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# Environment and Natural Resources Trust Fund Strategic Planning Process Report

Legislative-Citizen Commission on Minnesota Resources  
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# Overview

Under Minnesota Statute (MS) 116P.05, Subdivision 2, the Legislative-Citizen Commission on Minnesota Resources (LCCMR) must make recommendations to the Minnesota Legislature for expenditures from the Environment and Natural Resources Trust Fund (ENRTF). As part of that responsibility, per MS 116P.08, Subdivision 3, the LCCMR must develop, adopt, and periodically review a strategic plan that guides investments of the ENRTF on a six-year basis. The strategic planning process provides a way for the commission to narrow its focus to the most important environment and natural resources needs of the state at the time, which then informs the annual request for proposals while the strategic plan is in place. The most recent ENRTF strategic plan adopted by the LCCMR was approved on December 10, 2013.

The LCCMR considered three different options for developing a strategic plan for 2020–2026. Members voted on November 13, 2018, to authorize staff to proceed with the preferred option, whereby LCCMR staff would hire and work with consultants. On March 18, 2019, the Executive Committee approved a contract with Management Analysis and Development (MAD) to provide a range of consulting services, including conducting a statutorily required document scan, gathering stakeholder input, and facilitating a one-day strategic planning workshop for LCCMR members.

Feedback was solicited from commission members over the course of several months and multiple meetings to shape the stakeholder-input-gathering component of the process. The resulting listening sessions and surveys provided an opportunity for the LCCMR to hear from members of the general public who have a stake in environment and natural resource issues and from subject matter experts in areas directly related to the ENRTF mission. This report presents the extensive stakeholder input gathered from the following groups from July through October 2019:

- Legislative-Citizen Commission on Minnesota Resources (LCCMR) members
- Environment and natural resources experts
- The general public and other stakeholders

On November 13, 2019, LCCMR members gathered to review the results of the stakeholder engagement process (largely, the contents of this report) and determine the final elements of the ENRTF 2020–2026 strategic plan. Once members had absorbed the input collected through various stakeholder engagement activities, they were led through a process of reviewing subject matter expert recommendations, revising or offering alternative goals and strategies, and prioritizing among goals and strategies under consideration. During this deliberative process, some members left the meeting due to schedule conflicts. Some of the remaining members voiced concern about proceeding without those who had left. Others expressed concern about the lack of consideration being given to the stakeholder input received. The meeting adjourned without consensus. As a result, the tri-chairs later gave direction to LCCMR staff and consultants to deliver this report as their final work product.

# Stakeholder input summary

Over the course of several months in 2019, from July through October, stakeholders provided input to help inform the ENRTF strategic plan for 2020–2026. Subject matter experts in areas related to the ENRTF mission, other people representing environment and natural resources interests, the general public, and LCCMR members were given an opportunity to provide input. These groups are collectively referred to as “stakeholders” in this report. The LCCMR contracted with MAD to design, support, and analyze the results of these efforts.

This report summarizes stakeholder input on priorities for inclusion in the 2020–2026 ENRTF strategic plan. The first section highlights key general findings. The rest of the report is organized by environment and natural resources topics that emerged through the stakeholder engagement process, highlighting places where there was consensus and disagreement among and across groups. Under each topic are the goals and strategies subject matter experts prioritized for recommendation to the LCCMR.

Although this report explores several areas separately, MAD heard from many stakeholders about the inter-related nature of these issues. Therefore, MAD identifies places where topics may intersect and overlap.

More information about the stakeholder engagement process itself, as well as detailed analysis of input received at each step of the process, is included in a series of appendices.

## Key general findings

### Stakeholders concern: water and climate change

Across all stakeholders, water was identified as the biggest concern or the greatest threat to the state’s environment and natural resources. The majority of LCCMR members identified clean water or water quality as one of their top concerns. Among respondents to the survey that was open to the general public and other stakeholders, water quality was the second biggest concern. During Site Visit listening sessions open to the general public, participants commented on water quality or quantity more often than any other topic. Finally, when subject matter experts were gathered to identify the most important goals for Minnesota to pursue related to the environment and natural resources, so many related to water they had to be separated into two different categories (increased knowledge and improved overall outcomes) for further consideration.

Climate change was also an area of concern where some, but not all, stakeholder groups had consensus. Some LCCMR members explicitly named climate change as a top concern. Climate change was the most identified issue as respondents’ biggest concern on the survey that was open to the general public. During Site Visit listening sessions, comments about climate change being participants’ biggest concern came up many times, but not as often as concerns related to water, wildlife or habitat, and agricultural practices. Finally, subject matter experts identified climate change as a key threat that they recommended should be considered when thinking about goals and strategies across all areas related to Minnesota’s environment and natural resources.

## **Stakeholder preference: strategies that pilot, demonstrate, or implement innovative solutions**

Generally, stakeholders engaged through the public survey or during Site Visit listening sessions expressed a preference for strategies that pilot, demonstrate, or implement something. Almost half of respondents to the general public survey identified piloting, demonstrating, or implementing innovative solutions as the most important thing for Minnesota to do to address their top area of concern. The vast majority of comments during Site Visit listening sessions also expressed a preference for strategies that pilot, demonstrate, or implement something (as opposed to conducting research or collecting data, for example).

While many of the strategies recommended by subject matter experts involve incentives, demonstrations, or other physically tangible solutions, many of them also emphasize using research to develop those solutions, or a combination of research and demonstration. Although several LCCMR members' comments during interviews indicated that research is important for finding "what works," comments were then divided between members who would rather "see things get done" and members who want a balance between funding both research and implementation.

## **Climate change**

Less than half of LCCMR members identified climate change as a top concern or emerging threat. However, climate change was raised as one of the top issues among both the general public and subject matter experts.

### **LCCMR members**

Six of 16 LCCMR members identified climate change as one of their top concerns for Minnesota environment and natural resources, and 4 of 16 identified it as the greatest emerging threat.

### **General public and other stakeholders**

Among the 2,430 people who participated in the general public survey, 31 percent identified climate change as their biggest area of concern related to Minnesota's environment and natural resources, which made it the most highly selected area of concern among survey respondents.

During the LCCMR's Site Visits, several listening sessions offered an opportunity for people to talk with LCCMR members about their concerns related to Minnesota's environment and natural resources. Many comments related to listening session participants' biggest concerns, or what they think are the greatest threats to Minnesota's environment and natural resources, were about climate change. However, these participants mentioned water, wildlife and habitat, and agricultural practices more often than climate change.

## Subject matter experts

The process of engaging subject matter experts originally designed an explicit conversation about climate change as its own topic. Consensus emerged among many of the experts who participated in the Issue Identification Panels, however, that climate change is a serious concern and an issue that cuts across all areas related to Minnesota's environment and natural resources. Rather than having experts prioritize a specific goal or strategies related to climate change, experts at the Prioritization Panel were encouraged to think about strategies within each area through the lens of climate change, as they saw fit. Ultimately, the recommended strategies in this summary report were identified and prioritized by subject matter experts with consideration for climate change prevention, mitigation, and adaptation.

Finally, because subject matter experts raised goals related to both climate change and other cross-cutting issues during the Issue Identification Panels, additional discussions were held with subject matter experts during the LCCMR Site Visits (separate from the listening sessions, which were open to the general public). These discussions focused on prioritizing among cross-cutting goals that emerged from the Issue Identification Panels, some of which were directly related to climate change. The goal that was prioritized in this process is described in more detail in the section of this report about working lands, but all of the cross-cutting goals that were considered are included in Appendix L.

## Water

Water emerged as a high-priority issue across all stakeholder groups, and one that overlaps with other areas and concerns. Water is a resource and is also tied up inextricably with issues related to wildlife, habitat, and outdoor recreation. Both experts and non-experts raised concerns about water in tandem with concerns about climate change and land management practices.

## LCCMR members

When asked about their top concerns for Minnesota's environment and natural resources, 13 of 16 LCCMR members identified either clean water or water quality. Clean water was also named by 3 of 16 LCCMR members as the greatest emerging threat.

## General public and other stakeholders

Among the 2,430 people who participated in the general public survey, 19 percent identified water quality as their biggest area of concern related to Minnesota's environment and natural resources. Water quality was the second most selected area of concern. Two percent identified water quantity as their biggest area of concern.

During Site Visit listening sessions, when asked about their biggest concerns or what they considered the greatest threats, participants commented on water quality or water quantity more often than any other topic.

## Subject matter experts

Subject matter experts who participated in Issue Identification Panels identified more goals related to water than any other topic area. A survey of additional subject matter experts asked them to decide which of those goals was most important for Minnesota to achieve. Based on the survey results, two priority goals for water emerged, one related to increasing knowledge and the other about more generally improved outcomes. These goals, and the highest-leverage strategies recommended by experts to achieve them, are listed on the next page. Other goals and strategies experts offered and considered related to water are included in Appendix G and Appendix H.

**Recommended goal regarding *increased knowledge*: Minnesota's water resources are better managed for both water quantity and quality, as a result of better understanding of the connections between surface water and groundwater.**

### Top recommended strategies to achieve the goal:

- Research and demonstrate innovative, market-based policies and partnerships that solve local water issues in both forest-based regions and agriculture-based regions.
- Educate local officials on how to improve and protect water resources, including model projects and policies that can be emulated at all scales.
- Research, demonstrations, incentives, and policies to hold back water and increase evapotranspiration opportunities to prevent water pollution.
- Increase understanding of weather and future weather and climate patterns, and how these align with anticipated water needs across Minnesota.
- Research on the impacts of nitrogen and effective agriculture and urban practices to improve surface water and groundwater quality, as well as manage water quantity and mitigate the impacts of agriculture drainage and urban stormwater runoff.

**Recommended goal regarding improved *overall outcomes*: Minnesota is prepared for water volume changes, both excesses and shortages, and extreme runoff events resulting from climate and land use changes.**

### Top recommended strategies to achieve the goal:

- Research and demonstrate market-based policies that are economically viable and help pay for the land use and conservation practices needed to achieve water resources protection, especially in agricultural areas.
- Research effective water use scenarios to identify improvements needed to ensure the state's water resiliency and sustainability (including modeling water scenarios, managing water on land, optimizing use to prevent overuse of groundwater, and improving water reuse and wastewater management).
- Identify and promote workable, holistic, multibenefit, diverse, and viable (e.g., economically and socially) solutions for storing more water on the land, through both engineered and natural solutions targeted at critical areas.



- Support cities, counties, and watershed districts with developing climate resiliency and adaptation plans, and processes for funding and implementing those plans.
- Compile existing research, identify gaps, and develop research to quantify land use and land cover changes, in order to identify restoration and protection needs to achieve sustainable water systems.

## Habitat, fish, and wildlife

Many issues and subtopics were raised related to the larger issue of habitat, fish, and wildlife. These issues emerged as some of the higher-priority areas for both LCCMR members and non-expert stakeholders. While subject matter experts prioritized a broad goal related to invasive species and recommended high-leverage strategies related to that goal, they did not prioritize a goal or strategies that directly mention invasive species in the final step of the input process. However, LCCMR members raised invasive species as a major concern.

### LCCMR members

When asked about their top concerns related to Minnesota's environment and natural resources, 7 of 16 LCCMR members named invasive species, 4 named pollinators, and 4 named habitat or land preservation. Invasive species were also named by 4 of 16 LCCMR members as the greatest emerging threat to the state's environment and natural resources. Some other topics related to habitat, fish, and wildlife were raised as a concern or threat by at least one LCCMR member each, including chronic wasting disease (CWD) and habitat preservation.

### General public and other stakeholders

Among the 2,430 people who participated in the general public survey, 12 percent identified wildlife habitat and management (including birds and pollinators) as their biggest area of concern related to Minnesota's environment and natural resources. This was the third most selected area of concern. Four percent identified aquatic habitat and management (including fish and other aquatic species) as their biggest area of concern.

During Site Visit listening sessions, when asked about their biggest concerns or what they considered the biggest threats, participants commented on wildlife habitat and management (including birds and pollinators) second most often.

### Subject matter experts

Subject matter experts who participated in Issue Identification Panels identified several potential goals for Minnesota related to habitat, fish, and wildlife. A survey of additional subject matter experts asked them to decide which of those goals was most important for Minnesota to achieve. One goal was prioritized above the others. The goal, and the highest-leverage strategies recommended by experts to achieve it, are listed below and on the next page. Other goals and strategies experts offered and considered related to habitat, fish, and wildlife are included in Appendix I.

Goals and strategies offered by experts during the input process that explicitly discuss invasive species are in Appendix I (Habitat, Fish, and Wildlife) and also Appendix J (Outdoor Recreation and Open Space).

**Recommended goal: Minnesota has healthy and diverse wildlife and plant populations that sustain and enhance the state’s environment, economy, and quality of life.**

**Top recommended strategies to achieve the goal:**

- Monitor the biologic and environmental health of systems through high-quality research, to support management of lands and waters.
- Research key issues and develop strategies to combat them (e.g., bird/insect crash).
- Species-specific and habitat-level research and management to effectively maintain, protect, and restore habitats and populations.
- Research to inform managing plant, fish, and wildlife communities to adapt to climate change.
- Conservation of additional lands and support for management of currently protected lands.

## **Working lands**

As mentioned above in the section on climate change, subject matter experts struggled to separate issues from one another into neat categories such as air, water, land, fish, and wildlife. Other stakeholders involved in the process also identified a need to consider issues that intersect or cut across all areas.

As a result of this feedback, in addition to asking subject matter experts to prioritize among goals within each specific area related to the ENRTF mission, experts who were invited to group discussions during LCCMR Site Visits were asked to review and prioritize among crafted cross-cutting goals. These cross-cutting goals were based on expert input from the Issue Identification Panels. The cross-cutting goal that was ultimately prioritized is related to Minnesota’s working lands, including forests, grasslands, and agricultural lands. Many stakeholders expressed comments about how the issue of working lands is also inextricably linked to climate and water-related issues.

