and using water efficiently; and
 - (7) seventh priority, nonessential uses.
- (b) For the purposes of this section, "consumption" means water withdrawn from a supply that is lost for immediate further use in the area.
- (c) Appropriation and use of surface water from streams during periods of flood flows and high water levels must be encouraged subject to consideration of the purposes for use, quantities to be used, and the number of persons appropriating water.
- (d) Appropriation and use of surface water from lakes of less than 500 acres in surface area must be discouraged.
- (e) The treatment and reuse of water for non consumptive uses shall be encouraged.
- Sec. 2. Minnesota Statutes 2018, section 103G.291, subdivision 1, is amended to read:
- Subdivision 1. Declaration and conservation. (a) If the governor determines and declares by executive order that there is a critical water deficiency, public water supply authorities appropriating water must adopt and enforce water conservation restrictions within their jurisdiction that are consistent with rules adopted by the commissioner.
- (b) The restrictions must limit lawn sprinkling, vehicle washing, ~~golf course and park~~ irrigation, and other nonessential uses, and have appropriate penalties for failure to comply with the restrictions.