## **LCCMR members**

One member identified forests as a top concern for the state’s environment and natural resources, the only member who identified a concern that seemed directly related to the topic of working lands. Deforestation, for example as a result of emerald ash borer, was also mentioned once as an emerging threat. A few members did mention agricultural practices, especially the use of chemicals, as either a concern or a barrier to addressing a concern, which may be connected to the goal subject matter experts prioritized regarding working lands.

## **General public and other stakeholders**

Among the 2,430 people who participated in the general public survey, 12 percent identified agricultural practices as their biggest area of concern related to Minnesota’s environment and natural resources, making it the fourth most identified area of concern among survey respondents.

Comments related to agricultural practices were also some of the most common among participants at listening sessions during LCCMR Site Visits. Many of these comments specifically related to cover crops. Still more

comments were categorized as having to do with concerns over water but were related specifically to water and soil interconnections.

## **Subject matter experts**

As previously noted, subject matter experts who attended group discussions during LCCMR Site Visits were asked to prioritize among a set of cross-cutting goals. The goal that emerged as the highest priority across these conversations relates to working lands and is identified on the next page.

That prioritized goal was brought to additional experts through the Prioritization Panel, during which participants considered strategies and prioritized among them through the lens of their area of expertise.

Since this is a cross-cutting goal, strategies that address several different resource areas are considered necessary to achieve the goal. Many more than five strategies were therefore identified, and these are listed on the next page. The total list of cross-cutting goals and strategies experts brainstormed and considered are included in Appendix L.

**Recommended goal: Working lands in Minnesota, including forestry, grasslands, and agricultural lands, provide long-term benefits to fish, wildlife, and people.**

### **All recommended strategies to achieve the goal:**

- Through demonstration, educate people on the opportunity for working lands to slow and store water for multiple benefits (e.g., water quality, habitat, flood mitigation) as well as for carbon sequestration.
- Develop innovative, market-based policies to make substantive conservation efforts financially feasible.
- Preserve and protect the watersheds that are already in good shape.
- Support and provide technical assistance to private landowners on cost-effective ways to develop and restore diverse, native habitat.
- Conservation actions that prioritize the needs of vulnerable, declining, poorly understood, and sensitive species.
- Improve and demonstrate how working lands can be economically productive and good habitat.
- Increase understanding and assessment of tradeoffs among different environmental and societal goals to improve decisions on working lands.
- Evaluate, prioritize, and demonstrate how working lands and renewable energy can be mutually beneficial.
- Use public open space to demonstrate climate change adaptation, mitigation, and prevention.
- Create or use existing open spaces, or use them to demonstrate, CO2 storage, heat sinks, and flood prevention.
- Promote, research, and evaluate best management practices (BMPs) on working lands, in order to provide long-term benefits to fish and wildlife.
- Encourage landscape-level and eco-type planning, instead of parcel-level.
- Identify high-quality habitat, recreation open spaces, and other high-priority areas for action.

- Outreach, education, and engagement through citizen science for landowners, operators, and others on how to economically manage for water resiliency.
- Create market mechanisms for carbon sequestration on working lands.
- Demonstrate how to add diverse cropping systems and incentivize continuous living crops.
- Research and demonstration that show the practical value of regenerative agriculture.
- Development and implementation of agricultural cropping systems with diverse crops that provide multiple benefits, including exploring markets and supply chain.
- Education and public outreach to change landscape and ecosystem norms.
- Research and evaluation of approaches that achieve goals.
- Projects that enlist the support of multiple agencies and organizations.

## Environmental education and outdoor recreation

Overall, environmental education and outdoor recreation did not emerge among the highest priorities across stakeholder groups. However, issues related to outdoor recreation have clear overlaps with other issue areas such as water, habitat, and wildlife. Environmental education can also be thought of as both an issue and a strategy to combat issues in all areas. As a strategy for addressing areas of environmental concern, education was ranked very highly by the general public.

### LCCMR members

Trails and parks were identified as a top concern for 3 of 16 LCCMR members and encouraging youth to experience the outdoors was identified as a top concern for one LCCMR member. Other issues were raised by LCCMR members that could be interpreted as having connections to the topic of outdoor recreation (among others), including invasive species, habitat or land preservation, and chronic wasting disease.

### General public and other stakeholders

Among the 2,430 people who participated in the general public survey, 6 percent identified environmental education as their biggest area of concern related to Minnesota's environment, and 5 percent identified outdoor recreation and open spaces as their biggest concern.

Also, on the survey, 22 percent of respondents said that increasing education and public awareness was what Minnesota should do to address their biggest area of concern. This represented the second highest preferred strategy for addressing environment and natural resource issues after "pilot, demonstrate, and implement."

When participants at Site Visit listening sessions were asked about their biggest concern or the greatest threat, several comments related to environmental education or outdoor recreation and open space. However, the number of comments related to these topics trailed behind topics such as water, wildlife and habitat management, agricultural practices, and climate change. Some of these higher-priority issues could be related to the topic of outdoor recreation. At listening sessions, participants were less likely to prefer education or awareness as a strategy when compared with piloting, demonstrating, or implementing, or other strategies (planning, collaboration, or other).

## Subject matter experts

Subject matter experts who participated in Issue Identification Panels identified several potential goals for Minnesota related to the area of outdoor recreation and open space. A survey of additional subject matter experts asked them to decide which of those goals was most important for Minnesota to achieve. The survey resulted in a tie between two goals for the highest priority.

Subject matter experts who attended the Prioritization Panel were asked to break the tie, selecting one of the two goals as the highest priority. They also identified the highest-leverage strategies to achieve the selected goal. The goal and recommended strategies are listed below. Other goals and strategies experts offered and considered related to outdoor recreation and open space are included in Appendix J, including some directly related to invasive species and their intersection with outdoor recreation and open space.

**Recommended goal: All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative connections to the lands and waters of Minnesota.**

### **Top recommended strategies to achieve the goal:**

- Address the social, economic, and physical barriers to outdoor recreation through programs that encourage inclusivity and address inequities.
- Research people's interests in outdoor recreation and understand barriers to participation.
- Assess programs, activities, and physical spaces for their accessibility; support changes to adapt and retrofit to welcome more people.
- Through collaborative efforts, provide curriculum, programs, and outdoor environmental events that teach K–12 students what public lands are, introduces them to public lands near them, and encourages them to explore local public lands.
- Through partnerships between schools, environmental learning centers, and other community resources, provide evidence-based, engaging programs to bring students to outdoor experiences.
- Capital projects that develop culturally relevant, accessible, and resilient outdoor recreation facilities, infrastructure, and equipment rental programs that create innovative experiences (e.g., parks, trails, fishing piers, shoreline fishing areas, birding trails, shelters).

## Air and energy

Air and energy were not identified as the highest priorities across stakeholder groups. However, air is explicitly mentioned as an area related to the mission of the ENRTF. Also, energy use and production are related to climate change, which was one of the biggest concerns among many stakeholders.

## LCCMR members

None of the 16 LCCMR members interviewed mentioned air or energy explicitly as a top concern or an area of emerging threat to Minnesota's environment and natural resources. Outlying comments related to plastics,

chemicals, and pollution could be related to air quality (among other resource topics), but they were not explicitly linked in LCCMR members' comments.

## **General public and other stakeholders**

Among the 2,430 people who participated in the general public survey, 3 percent identified energy as their biggest area of concern related to Minnesota's environment and natural resources, and 1 percent identified air quality as their biggest area of concern.

When participants at Site Visit listening sessions were asked about their biggest concern or the biggest threat to Minnesota's environment and natural resources, few comments related to air quality or energy. These included comments about fossil fuels, which could also be related to concerns about climate change.

## **Subject matter experts**

Subject matter experts who participated in Issue Identification Panels identified several potential goals for Minnesota related to the area of air and energy. A survey of additional subject matter experts asked them to decide which of those goals was most important for Minnesota to achieve. One goal was prioritized above the others. The goal, and the highest-leverage strategies recommended by experts to achieve it, is listed below. Other goals and strategies experts offered and considered related to air and energy are included in Appendix K.

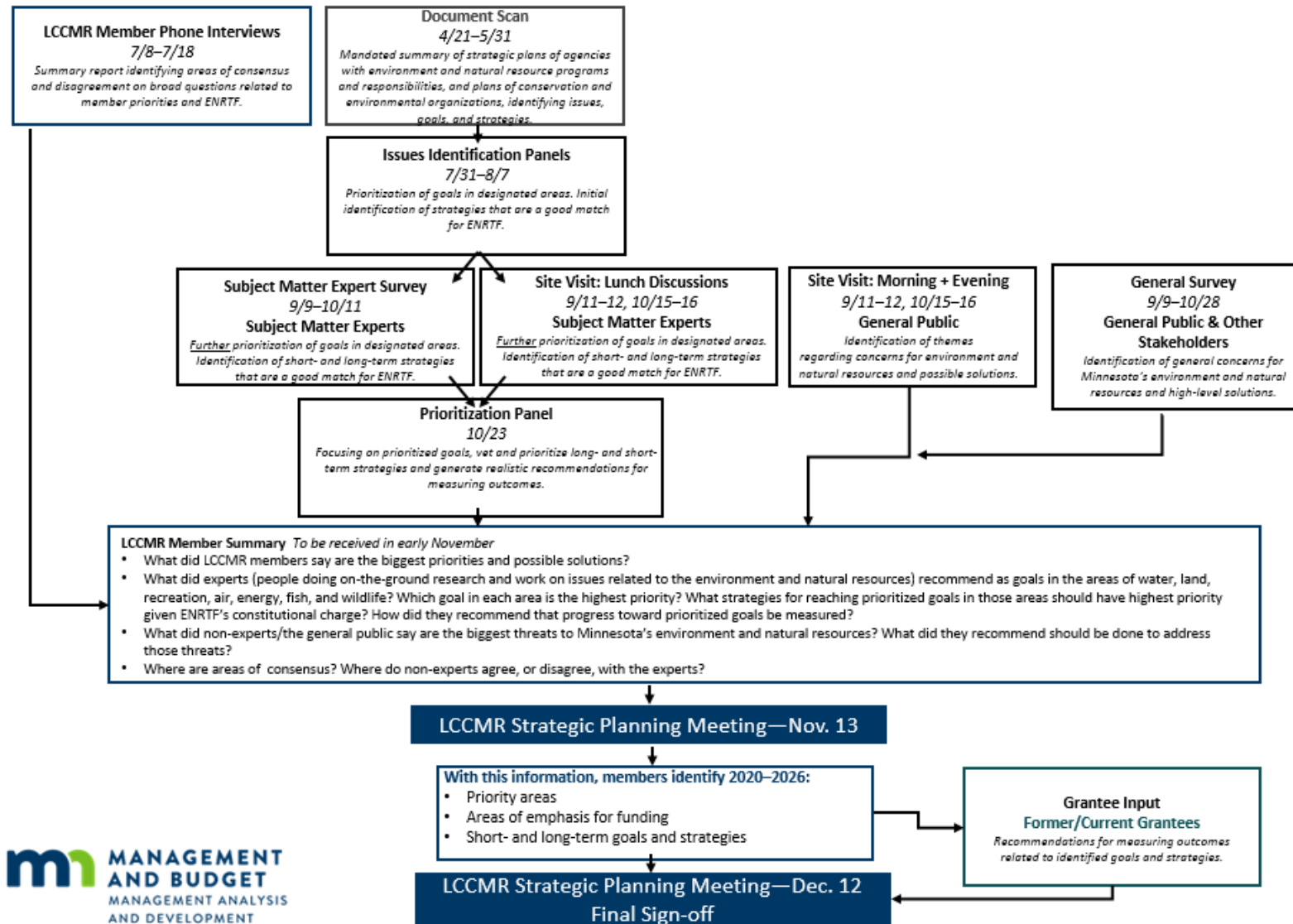
**Recommended goal: Minnesota achieves reliance on nonpolluting, renewable energy in all sectors (including transportation, building, industry, agriculture, and others).**

### **Top recommended strategies:**

- Encourage bundling renewable energy production and battery storage.
- Demonstrate the ability and statewide potential to generate solar energy on perennially vegetated lands, reducing CO<sub>2</sub> and water runoff, while making the enterprise economically viable.
- Incentivize the use of nonpolluting renewable energy in agriculture, industries, and commercial transportation.
- Demonstrate community-scale, net-zero renewable energy systems.
- Fund energy efficiency improvements and renewable energy for rental properties, small businesses, and schools.

# Appendix A: ENRTF Strategic Planning Stakeholder Input Process Visual

## ENRTF Strategic Planning Process Overview



## Appendix B: LCCMR Member Interviews Summary

Between July 2 and July 18, 2019, MAD staff conducted phone interviews with 16 of the 17 members of the LCCMR to gather their personal perspectives on key questions at the start of the 2020–2026 ENRTF strategic planning process. MAD contacted members via email, through their legislative assistants, and by phone to schedule interviews.

This document summarizes the themes that emerged across LCCMR member responses to questions regarding their top concerns for Minnesota’s environment and natural resources, emerging threats, successes to build on, and bold funding strategies. Members were asked the following questions:

1. What does the vision for the ENRTF mean to you?
2. What top three concerns related to the environment and/or natural resources do you feel are most urgent to address?
3. What one or two bold funding strategies do you think the LCCMR should pursue?
4. What is your opinion on striking the right balance between funding research versus funding implementation?
5. What do you believe is the greatest emerging threat regarding Minnesota’s environment and/or natural resources?
6. What successes related to the environment or natural resources could ENRTF funding build upon to have an even greater impact on Minnesota?

Throughout this document, the numbers in parentheses indicate the times that certain topics or themes were mentioned in member comments. An individual member’s comments may be counted more than once across different themes, as MAD was not always able to neatly separate comments on some topics into just one theme.

### Top concerns and emerging threats

The majority of members indicated that clean water or water quality is one of their top concerns for Minnesota’s environment and natural resources (13). Other concerns mentioned multiple times included invasive species (7), climate change (6), pollinators (4), and habitat or land preservation (4).

Concerns that may fall into one or more of these topics, but which were mentioned fewer than four times, included trails and parks (3), waste water treatment infrastructure in rural areas (2), forests (1), overpopulation (1), funding (1), chronic wasting disease (1), and encouraging youth to experience and enjoy the outdoors (1).

Almost all members said that their top concerns were statewide issues, rather than regionally specific concerns. Some members did say that solutions to these issues may need to be different or adapted, depending on the area of the state impacted.

There was clear overlap between members’ top concerns and what members indicated is the greatest emerging threat for Minnesota’s environment and natural resources. Climate change (4), invasive species (4), and clean water (3), were all mentioned more than once as the greatest emerging threat.

Other emerging threats that may fall into or overlap with those three main areas, but which were mentioned only once each included some specific issues: habitat preservation, plastics, chemicals, chronic wasting disease, and livestock epidemics. Also mentioned once each were broader emerging threats: depletion of the ENRTF, skepticism of science, and general worldwide environmental impacts.



When asked about the barriers to addressing these problems, members cited disagreement among stakeholders (including among LCCMR members) about both the problems and solutions, politicization of the issues, lack of trust in science, challenges with getting stakeholders on board and working together, the complex nature of the issues, and lack of funding.

Most members responded that they feel like the ENRTF is already addressing many of these challenges and emerging threats, but that more work needs to be done. Multiple members cited such successes as the creation of the research centers on aquatic and terrestrial invasive species, research on triclosan that led to a statewide ban, and work on state trails and parks.

## **Ideas for bold funding strategies**

Members were asked to identify bold funding strategies for the LCCMR to pursue. A few members indicated that they like the current way that the LCCMR determines which projects to fund (4). Some talked about appreciating the broad scope within the current approach. One member expressed concern that limiting the scope for proposals may result in missing out on funding innovations that are not yet on their radar.

A few members recommended that the 2020–2026 strategic plan limit the scope of the ENRTF (3). One member recommended picking one big issue to focus on, like climate change, while another recommended picking four to five issues for each year of the strategic plan. Members who talked about the need to limit the scope referred to an overwhelming number of proposals for review each year, in addition to a desire to help potential grantees better target their proposals to the interests of the LCCMR. One member who recommended limiting the scope also recommended maintaining some funding each year specifically for emerging issues.

A few members' comments indicated that members of the LCCMR come with their own bias toward certain topics, issues, or strategies (4). These members recommended, for the sake of transparency, having the LCCMR members clearly identify their personal priorities, and to set aside funds for them at the start of the process. Two members recommended designating a specific amount of money for research projects. The next section explores issue of funding research versus implementation.

At least a few members disagreed on funding small projects. One member cited the small projects funding as a success of the ENRTF, while another expressed concern over how allowing small project proposals increases the number of proposals that must be reviewed.

Other bold ideas for funding strategies included:

- requiring projects to have multiple benefits or impacts;
- creating new opportunities, or enforcing current requirements, for projects that will return money to the trust;
- funding pilot and test programs to address climate change;
- funding more demonstration projects;
- staying involved with projects longer-term;
- allowing for more than 5 percent of the principal of the trust be made available for projects each year;
- using more funds for waste water/sewer treatment facilities in small communities;
- having research projects go through a peer review or other process, rather than being reviewed and approved by the full LCCMR membership;
- requiring research project proposals to identify how the research will lead to action;
- partnering more closely with Commissioners and Executive Branch; and
- coordinating more with Legacy Amendment funds.

## Funding research v. implementation

On the topic of funding research versus funding implementation, there was not consensus. Although several members' comments indicated that research is important for finding "what works" (6), comments were then divided between members who would rather "see things get done" (6) versus members who want a balance between funding both research and implementation (6).

One member recommended requiring proposals for research to include how the project would be followed-up by implementation.

One member said there was a need for research for its own sake, indicating that the ENRTF is one of the only current government sources of funding for research and that research projects selected by LCCMR in the past have been successful.

The topic of supplanting will be explored more in the next section, but a couple of members' comments related to concern about whether funding a large number of research projects at the University of Minnesota is supplanting. One member instead saw using the trust funds for U of M research as helping fulfill the land grant mission of the university.

In addition to the tension between research and implementation, a few members brought up perceived tension over the issues of funding capital projects and land acquisition projects. These issues were also raised by some members when talking about issues around supplanting.

## Avoiding supplanting

A few of members' comments recommended that if LCCMR focuses only on innovative proposals or brand-new projects, then it would help avoid supplanting (4). Other comments recommended continuing to have members take responsibility for "calling it out" when they think a proposal would supplant (3), and continue to have LCCMR staff point out when proposals may be supplanting (1).

A couple of members' comments expressed concern that the trust fund was becoming a "slush fund" (2). However, concerns about who was using it in such a way were divided. Some comments, as stated above, expressed concern—or perception of a concern—over too much funding going to the University of Minnesota and the Department of Natural Resources. While other comments expressed concern about using the funds for waste water treatment infrastructure or capital projects. One member expressed concern about getting proposals from private businesses.

Several members made comments about the unique nature of the ENRTF, and how valuable it is for the state. However, opinions were divided about whether the fund should be used to "fill gaps" where other funding sources may be falling short, and what types of projects members would support funding when there are questions of supplanting.

## Appendix C: General Public Survey Summary

Two methods were used to gather broader input from additional stakeholders who were identified as having interest in the outcome of the strategic plan but who were not identified as subject matter experts, including the general public. One method was through a publicly accessible online survey.

From September 9 through October 28, the online survey was publicly available to anyone who wished to participate. A link to the survey was publicized by LCCMR staff via social media. The link was also emailed directly to a list of over 1,000 stakeholders, including those organizations recommended by LCCMR members as well as people who have signed up to receive the LCCMR's regular email communication. Those who received the link were encouraged to share it with others.

The survey was brief, and it asked respondents to identify their area of biggest concern for Minnesota's environment and natural resources and what should be done about that concern. It also invited respondents to offer a bold idea for protecting the state's environment and natural resources. A total of 2,430 responses were received. Below is a table showing the demographic breakdown of survey respondents.

**Table 1. Demographics of respondents to the general public survey**

<b>Demographic category</b>	<b>Count</b>	<b>Percent of respondents</b>
<b>Race/Ethnicity</b>		
American Indian	13	< 1%
Asian	16	< 1%
Black	6	< 1%
Latino/a	5	< 1%
White	2,098	86%
Two or more	37	2%
Did not answer	256	11%
<b>Age</b>		
Under 25	83	3%
25 to 34	284	12%
35 to 44	348	14%
45 to 54	318	13%
55 to 64	497	20%
65 to 74	544	22%
75 or older	156	6%
Did not answer	201	8%
<b>Area of Minnesota</b>		
Northwest	151	6%
Northeast	271	11%
Central	269	11%
Southwest	145	6%
Southeast	286	12%
Seven County Metro	1,117	46%
Outside Minnesota	22	1%
Did not answer	170	7%

Based on self-reported data, the majority of survey respondents were white (86%), and almost half (49%) were 55 or older. There was balance between respondents who reported living in Greater Minnesota (46%) and those who reported living in one of the seven counties of the Twin Cities metropolitan region (46%). The survey results provided below are not meant to be representative of the general population of Minnesota.

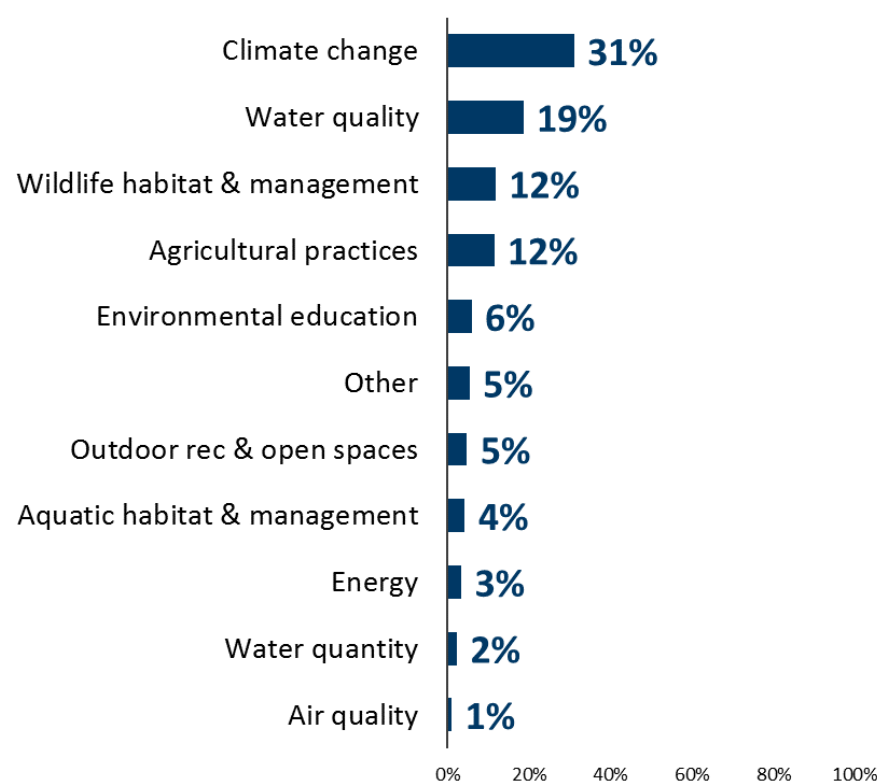
Respondents were asked if they had participated in another stakeholder engagement opportunity, such as one of the subject matter expert meetings or during a Site Visit. Only 2 percent of respondents reported that they remembered having participated in the strategic planning process in another way.

Respondents were also asked if they work for or are affiliated with an organization, agency, or program that works on issues related to the environment and natural resources. Forty percent of respondents said yes, and 5 percent of respondents did not provide an answer. Among those 963 respondents who reported working for or being affiliated with such an organization, agency, or program, 39 percent reported that it was a governmental organization, 37 percent reported that it was a nonprofit, and 11 percent reported that it was an academic institution. Among those who reported working or being affiliated with an organization, agency, or program that works on issues related to the environment and natural resources, 31 percent reported that it had received ENRTF funding in the past, and 33 percent reported that they didn't know.

## Survey respondents' biggest concerns for Minnesota's environment and natural resources

Survey respondents were asked to identify their biggest area of concern for Minnesota's environment and natural resources.

Figure 1. Percent of survey respondents identifying their biggest area of concern



Climate change and water quality were the biggest concern for respondents, regardless of where they live. However, among the 145 respondents from Southwest Minnesota, the area most often selected as the biggest concern was agricultural practices. The table below shows the percent of respondents, based on where they indicated they live, who selected each option as their biggest area of concern. Keep in mind that this survey is not meant to be representative of all Minnesotans, nor the views of all Minnesotans who live in these areas of the state.

**Table 2. Percent of survey respondents identifying their biggest area of concern by area where they live**

<b>Biggest area of concern</b>	Seven County					
	Northwest	Northeast	Central	Metro	Southwest	Southeast
<i>Number of respondents</i>	151	271	269	1,117	145	286
Agricultural practices	8%	5%	15%	11%	21%	18%
Air quality	1%	0%	1%	1%	1%	2%
Aquatic habitat and management	9%	9%	5%	2%	3%	5%
Climate change	20%	27%	23%	40%	15%	28%
Energy	1%	2%	5%	3%	4%	4%
Environmental education	8%	6%	9%	4%	13%	7%
Other	8%	5%	9%	3%	10%	4%
Outdoor rec and open spaces	9%	4%	5%	4%	6%	5%
Water quality	21%	30%	13%	18%	16%	18%
Water quantity	1%	1%	3%	3%	1%	2%
Wildlife habitat and management	14%	11%	12%	13%	9%	9%

Climate change and water quality also emerged as the biggest concern for survey respondents, regardless of whether they identified themselves as employed by or affiliated with an organization, agency, or program working on issues related to the environment and natural resources, or whether the organization, agency, or program had received ENRTF funding in the past.

**Table 3. Percent of survey respondents identifying their biggest area of concern by whether or not they work for or are affiliated with an organization, agency, or program that works on issues related to the environment and natural resources**

<b>Biggest area of concern</b>	Identified employment or affiliation	No employment or affiliation
<i>Number of respondents</i>	963	1,342
Agricultural practices	14%	10%
Air quality	0%	1%
Aquatic habitat and management	4%	5%
Climate change	30%	33%
Energy	3%	4%
Environmental education	7%	5%
Other	4%	5%
Outdoor rec and open spaces	5%	5%
Water quality	21%	17%
Water quantity	2%	3%
Wildlife habitat and management	12%	12%

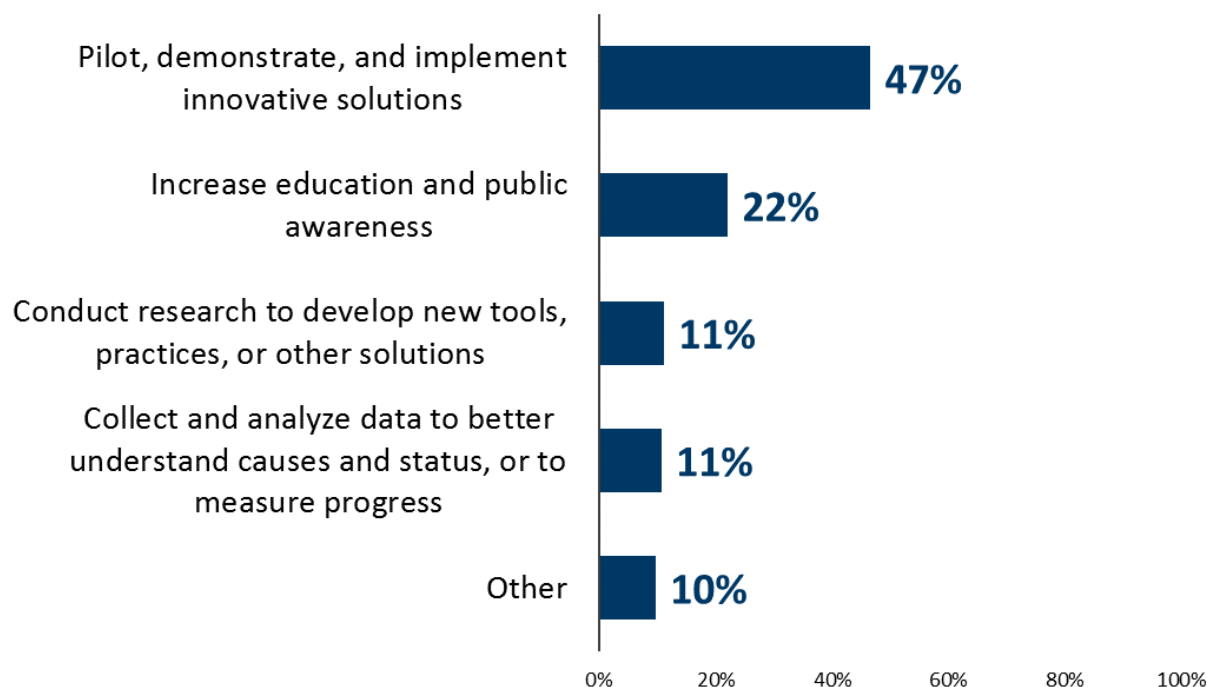
**Table 4. Among survey respondents who reported working for or being affiliated with an organization, agency, or program that works on issues related to the environment and natural resources, the percent identifying their biggest area of concern by whether or not the organization, agency, or program has received ENRTF funding**

<b>Biggest area of concern</b>	<b>Affiliated program has received ENRTF funding</b>	<b>Affiliated program <i>has not</i> received ENRTF funding</b>	<b>Unsure if affiliated program has received ENRTF funding</b>
<i>Number of respondents</i>	296	346	317
Agricultural practices	15%	12%	14%
Air quality	0%	1%	1%
Aquatic habitat and management	5%	3%	3%
Climate change	25%	31%	33%
Energy	2%	3%	3%
Environmental education	4%	7%	8%
Other	4%	6%	3%
Outdoor rec and open spaces	6%	4%	4%
Water quality	22%	22%	20%
Water quantity	2%	2%	2%
Wildlife habitat and management	15%	10%	11%

## Survey respondents' preference for how to address their biggest concern

Survey respondents were also asked what they think is the most important thing Minnesota could do to address their biggest area of concern.

**Figure 2. Percent of survey respondents identifying what Minnesota should do to address their biggest concern**



Generally, most respondents said that Minnesota needs to pilot, demonstrate, and implement innovative solutions, across most of the selected areas of concern. However, respondents whose biggest area of concern was air quality, environmental education, or outdoor recreation and open spaces preferred increasing education and public awareness over other options. Also, respondents who selected an “other” biggest concern not already specified also tended to offer an “other” solution to address that concern.

**Table 4. Percent of survey respondents identifying what Minnesota should do to address their biggest concern by area of biggest concern**

<b>Biggest area of concern</b>	<i>Number of respondents</i>	Collect and analyze data to better understand causes and status, or to measure progress	Conduct research to develop new tools, practices, or other solutions	Increase education and public awareness	Pilot, demonstrate, and implement innovative solutions	Other
Agricultural practices	280	8%	13%	17%	53%	10%
Air quality	24	17%	8%	38%	25%	13%
Aquatic habitat and management	103	20%	24%	18%	35%	3%
Climate change	757	4%	11%	19%	63%	3%
Energy	81	11%	15%	14%	47%	14%
Environmental education	142	9%	3%	66%	19%	4%
Other	130	12%	9%	21%	17%	37%
Outdoor rec and open spaces	115	5%	9%	33%	29%	23%
Water quality	454	17%	12%	18%	43%	9%
Water quantity	55	35%	13%	7%	38%	7%
Wildlife habitat and management	289	14%	8%	22%	42%	14%

## General public and other stakeholders’ big, bold ideas

Finally, survey respondents and listening session participants were asked to identify their big, bold idea for protecting Minnesota’s environment and natural resources. While many of these recommendations do not fit within the mission of ENRTF, a word cloud visualization, provided on the next page, helps show the most common words found in the responses. The complete list of responses to this question about big, bold ideas is included in Appendix O.



**Figure 3. Word cloud visualization of general public and other stakeholders' big, bold ideas for protecting Minnesota's environment and natural resources**





## Appendix D: Site Visit Listening Sessions Summary

Two methods were used to gather broader input from additional stakeholders who were identified as having interest in the outcome of the strategic plan but who were not identified as subject matter experts, including the general public. In addition to the survey described in Appendix C, the other method was via in-person events during the LCCMR Site Visits, which took place September 11–12 and October 15–16.

At the LCCMR Site Visits, LCCMR staff advertised opportunities for interested people from the local community to come talk with LCCMR members about Minnesota’s environment and natural resources. Different methods were used, depending on the time and location, but all engagements gathered input from participants on questions that mirrored those in the public survey:

- What are your biggest concerns for the state’s environment and natural resources? Or, what is the biggest threat to the state’s environment and natural resources?
- What should be done about those concerns?
- What is your bold idea for protecting Minnesota’s environment and natural resources?

Based on evaluation forms completed by participants, at least 90 people participated in an input session during LCCMR Site Visits, which included specific discussions that were held just for invited subject matter experts. Of those who submitted an evaluation form at the end of one of the events, a little over 80 percent reported that they work for or are affiliated with an agency, organization, or program that works on issues related to the environment or natural resources. Among those with such an affiliation, about 70 percent reported that the organization, agency, or program has received ENRTF funding. As noted previously, these evaluation forms also included those collected during specific events for subject matter experts, and it was not possible to determine these percentages just for the listening sessions open to the general public.

During the listening sessions, participants’ comments were handwritten either on a large poster paper by participants themselves, or on a piece of paper by LCCMR members who were leading discussions. The individual comments recorded during Site Visit listening sessions were analyzed using the same themes from the general public survey.

Below, a summary analysis of the comments from the listening sessions is provided in a set of tables. Each comment was considered separately and was coded only once. So, each comment was only counted once, based on the overall most significant theme found in the comment. In some cases, these counts may be over-representations of what was said at the listening sessions, if more than one comment form or note was submitted that captured the same conversation.

### Listening session participants’ areas of biggest concern

Of the comments recorded during listening sessions that could be coded into one of the categories from the general public survey, the majority of comments regarding participants’ biggest concern or what they thought was the greatest threat to Minnesota’s environment and natural resources had to do with wildlife habitat and management (including birds and pollinators). This was followed by comments about water quality, agricultural practices, and climate change.

**Table 1. Number of comments from listening sessions coded by area of biggest concern or greatest threat**

<b>Category of biggest concern</b>	<b>Number of comments</b>
Wildlife habitat and management	<b>17</b>
Water quality	<b>15</b>
Agricultural practices	<b>14</b>
Climate change	<b>12</b>
Water quantity	<b>7</b>
Energy	<b>5</b>
Environmental education	<b>5</b>
Outdoor recreation and open spaces	<b>5</b>
Air quality	<b>1</b>
Aquatic habitat and management	<b>1</b>
Other	<b>21</b>

Many comments could not be coded into one of the categories, and instead were coded as “other.” Some of these other issues were very general, or identified philosophical issues behind different approaches to addressing challenges. Others were outside the bounds of the ENRTF’s authority and mission, such as comments about mining or corporate accountability.

## **Listening session participants’ recommended strategies**

Of the comments recorded during listening sessions that could be coded into one of the categories from the general public survey, the majority of comments regarding what participants think should be done to address their biggest concerns or the biggest threats reflected a desire to see strategies that pilot, demonstrate, or implement innovative solutions.

**Table 2. Number of comments from listening sessions coded by type of strategy to address biggest concern**

<b>Category of strategy</b>	<b>Number comments</b>
Pilot, demonstrate, and implement innovative solutions	<b>41</b>
Increase education and public awareness	<b>18</b>
Conduct research to develop new tools, practices, or other solutions	<b>9</b>
Collect and analyze data to better understand causes and status, or to measure progress	<b>3</b>
Other	<b>25</b>

Several comments could not be coded into one of the categories, and instead were coded as “other.” Some of these comments recommended things such as collaboration, better planning, or sustainable funding, and some ideas that seemed outside the bounds of the ENRTF’s authority and mission, such as enforcement.

## **Listening session participants’ big, bold ideas**

Finally, listening session participants were asked about their big, bold idea for protecting Minnesota’s environment and natural resources. These comments were included in the analysis of the general public survey, which asked the same

question of respondents. The responses are visualized in the word cloud that is part of Appendix C and itemized in Appendix O.

## Appendix E: Subject Matter Expert Input Process Overview

Subject matter experts in areas related to the ENRTF mission were engaged in a multi-stage process. Overall, over 200 subject matter experts were engaged, representing a broad range of organizations and issue areas, including conservation and environmental organizations, local and state government, and academia. A list of organizations that were engaged in one of the stages described below is included in Appendix F.

### Document scan

In the first stage of the process, a scan was conducted of recent long-term strategic plans of agencies that have environment and natural resources programs or responsibilities, and plans of environmental or conservation organizations. Review of such strategic plans is required by MS 116P.08, Section 3, as part of the ENRTF strategic planning process. This scan resulted in a document, over 30 pages in length, that identified goals, strategies, and issue areas that were found across all of the plans reviewed.

### Issue identification panels

A group of experts with broad experience across many areas were asked to review the final document scan. These experts were identified by LCCMR staff. This group gathered in person on one or more of three different days in July and August, as Issue Identification Panels. They used the document scan and identified where progress had been made in Minnesota within each of the ENRTF areas, where progress had not been made, what goals should be prioritized for ENRTF funding moving forward, and what strategies could help achieve those goals.

In the second stage of the process, the goals that were identified by the Issue Identification Panels were then shared with additional subject matter experts via two methods described more below. One method was an online survey. The other method was holding in-person discussions during the LCCMR Site Visits in September and October.

### Subject matter expert survey

The online survey was sent to 434 subject matter experts, who were identified by LCCMR staff and generally included project managers of all ENRTF-funded projects over the last 10 years. The survey administration was open from September 9 through October 14. A total of 189 subject matter experts completed the survey. The survey gave these experts the opportunity to further prioritize the goals developed by the Issue Identification Panels, and to provide ideas for strategies to achieve the prioritized goals.

Survey respondents had expertise across many areas. Respondents could identify expertise in any of the following areas, and many reported expertise in more than one area.

**Table 1. Reported expertise among subject matter expert survey respondents**

<b>Expertise areas</b>	<b>Count</b>	<b>Percent of all respondents</b>
Water quality	92	52%
Environmental education	86	48%
Wildlife habitat and management (including birds and pollinators)	74	42%
Climate change	67	38%
Water quantity	63	35%
Outdoor recreation and open spaces	61	34%
Agricultural practices	60	34%
Aquatic habitat and management (including fish and other aquatic species)	50	28%
Energy	31	17%
Other	30	17%
Air quality	11	6%

## Group discussions during site visits

At the LCCMR Site Visits, which took place September 11–12 and October 15–16, LCCMR staff invited staff from organizations or programs that were part of the Site Visits, plus other local subject matter experts, to join LCCMR members for small group discussions. At these events, LCCMR staff and members facilitated participants through a process of reviewing cross-cutting issues that emerged during the Issue Identification Panels, to prioritize among goals that cut across multiple areas of the ENRTF mission, and to identify and prioritize strategies that could help achieve those goals.

## Prioritization panel

The feedback received from the subject matter expert survey and the Site Visit discussions were analyzed, and then shared back with experts who participated in the Issue Identification Panels, along with additional subject matter experts identified by LCCMR staff. These experts were invited to an in-person meeting on October 23, 2019, to participate in a final Prioritization Panel. The Prioritization Panel used the feedback from the survey and Site Visit discussions to recommend the highest-leverage strategies needed to achieve prioritized goals, and to provide input on how progress toward the goals could be measured.

The ultimate output from the Prioritization Panel, priority goals and strategies, is the content provided in the body of this summary report. The additional following appendices, Appendix G through Appendix L, contain the entire list of goals voted on through the subject matter expert survey, as well as the full list of strategies offered by subject matter experts through the survey.

# Appendix F: Participating Organizations, Agencies, and Programs

The following organizations were represented by staff that participated in at least one of the subject matter expert activities: Issue Identification Panels, Subject Matter Expert Survey, or the Prioritization Panel. Over 90 different organizations, agencies, or programs are represented.

- Alexandria Lake Area Sanitary District (ALASD)
- Audubon Minnesota
- Bell Museum
- Blue Earth County Drainage Authority
- Carver County Water Management Organization
- Cedar Creek Ecosystem Science Reserve
- Center for Energy and Environment
- Central Lakes College
- City of Fairmont
- City of Morris
- City of Ranier
- City of Silver Bay
- City of Vergas
- Conservation Minnesota
- Dakota County
- Dakota Wicohan
- Dovetail Partners, Inc.
- Environmental Quality Board
- Fresh Energy
- Freshwater Society
- Friends of the Mississippi River
- Grand Portage Band of Lake Superior Chippewa
- Great River Greening
- Hawk Ridge Bird Observatory
- Hennepin County—Environmental Services
- Hiawatha Valley Resource Conservation & Development, Inc.
- Institute on the Environment
  - Institute on the Environment—Energy Transition Lab
- LCC Water Policy Subcommittee (formerly known as the Legislative Water Commission)
- LCCMR staff
- League of Minnesota Cities—Environment Committee
- Leech Lake Division of Resource Acquisition
- Lincoln Pipestone Rural Water System
- Long Lake Conservation Center

- Minneapolis Parks and Recreation Board
- Minnesota Association of County Surveyors
- Minnesota Association of Environmental Education
- Minnesota Association of Soil and Water Conservation Districts
- Minnesota Board of Water & Soil Resources
- Minnesota Conservation Federation
- Minnesota Department of Agriculture
- Minnesota Department of Education
- Minnesota Department of Health—Well Management Section
- Minnesota Department of Natural Resources
  - Minnesota DNR—Conservation Focus Area
  - Minnesota DNR—Fisheries Habitat Program
  - Minnesota DNR—Nongame Wildlife
  - Minnesota DNR—Parks and Trails Program
  - Minnesota DNR—Prairie Habitat
- Minnesota Environmental Partnership
- Minnesota Farmers Union
- Minnesota Indian Affairs Council
- Minnesota Land Trust
- Minnesota Outdoor Heritage Alliance
- Minnesota Pollution Control Agency
- Minnesota State University—Bemidji
- Minnesota State University—Southwest
- Minnesota State University, Mankato—Water Resources Center
- Minnesota Valley National Wildlife Refuge Trust Inc
- Minnesota Zoological Garden
- Mississippi Park Connection
- MN Wildflowers Information
- Moorhead State University
- Morrison Soil and Water Conservation District
- National Park Service
- Northeast Climate Adaptation Science Center
- Pioneer Public Television
- Prairie Woods Environmental Learning Center
- Project Get Outdoors Inc
- Ramsey County
- Ramsey County Parks & Recreation
- Red River Basin Commission
- ReUse Minnesota
- Rural Renewable Energy Alliance

- Saint John's University
- Science Museum of Minnesota—St. Croix Research Station
- Shell Rock River Watershed District
- Southwest Research and Outreach Center
- St. Cloud State University
- St. Croix River Association
- St. Louis County
- St. Thomas University
- Stearns County Soil and Water Conservation District
- The Nature Conservancy
- The Trust for Public Land
- Town of Crane Lake
- University of Minnesota
  - U of MN—CFANS
  - U of MN—Duluth
  - U of MN—Duluth NRRI
  - U of MN—Landscape Arboretum
  - U of MN—MAISRC
  - U of MN—MITPPC
  - U of MN—MN Geological Survey
  - U of MN—Morris
  - U of MN—St. Anthony Falls Laboratory
  - U of MN—WCROC
- US Fish and Wildlife Service
- US Geological Survey
- Voyageurs National Park
- Washington County
- Wilderness Inquiry
- Winona State University
- Wolf Ridge Environmental Learning Center



## Appendix G: Water—Increased Knowledge

As a result of the Issue Identification Panels, **four goals** emerged in the area of water that had to do with increasing knowledge, in order to achieve better outcomes.

These four goals were voted on by respondents who participated in the subject matter expert survey.

**Table 1. Percent of subject matter experts who prioritized each goal in the area of Water—Increased Knowledge**

		Count	Percent selected
<b>Goal 1.</b>	Minnesota water resources are better managed for both water quantity and quality, as a result of better understanding of the connections between surface water and groundwater.	103	66%
<b>Goal 2.</b>	Priority groundwater issues for Minnesota have been identified and best management practice (BMP) options to address them have been developed, evaluated, and promoted.	25	16%
<b>Goal 3.</b>	The limits of Minnesota’s water supply are defined and known by local units of government, tribal nations, industry, and other decision makers.	13	8%
<b>Goal 4.</b>	Agencies, permittees, and public policy in Minnesota are all better informed with improved state-specific stormwater data and best management practice (BMP) maintenance research.	11	7%
	Other	3	2%
<b>Grand Total</b>		<b>155</b>	<b>100%</b>

Subject matter experts who participated in the Prioritization Panel were asked to review strategies recommended by survey respondents relating to Goal 1. All of the strategies submitted by survey respondents are included in the next section. Panel participants were invited to revise strategy ideas or come up with their own, and as a group they prioritized five strategies that would be necessary to achieve the goal. Those five strategies, in no particular order, are:

- Research and demonstrate innovative, market-based policies and partnerships that solve local water issues in both forest-based regions and agriculture-based regions.
- Educate local officials on how to improve and protect water resources, including model projects and policies that can be emulated at all scales.
- Research, demonstrations, incentives, and policies to hold back water and increase evapotranspiration opportunities to prevent water pollution.
- Increase understanding of weather and future weather and climate patterns, and how these align with anticipated water needs across Minnesota.
- Research on the impacts of nitrogen and effective agriculture and urban practices to improve surface and groundwater quality, as well as manage water quantity and mitigate the impacts of agriculture drainage and urban stormwater runoff.

The following provides the full list of strategies for the area of **Water—Increased Knowledge** that were recommended by subject matter experts who responded to the survey. They are organized by goal.

**Please Note:** These strategy recommendations are provided verbatim, as they were submitted through the survey. Therefore, they may contain errors or typos. They have also not been vetted for alignment with the ENRTF mission or charge, and may therefore not be allowable strategies for the ENRTF to pursue or include in its strategic plan.

## **Goal 1—66% of survey respondents prioritized: Minnesota water resources are better managed for both water quantity and quality, as a result of better understanding of the connections between surface water and groundwater.**

- Additional research on the connections between ground and surface water. Support of UM Forever Green Initiative.
- Further research into water quality aspects: increased micro plastics, increased toxic algal blooms. What causes these, what are their sources, and how can we adapt?
- Identifying incentives for private land owners to hold back water to slow the drainage from ag lands and other intensive-use lands, to prevent sediment and nutrient eutrophication. It would also lead to stream bank stabilization, and recharge of aquifers.
- Research in this area has fallen from the Federal level to the State of Minnesota. So, it is an important area for the State to undertake.
- We need to develop a strategy that balances the needs and uses of water resources, with the impact on everyone. For example, restricting agricultural uses—some people’s livelihood, but ensuring adequate quantity and recharge for all people’s use is a hard balance to maintain. Realistic and compromising strategies will be needed. Education, provided by a trusted source, may be the best place to start.
- All of these statements are good so I picked the one that I know the most about. A large amount of expertise, money and time needs to go into this strategy to make it work. But I believe it can pay off if the political will is there.
- Education and supportive applied research on climate change limits/temporary excesses on surface water. Key contributors and what it will take to reduce their role in surface water contamination.
- Research and management. Added to the connection between surface and groundwater, MN should take steps to understand and make decision around other factors in the cycle (pollution, climate change, etc.)
- Prioritizing issues likely to impact human and ecological health, which will require a combination of funding research to understand these issues and funding potential practical, sustainable solutions.
- Increased funding for continuous monitoring.
- additional measurement and monitoring of the impact of surface waters on groundwater
- developing some innovative implementation strategies
- measurement
- Investing in research
- Better understanding of small molecule pollutants in waterways and strategies to remediate these.
- Funding of projects like wetland restorations that can address both water quantity and quality.
- Water Re-use
- Increase funding support for counties to implement the Wetland Conservation Act.

- We have impaired surface waters, can we fix that in connection with groundwater/surface water connection as well?
- Willingness to spend the money necessary to take drastic large-scale actions/acquisitions to improve water quality and restore natural flow regimes.
- Support geologic mapping and groundwater research that aims to characterize the groundwater system.
- mapping and research into aquifers and surface waters.
- Clearly defined water quality and quantity goals and thresholds are established and enforced by state agencies.
- The role of public and private forests in long-term water quality and quantity are appreciated and supported.
- less regulation and more education
- geologic mapping, hydrologic characterization, and ground water modeling
- Research
- Minnesota needs new innovative, market-based policies to address farming economics in order to make substantive conservation efforts financially feasible (research and demonstrations needed)
- Focus efforts to engage more community members and diverse partnerships to help solve local water issues such as in high nitrate DWMSAs, areas of ground-surface water conflicts (DNR interference areas). These can serve as models for communities to learn from.
- More research is needed to develop an integrated approach that takes into consideration land-use needs and water management. Research on cleaning water is also needed.
- Research on groundwater-surface water connections
- Not sure on this one, could be additional research on groundwater flow but I don't know how much is known.
- More information provided to communities and citizens directly impacted by poor water quality and/or flooding due to drainage of water resources.
- Local elected officials become more knowledgeable leaders on water related subjects and as a result make zoning and land use decisions that protect our water resources.
- Continued investment in basic science of understanding water/groundwater resources—including groundwater observation well network, stream and lake monitoring networks, and county geologic/groundwater atlas program.
- We have to identify the sources of water and ultimately the wastewater and stormwater that is the result from use. Funding is needed to find answers and to implement solutions. This may include infrastructure assistance like water and wastewater plant. I think we know a lot already, but have not acted as quickly on the solutions.
- Education and outreach
- More research is needed including rural area.
- Research related to Minnesota's public and private drainage systems (drainage impacts on aquifer recharge, capacity of current system to properly handle larger, more frequent rain events, etc.)
- research and application of research results
- Need to continue research on the impacts of Nitrogen and what are effective agricultural and urban practices to improve surface and groundwater quality, as well as manage the quantity of water and mitigate the impacts of ag drainage and urban stormwater runoff.
- Determine direction and quantity of water movement within ground watersheds statewide.
- Additional groundwater and surface water future conditions modeling at a water level.

- Demonstrate that it can be done by targeting a watershed at an appropriate level and implementing all of the best strategies.
- Demonstration/education of impacts and implementation/education on BMPs. Targeting areas: agricultural land, municipalities, etc.
- Additional research on water quality—emerging issues like microplastics and changing temperatures as well as longer term problems like phosphate and mercury.
- Increase research in defining the connections between ground and surface water. Focus on the heterogeneities that focus water movement.
- More coordination or consolidation of state water agencies, somehow get more control over Ag management practices.
- Education in the biotic dimensions of water quality and the benefits to overall environmental health, rather than water clarity, safety for swimming.
- research and measurements collected across space and time; surface and groundwater quantity and quality monitored across small-to-large systems across time in such a way that concentrations and fluxes can be computed. This requires contemporaneous quantity AND quality measurements across different spatial scales.
- fund research in remediation of contaminants.
- Research and education are both needed to achieve this goal.
- Start with Data: Assess chemicals sold/purchased/used in MN and the amounts and set clear reduction targets. Research is showing U.S. women of childbearing years have high numbers of different types of chemicals in their bodies and breastmilk.
- More research and measurement of groundwater—surface water connection.
- More extensive monitoring of non-point source pollution of surface water and then taking active steps to make corrective measures (EX producers farming the ditches/right-of-ways and hills leading to continuous run-off etc). A survey of out of date septic systems (regardless of grandfathering) and cost share to correct them if you qualify based on income bracket. All septs should be in compliance. Failing septic systems lead to eutrophication of lakes and rivers and depleted dissolved oxygen.
- Smart salt workshops statewide
- Research on the relative influence of groundwater to surface water quality and quantity is needed because it differs greatly across the state.
- Research initiative that includes the role of land use and changing climate.
- education and implementation of buffer strips, natural plant communities, etc.
- Communications are key, as Minnesotans, and all upper Midwesterners, have a hard time grasping water quantity challenges and limits. We don't have the everyday visuals that western states do for understanding water quantity.
- Research
- This is a local, regional, and global issue. Fund educational programs and model projects that can be emulated at all scales.
- Support research that evaluates and informs on contaminants (legacy and emerging) in drinking water.
- Technical assistance and support for improved agricultural practices.

- I chose the most inclusive goal as I think meeting this goal will encompass several of the other goals. Surface and groundwater connections vary widely across our large, geologically-complex state. Meeting this goal will require important hydrologic research in locations where such research is quite difficult and, thus, has been rather ignored.
- research: locations and sectors that are majority nonpoint sources and incentive and BMP approaches that are most effective at reducing nonpoint source pollution
- Support research such as the spring study in SE MN.
- Explain case studies ie White Bear Lake that show examples of too much permitting reduces volume of water.
- Understanding how different factors influence water.
- Research on regional water balance, including future risk to surface water features like wetlands and lakes from combined impacts of climate change and groundwater development.
- Research to better understand groundwater and surface water connections. Research and education on BMPs to minimize groundwater pollution.
- Funding research that affects water quality as it relates to agriculture practices—develop BMPs that are more site specific.
- Understanding the role that drain tiles have in our surface-to-ground water hydrology, exploring alternatives to existing drain tile installation practices. to both meet the needs of the agricultural sector and the environment.
- Demonstration—people need to see impacts to believe them, sometimes—and then some still may not believe demonstrated connections.
- This is just a note: knowledge and understanding are two different things and should be well defined when developing this plan.
- fund monitoring for agencies that are not responsible for regulation and enforcement.
- managing the quality and quantity of water impacting our lakes and rivers
- modeling
- education
- Allowing for projects that may not achieve full accomplishment of habitat goals when water quantity is a major concern for sites downstream. For example, allowing for an impoundment in special circumstances in the red river valley if it has significant impacts on the immediate downstream area for fish & wildlife, including less in-channel erosion.
- Permit flexibility regarding Wastewater re-use opportunities.
- Support initiatives which work to document drainage ways, tile and wetland areas.
- Seal those abandoned wells!
- Waters, surface and ground are prioritized by the multiple benefits they provide and decisions and resources are allocated accordingly.
- Meaningful and simple model to analyze your specific land owned/operated for both rural and urban landowners/users. Increase awareness and then offer opportunities for assistance.
- include local water systems (municipal) in water planning.
- Make sure information is provided to all who have a roll.

- Many solutions for substantive water quality and quantity improvements are the same solutions needed for habitat restoration for grassland species, monarchs and pollinators. Integrating water and habitat strategies from a funding and political perspective will help both ends be achieved, and in the most cost-effective manner.
- Provide targeted research and outreach around water quantity issues making the case for multiple benefits of water storage, particularly in the high loading Minnesota River Basin.
- A demonstration site that shows differences in water quality in ag lands with buffer strips vs. none would be a valuable educational tool.
- Develop funding mechanism specifically for longer term programs needed to build out our water resource monitoring network, so programs are less susceptible to changing priorities at the capital.
- Education to change the culture to understand how we use water and get rid of our wastewater and stormwater. Salt, organic material like grass and leaves, chemicals whether commercial, farming or household and being wasteful.
- Need to develop more long term data layers derived from LiDAR to provide baseline maps/data to be the foundation of future research and practice implementation to meet water quantity and quality goals.
- Identify locations and strategies that have lowest cost and biggest reward to target with funding and implementation of protection and prevention and clean up.
- Additional understanding of weather and future weather and climate patterns and how these align with anticipated human demands for water across MN.
- Charge way more for water use, especially highest users.
- Monitoring and a higher bar/more oversight (at the county or state level) for approval of tile permits for ag tiling. Little if any, monitoring of where the tile is going in or what will change with the granting of tile permits from Watershed Districts. The amount of tiling that is going in will have compounding negative effects on water quality, increased water volume (damage to ditches and water control structures), wells running dry, flooding of neighboring land, depletion of groundwater etc.
- Large public exhibits, incorporating both science and arts, to show the flow of water (above and below ground) and inputs (natural and anthropogenic) into those systems.
- Education
- Support efforts to communicate on the effects of contamination of surface and groundwater.
- Support for maintaining and expanding forest-based economic opportunities that help continue forested watershed benefits.
- Climate change scenarios must be used to meet this goal (after we understand the hydrology of various geologies around the state). More water is running off now due to increased intense rainfalls; this will leave many areas even more vulnerable to groundwater overuse. We must understand this and then research ways to live with it and/or combat it.
- Show research in plain language not technical terms—like a graph of land adjacent to farming rates and TMDLs.
- Development of draft administrative rules to implement protection for lake and wetland water levels during groundwater development (i.e., pumping by new Ag production wells).

**Goal 2—which 16% of survey respondents prioritized: Priority ground water issues for Minnesota have been identified and best management practice (BMP) options to address them have been developed, evaluated, and promoted.**

- ongoing active management of shallow lakes and wetlands is imperative to maintaining healthy watersheds and groundwater
- There are many agencies out there monitoring and studying our water resources in Minnesota. They need to work together to establish best practices based on science and make sure everyone, whether they be an individual homeowner or a business owner or a city leader, need to be aware of the Best Practices and have access to the mechanism that allow them to implement those BMPs. Informed citizens will demand responsible use of our water resources from within the community.
- Share research with decision-makers at all levels—government, tribal government, municipality, non-profit, community org, schools, family.
- Since much of Minnesota’s drinking water comes from groundwater, more emphasis should be placed on groundwater systems. Accomplished through the means of education and demonstration, showing cause-effect scenarios, for example.
- Research
- Increased research and outreach about sensitive groundwater areas and how local partners and landowners can collaborate to protect the resource
- Demonstrate improved water quality in a popular river or lake. Showcase the before and after along with the collaboration to achieve this improvement.
- Research, demonstrations and education are all important. All of the goals in this area are very important, but this seemed the most comprehensive.
- Demonstration projects and assistance with implementing best practices
- BMPs for most forms of surface water
- A full (as full as can be) atlas of ground water resources, and the connections they share with surface water.
- improve soil conservation and control agricultural runoff. examples include reduced tillage and chemical applications, cover crops and encouraging further development of perennial crops promoted by dr. wyse at the university of Minnesota, St. Paul.
- Education is always key. Case studies that can be shared to show real communities and businesses and neighborhoods and how they adopted best practices and were able to conserve water and reduce water pollution would be powerful.
- Assign more emphasis on monitoring and measuring outcomes and results.
- Demonstrate improved drinking water quality for a community.
- In addition to addressing ground water issues and BMP, it is important that all stakeholders are educated on the limits of Minnesota's water supply. I believe the prevailing attitude is that water is an unlimited resource in Minnesota.

**Goal 3—which 8% of survey respondents prioritized: The limits of Minnesota’s water supply are defined and known by local units of government, tribal nations, industry, and other decision makers.**

- Research to further define sustainability within the term “limits”—sustainability includes both quality and quantity.
- I include the general public as “decision makers”: use an educational campaign to educate MN governments, tribes, industry and the public (“decision makers”) in the fact that clean water resources are limited in MN. The myth of a limitless clean water supply has been persisting for too long in MN.
- There are many conferences and events that this information can be shared at.
- reduce ag irrigation use for surplus commodity crops
- Foster projects that focus on understanding our water budgets on a stateside basis
- Education
- Local governments do not have enough information on water supply. They are asked to provide data to the state but data is not provided to local Councils and decision makers.
- education of the complex interaction of the hydrologic system components
- We need to complete the installation of an adequate monitoring network, so we can know the limits of geographically specific water supplies. Knowing those limits will drive investment and innovation into alternative sources and efficiency efforts that are otherwise ignored until a crisis develops. Minnesota has a lot of water that can be used for economic activity, it’s just not distributed equally and the quality is variable depending on geography.
- Broader scale outreach with accessible but accurate information on the state of the State’s water supply so all Minnesotans have functional knowledge on the value and limits of this critical resource and use it for personal decision making.
- Highlight real examples from around MN where clean water has become a limiting resources for development, recreation or ecology.
- develop educational materials that simply and clearly lay out the basics of groundwater hydrology and the status of the groundwater resources we are working with
- Demonstration
- use of interactive simulations to help explain and educate the public on the complex interactions of resource management

**Goal 4—which 7% of survey respondents prioritized: Agencies, permittees, and public policy in Minnesota are all better informed with improved state-specific storm water data and best management practice (BMP) maintenance research.**

- All agencies across the state are involved and share data with each other that gather information. In consultation with all agencies we can develop an improved best practice management measures that reflect



everyone's needs. When information and data is shared we can all make use of the information available to make guided decisions.

- Developing farmer friendly ways to retain more storm water on the land rather than “getting rid” of it as quickly as possible. The benefits of early workable cropland need to be balanced with stream friendly discharge of the water being exported from the fields.
- available data and BMP on websites with public meetings and disclosure
- fund data synthesis to use information we have and identify knowledge gaps;
- fix the flawed political and idiosyncratic proposal selection process

## **Other goal ideas offered by subject matter expert survey respondents for the area Water—Increased Knowledge:**

- Better connecting land use practices (fall tillage, inappropriate N application, wetland drainage) in the watershed to water quality/quantity.
- Minnesota water resources are better managed for quantity, quality, biological integrity, and watershed health as a result of better understanding of the connections between surface water, groundwater, biodiversity, and watersheds.
- Educate citizens about the connections between land and water by helping them understand that healthy watersheds with intact and diverse plant communities are essential to clean water.

## **Other strategy ideas offered by subject matter expert survey respondents for the area Water—Increased Knowledge:**

- Demonstrating how what one person does on their land affects their neighbors downstream.
- Develop and enhance integrated water and biological data collection, data management, data analysis and delivery of information.
- Education, assistance to landowners and others in creating/maintaining diverse native plant communities and understanding that they are essential to clean water and healthy habitats.
- Expand, enhance, and accelerate statewide baseline biological surveys in all of Minnesota's lakes and rivers.

## Appendix H: Water—Improved Outcomes

As a result of the Issue Identification Panels, **five goals** emerged in the area of water that had to do with improving outcomes overall.

These five goals were voted on by respondents who participated in the subject matter expert survey.

**Table 1. Percent of subject matter experts who prioritized each goal in the area of Water—Improved Outcomes**

		Count	Percent selected
<b>Goal 1.</b>	Minnesota is prepared for water volume changes and extreme runoff events resulting from climate and land use changes.	60	37%
<b>Goal 2.</b>	All Minnesota water meets quality standards and there are zero impaired waters in Minnesota.	39	24%
<b>Goal 3.</b>	All Minnesota waters show biologic indicators of strong aquatic health.	34	21%
<b>Goal 4.</b>	Storm water across Minnesota is managed through effective, innovative, and long-lasting approaches.	19	12%
	<i>Other</i>	5	3%
<b>Goal 5.</b>	Risks for water re-use in Minnesota are better understood and mitigated where needed.	4	2%
<b>Grand Total</b>		<b>161</b>	<b>100%</b>

Based on feedback received from the subject matter expert survey, Goal 1 was revised to read as: *Minnesota is prepared for water volume changes, **both excesses and shortages**, and extreme runoff events resulting from climate and land use changes.*

Subject matter experts who participated in the Prioritization Panel were asked to review strategies recommended by survey respondents relating to Goal 1. All of the strategies submitted by survey respondents are included in the next section below. Panel participants were invited to revise strategy ideas or come up with their own, and as a group they prioritized five strategies that would be necessary to achieve the goal. Those five strategies, in no particular order, are:

- Research and demonstrate market-based policies that are economically viable and help pay for the land use and conservation practices needed to achieve water resources protection, especially in agricultural areas.
- Research effective water use scenarios to identify improvements needed to ensure the state’s water resiliency and sustainability (including modeling water scenarios, managing water on land, optimizing use to prevent overuse of groundwater, improve water reuse, and waste water management).
- Identify and promote workable, holistic, multi-benefit, diverse, and viable (economically and socially, etc.) solutions for storing more water on the land, through both engineered and natural solutions targeted at critical areas.
- Support cities, counties, and watershed districts with developing climate resiliency and adaptation plans, and processes for funding and implementing those plans.
- Compile existing research, identify gaps, and develop research to quantify land use and land cover changes, in order to identify restoration and protection needs to achieve sustainable water systems.

The following provides the full list of strategies for the area of **Water—Improved Outcomes** that were recommended by subject matter experts who responded to the survey. They are organized by goal.

**Please Note:** These strategy recommendations are provided verbatim, as they were submitted through the survey. Therefore, they may contain errors or typos. They have also not been vetted for alignment with the ENRTF mission or charge, and may therefore not be allowable strategies for the ENRTF to pursue or include in its strategic plan.

## **Goal 1—which 37% of survey respondents prioritized: Minnesota is prepared for water volume changes and extreme runoff events resulting from climate and land use changes.**

- Research ideas to help manage volume changes and runoff events.
- Better quantification and mapping of current water bodies sediment loading and water capacity
- Research
- Research exploring both climactic and land use impacts. For example, increased annual precipitations coupled with expanding drain tile installations.
- Research on adaptation to potential climate change needs to be further supported, because it will be a lot of work.
- Develop comprehensive analyses to understand where runoff is likely to become more severe and develop multiple strategies to minimize this threat.
- a subset of previous response, specifically better define what the excesses will be, implications for infrastructure, forestry and ag production, and pollution. Previous question response: Education and supportive applied research on climate change limits/temporary excesses on surface water. Key contributors and what it will take to reduce their role in surface water contamination.
- funding for continuous monitoring
- education and demonstration are critical
- Policy changes surrounding tiling
- Drastic measures may be needed to address the results of climate change. LCCMR should take a look at what circumstances would be acceptable for bending its standards when justifiable.
- Continue to fund projects which seek to understand drainage, tile and wetland basin protection.
- Clarify responsible entities for management of the volume and flow in rivers and lakes.
- Need to prepare for extreme events including drought potential—water storage solutions, recharge, erosion
- Adequate funding for development of runoff & climate data collection and assessment. These data would be used for evaluating storm events and for the revision of flood and storm frequency
- Encourage projects that focus on climate change resiliency
- Research and demonstrate market-based policies to would help pay for the currently cost prohibitive level of conservation practices (in Ag areas) required to achieve this goal.
- Provide more research, demonstrations and outreach related to preparing for climatic forecasts of increasing runoff events and storing more water on the land to reduce flashy flows. Work with stakeholders to strategize workable, affordable, diverse solutions for storing more water on the land.

- Changing the socio-economic drivers to favor minimizing runoff and maximizing water storage
- research funding to help predict expected changes with the goal of mitigating effects and strategies for land use change (i.e. agricultural impacts)
- Cities, counties, watershed districts have climate resiliency and adaption plans, and a process to implement those plans.
- Demonstration with research in various scales (landscape to pipe). Water quality should be part of discussion as impacts of extreme runoff events
- Develop Best Management Practices for water volume changes/extreme runoff events that insure long-term improved water quality and quantity
- Increased rainfall is overwhelming all the systems (ag, urban, forestry) and is causing not only impacts to water quality, but is destroying infrastructure. We need to learn to deal with the new normal and not expect rainfall patterns of 50 years ago to come back.
- Develop “priority watershed” climate adaptation demonstration projects focusing on the most at risk for climate change watersheds based on U of M downscaling modeling data.
- Climate change precipitation model, followed with demonstration/education of impacts and implementation/education on BMPs with specific greenspace components. Targeting areas: agricultural land, municipalities, etc.
- Include both excesses and shortages of water.
- Funding is needed to plan risk management strategies in different regions of the state based on current trends and future forecasts.
- Interface of water quantity and quality research with weather and climate resources—currently there is limited funding for person-time to bring existing data together across the diverse landscapes of MN.
- Again, education and outreach in a fun and engaging way rather than using scare tactics, but the impacts of climate and land use change on water is not well understood.
- Use predictive climate and flooding models (100 yr, 200 yr, 300 yr flood events etc) to see where the greatest needs will be geographically and figure out how to fund restoration projects along water bodies and waterways, buy up critically threatened properties along lakes and rivers. It is nearly impossible to choose between these. #2 and #3 are the most critical, however. To have #2 happen, you would already need to have dealt with #3.
- Research focused on quantifying threshold land use and land cover changes on changes in water quantity
- large area modeling to provide guidance for future infrastructure projects
- Urban and rural BMPs
- Research into effective water use scenarios to define improvements needed to ensure State’s water resiliency. This includes modeling water scenarios, managing water as it comes to the State’s land in increasing intensity and volume, optimizing use to prevent over use of groundwater resources, improving water reuse and wastewater management processes.
- I’m an aquatic ecologist; I do my research on impaired waters and biotic indicators. But I did not choose either of those goals because I think the water volume changes are more threatening to the water future of many areas in Minnesota. Meeting this goal will be very difficult. We need good research on innovative options for mitigating extreme events, preparing our population for these, and getting everyone to work on this mitigation.

- Laws and rules governing various agriculture programs get aligned around keeping water on the ground, rather than sending it to creeks, rivers and lakes via tile and ditch systems. e.g., FSA/USDA rules for CRP lands allow retention of water by county ditch authorities, even though wetland standards may not be met.
- support the purchase of land that can meet demand for more parks and trails in Minnesota AND at the same time help mitigate flooding impacts to towns and cities, etc. trails & park infrastructure would be designed to withstand flooding or be easily cleaned up after an extreme runoff event.
- We need to keep more water on the ground, not running off. Wetland restoration
- Go big picture—next generations are already on board, for most part, about environmental issues. Tie past and current volume changes is relevant and meaningful.
- All of the above goals are important (meeting water quality standards, and strong aquatic health), but to meet all of these goals stormwater systems need to be designed to accommodate volume changes and extreme runoff events. Research is needed into 1) projected water volume changes and storm events, 2) the design of stormwater approaches in changing hydrology, and the impacts of changing hydrology on water quality standards and aquatic health
- Prediction and mapping for the future
- Highlight examples of the adverse consequences of runoff events across MN—these examples should be of regional relevance.
- data collected for the purpose of understanding the science, not for meeting regulatory requirements
- monitoring and evaluation can't be left behind
- Education about wetlands
- Consolidate knowledge of flood levels and flow patterns within one place and provide access to decision makers.
- Provide targeting funding for water storage, particularly in the high loading Minnesota River Basin. Funding should include both engineered (wetlands, storage ponds, multipurpose drainage management) and technical and financial support for management (soil health—cover crops and tillage changes).
- Research and demonstration of improved water management
- Developing water storage in agricultural areas that can have multiple benefits is going to be a challenge and more research and demonstration of new techniques will be needed to fully be prepared to address climate changes and increased rainfall.
- Currently, there are perceived barriers to working on issues of future conditions that include changing climate and weather. In order to predict future water conditions, we should openly consider climate change and how this will affect the more extreme runoff events or even the largest annual events tied to snowmelt. We also have to consider landscape changes through land cover shifts and increased drainage infrastructure.
- Most of what we can change that will have impacts on water outcomes is related to land use changes and by what we regulate and permit and how we manage the changes. Climate change research predicts that MN will receive more precip yet we are converting more land from grassed or forested cover to conventional ag or to mining which will compound the issues with increased water volume.
- High resolution monitoring of land use and land cover trends to identify regions susceptible to water volume changes
- Attention to flood prone areas...limit development

- We need innovative solutions that involve all aspects (research, policy, outreach to the public). In my opinion, this will be a huge challenge that we must tackle to have a secure water future and enough water to continue farming and have drinking water wells, while not at times being swept away by large floods.
- Increase protection and restoration of agricultural land in targeted areas to increase storage of water on lands through restoration of historical wetlands, improve wildlife habitat and reduce runoff to creeks, rivers and lakes.
- identify land along streams, creeks, and rivers (or shallow wetlands & large areas that were consistently flooded the last five years) that has formerly been enrolled in CRP and work with farmers to PURCHASE this land for flood mitigation and wildlife habitat/corridors (& public access/hunting).

## **Goal 2—which 24% of survey respondents prioritized: All Minnesota water meets quality standards and there are zero impaired waters in Minnesota.**

- Improving the quality of effluent from point-sources and the quantity of discharge from non-point sources are two means to get closer to toward that is goal. To do so, continue monitoring for ambient water quality, measuring against standards, establishing effluent limits where necessary, and incentivizing improvements through bonding recommendations for capital investment.
- Broad education efforts to advise the general public of the condition of their local ground and surface waters and the sources of pollution responsible for impairment. Make concerted efforts to educate elected officials and public servants and provide assistance with designing local and state regulations that carry enough authority to directly address the issues.
- I don't even know where to start. This is obviously the ultimate goal—but probably unrealistic.
- This is the correct goal. Again education and political will are needed.
- Protect/buy the land surrounding the water bodies (focus on headwater ecosystems) so they are natural buffers
- Standard definition. Human, agriculture and wildlife standards may be different and overlap. Work on defining how those interactions and water used will be key to implement water management practices.
- Research, education and continued citizen involvement in doing AIS testing and reporting. I think all of these are important so it is really hard to choose.
- This is a big one; I think within the purview of the ENRTF it's a combination of measurement and education.
- Lots of research
- see previous
- This seems like an ambitious goal, but I like it. The first thing I would like to see is a definition of what “clean water” is (i.e. where do you draw the line). This may already exist, so in that case this would be an education goal (i.e. spread the word).
- Provide education and information to help people better understand their local water resources. The Watershed Health Assessment Framework created by MN DNR is an incredible tool that is available for folks to use to explore their local watershed. We need something simple, like a water quality threat sign for each water body (like the fire threat signs with Smokey Bear that the forest service uses) to show folks how their local waters are impacted daily by storms, runoff, and pollution.
- Research, infrastructure investment, policy, education—this is critical.

- Aquatic life standards are established and management actions are taken using statutes and local land use authority.
- establishing agriculture systems that don't rely on fossil fuel derived chemical fertilizers (requires changes in food system and markets)
- This one is ok if the effect of water volume/extreme runoff is included in it (i.e., #1 and #3). Goal of zero impaired waters unlikely to be met, but worthy to strive for. An important strategy for this is monitoring.
- I think we need to test all waters and keep testing to understand where we are now. This could be both education and demonstration.
- Continued focus on Water Watershed One Plan efforts and funding to implement plans.
- demonstrating the ability grow agricultural products without degrading surface or groundwater quality, soil health initiatives widely adopted across the state, cover crops that evapotranspire water rather than having to drain water through a tile or ditch, more precise nutrient management requirements in the most sensitive areas.
- Within each watershed in Minnesota, determine what are the major sources of impairment on each watercourse and make that information publicly available.
- Support policy and fund strategies that affords the greatest protection.
- Implement plans for pollutant source reduction.
- research: see before, incentive approaches for reducing NPS
- Address the impacts of train tile on water quality/quantity.
- Increasing low-cost treatment solutions through research and small-scale pilot testing of emerging treatment technologies. We should fund small-scale and side-stream treatment—greater than bench-test scale—to better understand the new and emerging technologies that might use biological- and membrane-types of treatment.
- I'm not a huge fan of excessive government regulation; but we obviously need to move forward with more 50-foot buffer types of requirements. Businesses and people are just not going to make changes unless some of them are forced to—I hate to say it, but it's true.
- At some point we may need to use regulations and fines more heavily to achieve this goal. We need to increase enforcement and make an example out of those who pollute our waters; like the Wall of Shame that the Conservation Officers use to deter poachers.
- Minnesota establishes zero impaired waters as not just a goal, but with a defined date and well defined incremental requirements to achieve this goal. this c
- Identify best practices that can be done to reduce our impact on water quality.
- Lending institutions that incentivize and encourage the above strategies rather than current practice that encourages the opposite.
- Identify locations and strategies that have lowest cost and biggest reward to target with funding and implementation of protection and prevention and clean up.
- Support research to identify pollutant sources and how to reduce them.
- Provide recommendations for stream crossings that reflect the changing nature of stream volatility.

### **Goal 3—which 21% of survey respondents prioritized: All Minnesota waters show biologic indicators of strong aquatic health.**

- research
- I think you're on track with the WRAP and one water one plan initiatives.
- Completion of and implementation of strategies in WRAPS.
- Devil is on the details here: "strong aquatic health" and "zero impaired waters" seem to be similar outcomes. I chose the former as "strong" seems to show more resolve than meeting some minimum standard that can be changed without scientific support.
- With early rounds of watershed planning and programming, efforts including research, education, measurement should continue on impaired waters.
- Protect healthy bodies of water and aquifers.
- retain more water on the land, restore natural nutrient processing mechanisms such as wetlands and organisms that filter and process organic matter and other pollutants.
- State pays for buffer zones along waterways.
- Advance and enhance data collection, management, analysis and delivery sufficient to have biological indicators that represent the full range of aquatic biological systems.
- Develop practices for individual homeowners as well as municipalities to achieve biological water benefits when making needed infrastructure changes. For example, sizing culverts for optimal fish passage as well as drainage. That gets at goal number 2, but in a more holistic way.
- Provide funding for lake and river assessments of biologic indicators.
- Wild rice bed restoration
- Tighter restrictions and improved measurement of chemical release by industry, residential areas and farm chemical use. Stronger enforcement.
- Minnesota needs systematic ways for measuring biotic (and abiotic) health of our aquatic systems that will continue in perpetuity, both for baseline data and also to recognize downward trends when they begin and not when it is already too late to remedy.
- Research
- Intensive water quality monitoring
- research into what indicators are important, what alternative stable states may exist, and how to move among them if needed.
- education
- focus on voluntary, not regulatory.
- Top-down enforcement strategies coupled with incentive-based and knowledge transfer strategies with landowners/local governments.
- Education, research, and monitoring are all methods by which to improve our waters.
- Partnerships and community involvement should be emphasized, creating an "ownership" to develop resolving those issues.
- Restore free flowing streams that allow for fish movements in and out of lakes and tributaries, reintroduce lost species groups that restore ecological resilience.



- Provide incentives, such as water banks, for farmers and others to keep water on the land, slow the flow, and enhance biodiversity.
- Educate about and fund projects that restore shorelines of rivers and lakes to appropriate, locally sourced native plant communities.
- Fund projects that show water quality improvement as indicated by quantity or condition of bioindicator fish and invertebrate species.

## **Goal 4—which 12% of survey respondents prioritized: Storm water across Minnesota is managed through effective, innovative, and long-lasting approaches.**

- Storm water causes more pollution than we think, managing stormwater will reduce run-off from many sources.
- continued monitoring and measurement of new storm water treatment technologies
- Have funds allocated to stormwater specific projects.
- focus on storm water management that conserves runoff locally while protecting local waters from pollutants commonly carried by storm water runoff.
- push wetlands as methods for handling ag field runoff.
- Buffers and rain gardens of native vegetation that filter contaminants
- Support development of innovative storm water runoff solutions.
- Green infrastructure investments
- Allow the use of credit trading for water quality to help MS4 communities.
- fund replacements and alternatives to field tiling.
- Smart salt, fertilizer, and pesticide application training workshops and public education campaigns.
- Support projects that develop infrastructure for water reuse in MN.
- Support for forestry, forest businesses, and forest investments across rural and urban landscapes.

## **Goal 5—which 2% of survey respondents prioritized: Risks for water re-use in Minnesota are better understood and mitigated where needed.**

- Research on new ways to address the nutrient pollution concerns
- Advanced treatment education
- gray water demonstration projects
- Education
- Research on how to implement some technologies into the field, instead of just working in the lab

## **Other goal ideas offered by subject matter expert survey respondents for the area Water—Improved Outcomes:**

- Better, more efficient use of water... reducing groundwater use... improving quality of groundwater (protecting public health)... a more holistic approach to wastewater treatment.

- Prevention and management of aquatic invasive species are better understood.
- Agricultural communities and policies are focused on reducing their negative impacts on our states water resources.
- All water outcome goals in the sentences above are fundamentally related to climate and people, and are all inter-related. Understanding short and long-term impacts of climate and people on water is critical.
- All for the above

## **Other strategy ideas offered by subject matter expert survey respondents for the area Water—Improved Outcomes:**

- Increased research and collaboration.
- Applied research funding that targets development of solutions for all of these goals.
- Added funding for successful research projects to implement identified solutions.

## Appendix I: Habitat, Fish, and Wildlife

As a result of the Issue Identification Panels, **six goals** emerged in the area of habitat, fish, and wildlife.

These six goals were voted on by respondents who participated in the subject matter expert survey.

**Table 1. Percent of subject matter experts who prioritized each goal in the area of Habitat, Fish, and Wildlife**

		Count	Percent selected
<b>Goal 1.</b>	Minnesota has healthy and diverse wildlife populations that sustain and enhance the state's environment, economy, and quality of life.	61	38%
<b>Goal 2.</b>	All public and private conservation lands in Minnesota provide long-term, multiple benefits for fish, wildlife, and people.	27	17%
<b>Goal 3.</b>	Minnesota lakes, rivers, streams, and wetlands support aquatic biodiversity, including species vulnerable to human impact.	24	15%
<b>Goal 4.</b>	Minnesota prevents, detects, and reverses the establishment of aquatic and terrestrial invasive species, and is able to effectively mitigate their negative impacts.	20	12%
<b>Goal 5.</b>	The hydrologic function of Minnesota's watersheds supports healthy and diverse biological communities.	19	12%
<b>Goal 6.</b>	There are diverse and sustainable fisheries and aquatic game populations that are accessible to all Minnesotans for safe consumption.	2	1%
<b>Other</b>		8	5%
<b>Grand Total</b>		<b>161</b>	<b>100%</b>

Based on feedback received from the subject matter expert survey, Goal 1 was revised to read as: *Minnesota has healthy and diverse wildlife **and plant** populations that sustain and enhance the state's environment, economy, and quality of life.*

Subject matter experts who participated in the Prioritization Panel were asked to review strategies recommended by survey respondents relating to Goal 1. All of the strategies submitted by survey respondents are included in the next section below. Panel participants were invited to revise strategy ideas or come up with their own, and as a group they prioritized five strategies that would be necessary to achieve the goal. Those five strategies, in no particular order, are:

- Monitor the biologic and environmental health of systems through high quality research, to support management of lands and waters.
- Research key issues and develop strategies to combat them (ex. bird/insect crash).
- Species-specific and habitat-level research and management to effectively maintain, protect, and restore habitats and populations.
- Research to inform managing plant, fish, and wildlife communities to adapt to climate change.
- Conservation of additional lands and support for management of currently protected lands.

The following provides the full list of strategies for the area of **Habitat, Fish, and Wildlife** that were recommended by subject matter experts who responded to the survey. They are organized by goal.

**Please Note:** These strategy recommendations are provided verbatim, as they were submitted through the survey. Therefore, they may contain errors or typos. They have also not been vetted for alignment with the ENRTF mission or charge, and may therefore not be allowable strategies for the ENRTF to pursue or include in its strategic plan.

## **Goal 1—which 38% of survey respondents prioritized: Minnesota has healthy and diverse wildlife populations that sustain and enhance the state’s environment, economy, and quality of life.**

- Put all proposals in the arena on equal footing, i.e. don’t block grant to MAISRC.
- Private and industrial lands included in planning process—not just public lands.
- Develop a realistic assessment of habitats and their ability to sustain healthy and diverse populations while recognizing that not all aquatic habitats will remain/return to pristine conditions. Using limited resources in a more focused way will ensure better outcomes—even if limited in geographic scope.
- Again, I’m not sure where to start, except to say that maintaining these living resources have multiple benefits as listed in the goal; and developing strategies that can support multiple benefits will require careful and reasonable management.
- Research that supports management related questions
- continue to develop opportunities for the public to enjoy all of the state’s natural resources.
- Demonstrations
- demonstrating the multiple benefits of wildlife habitat for people (filtering water, recharging groundwater, C storage) to make wildlife issues relevant to everyone, not just those with binoculars or guns.
- The goals over emphasized animals and should also emphasize habitat. Think bigger than producing more fish and deer. Could word as: Minnesota has healthy and diverse wildlife AND PLANT populations that sustain and enhance the state’s environment, economy, and quality of life.
- Research and monitoring
- At some point we may have to give up the fight against invasive species and look at adapting. Many of our native landscapes will not be able to adapt to climate change and invasive species are extremely adaptable. Supporting research that looks at managing plant and wildlife communities to adapt to climate change while accepting invasive species as part of the “community” would be beneficial and could allow us to invest dollars in other areas where we can have a bigger impact.
- Provide funding for habitat restoration projects that can be owned by private entities. Most people don’t like selling their ground but still want to make a difference.
- Expand beyond hunters and fishers in your concept of critical stakeholders.
- Best management use of public lands/waters
- ENRTF is a tremendous funding source for applied fish/wildlife research. Since OHF funds cannot be used for these activities; thus, the strategy would be to prioritize these activities ahead of acquisition (OHF eligible).
- Robust investment by LCCMR in on-the-ground conservation outcomes.
- Research and commitment to a HOLISTIC approach for managing MN's lands to maintain the unique biodiversity.

- Continued and improved collaboration between public and private lands conservation programs/goals.
- Quantifying the economic and social benefits of healthy and diverse wildlife populations, and then passing that information on to decision makers.
- Changing people's (individuals, consumers, leaders, industry, farmers, etc.) behaviors to positively impact the environment.
- Provide funding for studying poorly understood components of Minnesota's biological diversity.
- We are all about the water here in MN we have to protect it, and the habitat, but we have to use common sense.
- Increased planning of key habitat corridors and refuges areas for species ranging from pollinators to birds and mammals.
- A concentrated effort to demonstrate success in two or three areas of the state on a large scale would go a long way to convince the majority of landowners to adopt more sustainable practices and approaches. By large scale I'm talking about 10,000–40,000 acre efforts not the typical small project by project piecemeal efforts we are currently seeing.
- Maintain viable populations of all of Minnesota's native species.
- Fund management of public and private natural areas at higher levels.
- Support land protection actions that focus on building corridors and networks of habitat, to help with climate change adaptation.
- Cooperation! I chose this option as I think it encompasses most of the others. We want overall healthy ecosystems that can resiliently adapt to future conditions (that include allowing native species to outcompete invasives, are pinned on hydrology in that both the terrestrial and aquatic communities are considered together, and that vulnerable species are supported).
- Enhance native habitats that support wildlife populations.
- We lack information on many important wildlife populations. Research is key to developing programs to sustain their health and diversity.
- In order to maintain healthy and diverse wildlife populations, we need to actually understand what we do have. There is poor knowledge of most of these elements. We must support surveys and ecological research to establish better baseline information about the status and interactions of Minnesota's species.
- Providing quality habitat is the best way to ensure a healthy and diverse wildlife population, continuing to protect and expand conservation lands is critical to this.
- invest in monitoring the health of fish and wildlife populations to be able to detect concerns before they are critical.
- Research
- Work with the Division of Forestry to manage the forest age class distribution.
- protection of diverse habitats, both terrestrial and aquatic.
- Development of hunting opportunities as well as wildlife viewing/non-consumptive tourism (i.e., Map of viewing areas, festivals, etc).
- a combination of research and outreach that focuses on managing many species and educating the public about them.

- This is a cruel choice; I want them all for Minnesota. I chose # 2 in hopes that it encompasses a number of the others (particularly 1,3, 5, 6). To meet this goal we need to look at the bigger picture - what is causing the big drop in bird populations across the US? What is causing the huge crash in insect abundances? How can MN combat these in our state?
- Land protection, restoration, and management.
- By prioritizing areas for rehabilitation, a discussion can be started on why some habitats are less prioritized which will create much controversy but may also help the public understand that we cannot fix every wrong - especially not without local buy-in.
- Continued research and trend measurement to clearly indicate changes (good and bad) to help guide decision making.
- Protection/purchase of land in headwater ecosystems.
- More youth programs.
- Conservation of additional lands, funds for adequate management of lands currently protected, funds to prevent and manage invasive species.
- Habitat restoration
- Increased awareness of private lands to public land benefits and biological diversity.
- Exploration by LCCMR in how they can complement OHF and other legacy funds in this arena - not avoid it altogether.
- Development of an integrated multi-disciplinary and multi-agency team (not just DNR) to draft of plan for managing ALL wildlife (not just game species).
- Research/evaluation of existing management plans (e.g., MN Prairie Plan) to ensure that they are as effective as they can be.
- Raising the importance of the effects of aquatic and terrestrial invasive species.
- Species-specific as well as habitat-level in situ and ex situ management and research to effectively maintain, protect, and restore habitats and populations.
- Use common sense!
- Ensure that all of Minnesota's native prairies have some level of protection and that they are managed to maintain native species permanently.
- Protect more continuous tracts of land create roadless areas.
- Projects conducted by interdisciplinary teams that include both terrestrial and aquatic scientist and practitioners. Specific to the ENRTF, one small change could be not having to group projects into either terrestrial or aquatic upon submission, as focusing on a healthy watershed will include both.
- Support non-consumptive research and management on our rare resources.
- More actions plans and resources are needed to support species of conservation concern.
- Remembering that single species management problems are usually the result of broader ecosystem problems. Targeted efforts (while still justified) should keep in mind, and hopefully also inform solutions to larger issues.
- In order to ensure the way we are managing our lands and waters is the best for wildlife, we need to be vigilant in our monitoring of the biologic and environmental health of these systems through high quality research.
- protect critical habitats, educate about invasive species.
- Education

- increased attention to wildlife and aquatic habitat in cities and suburbs.
- Investigation of wildlife related economic and business opportunities that could be supported in policies and programs.
- Getting people engaged with the natural world may be one of the most important ways to ensure the public supports this goal.
- We need to learn to live WITH the natural world. Having strong and diverse biotic populations means living with them, accepting their presence in our midst, and leaving high quality space for them to thrive. This goal cannot be met if we keep gobbling up habitat and land. We must learn to live on less land so that more land can be preserved in a natural state. But no one wants to hear this or do this. How can we move people's attitudes?
- Incorporate high-diversity native plantings into projects for stormwater mitigation, shoreline stabilization, buffers, reclaimed mine lands, snow fences, etc., as appropriate.

## **Goal 2—which 17% of survey respondents prioritized: All public and private conservation lands in Minnesota provide long-term, multiple benefits for fish, wildlife, and people.**

- Continue to build on successful programs, explore what other States are doing.
- Continued funding in support of conservation land easements.
- Management of areas for habitat are more likely if there is an economic incentive. For example, forest management can provide income but also ensures there are young growth forests for the wildlife that depend on that habitat type.
- Support bringing together community members in local conservation groups to lead and implement programs in their community—it has to be long-term support for on-going groups—not one and done events or meetings
- Support conservation easements on private land.
- Identify gaps and create action plans.
- Research that assesses wildlife and fish populations. Management actions that rely on sound science.
- Restoration and Enhancement of Minnesota's most at risk habitats.
- expand allowable uses on some public lands.
- Invest in restoration and long-term maintenance of restored habitats.
- Economic incentives to alternatives to corn production right up to waters edges.
- several of these objectives sound the same.
- Develop a long term funding strategy for conservation (see Relevancy Roadmap, Association of Fish and Wildlife Agencies).
- I would like to see more research on how to maximize particular benefits and/or optimize habitat to provide multiple benefits. It would be great to bring in social scientists and biologists to address these issues.
- Talk about conservation and benefit--also really like bringing in environment, economy and quality of life.
- More an anti-strategy. Way too much ENRTF funds are being putting into individual responsibility of managing aquatic invasives (i.e. boat access monitoring). Until policies are put into requiring boat and trailer manufacturers to design products that do not move invasives (i.e. left over water in trailers and livewells), we are wasting money focusing on inspections.

- Continuing to “wall off” ENRTF and Legacy funds from distribution to Agencies by legislators—after they cut Agency programs.
- Research and Best Management Practices for Conservation Working Lands.
- Invest in research of best management practices and monitoring of outcomes at protected/restored sites
- Advocate for a better Farm Bill that provides lasting conservation (not temporary CRP-like programs).
- Combine two topics and bring it down to a personal level—everyone loves outdoors, nature, wildlife.

### **Goal 3—which 15% of survey respondents prioritized: Minnesota lakes, rivers, streams, and wetlands support aquatic biodiversity, including species vulnerable to human impact.**

- I selected the broadest possible goal since its all connected. Citizens need to be re-educated regarding the benefits of biodiversity.
- education
- Aquatic systems that support biodiversity and represent aquatic health are designated for protection with enhanced state rules.
- Watershed improvements through more wetland restorations and establishing more grass on the landscape.
- We need more research on how to maintain biodiversity in the ace of climate change and other human impacts, and determine which impacts (hydrology, nutrients, habitat connectivity etc.) are the most crucial to address.
- Monitor biodiversity
- Education and research
- Devote adequate resources to non-game species.
- Educate the public on the ecosystem services provided by healthy fish and wildlife habitats.
- Securing habitat buffers through conservations easements and habitat preserves with private land owners by taking advantage of generational change in farm ownership, with market changes in large natural resource landowners, and with County governments under 1W1P.
- Research focus on vulnerable species and biodiversity linked with education and outreach.
- research
- State conservation funding is directed at the states healthiest yet most vulnerable freshwater systems.
- Work with the ag. community to establish more grass based agriculture on the landscape.
- Support research on reducing human impact aquatic and terrestrial habitats.
- Work with farmers to reduce run-off, phosphorus and nitrate pollution.
- Combine water quality solutions with habitat conservation solutions for win-win solutions.

### **Goal 4—which 12% of survey respondents prioritized: Minnesota prevents, detects, and reverses the establishment of aquatic and terrestrial invasive species, and is able to effectively mitigate their negative impacts.**

- Research



- The MIASRC has proven to be bottle neck to innovative solutions in invasive species. The center is primarily concerned with funding their own researchers and proposals from outside this sphere are dismissed without adequate peer review or explanation.
- Invasive species impacts all the other goals listed. Terrestrial is proportionally underfunded compared to aquatics considering the scope of the problem.
- Research and testing to find the right methods to mitigate aquatic and terrestrial invasive species.
- Leverage resources from multiple agencies to make bigger-scale impacts.
- Release of GE biocontrol agents to combat invasive species (I am biased on this one).
- Research into mitigation strategies for invasive species and implementation of research findings.
- Foster projects that provide practical solutions to invasive species problems.
- Educating users on the dangers of spreading invasive species is key in halting the spread of these species from various water bodies has to be a top priority.
- Research, early detection, management implementation and education all required to mitigate ecological and subsequently human health impacts. Targeted areas vary based on invasive however, people are consistent contributors to the spread of invasives (increasing need for education) and simultaneously significantly impacted (increasing need for direct management implementation).
- Fund long-term invasive species removal efforts.
- Support research relevant to Minnesota.
- Education and outreach
- Research the impacts of terrestrial invasive plants such as buckthorn on fish and invertebrates in streams, rivers and lakes.
- Support local initiatives to prevent, respond, and monitoring AIS.

## **Goal 5—which 12% of survey respondents prioritized: The hydrologic function of Minnesota’s watersheds supports healthy and diverse biological communities.**

- Increased coordination of multi-agency activities to address issues more holistically.
- apply the principles of strategic habitat conservation, that is, focus on habitat protection and management that benefits an array of species, examples include native prairie and other grasslands, wetlands and shallow lakes
- Continue to fund those projects which work to put on the ground projects in the right places.
- Fund community engagement at subwatershed scale to engage diverse stakeholders in conservation targeting and finding locally-driven solutions for water storage. Provide education so citizens better understand the hydrologic impacts on biological communities and clarify what could be done to improve conditions.
- Retain more water on the land in seasonal and permanent wetlands.
- We have streams overflowing and streams drying up because of altered hydrology. Need to find a balance in order to preserve the function of our riparian ecosystems.
- Measure how biological communities each of the 81 watersheds will be affected by projections in climate change data and identify actions to address.
- Getting serious about preventing the movement of invasives.
- Research into how this is quantified.

- Acknowledging the relative contributions of agricultural and urban effects on the water balance
- Fund diverse approaches that will lead to more water storage on the landscape. These can include wetland and drained lake bed restorations, storage along ditch systems and multi-purpose drainage management, and support soil health initiatives that promote farmer peer-to-peer learning to advance cover crop and reduced tillage.

## **Goal 6—which 1% of survey respondents prioritized: There are diverse and sustainable fisheries and aquatic game populations that are accessible to all Minnesotans for safe consumption.**

- Support projects that aim to restore moose. Support projects in Indian country on subsistence species used by MN ojibwe and dakota people.
- Support ecosystem health research projects.

## **Other goal ideas offered by subject matter expert survey respondents for the area Habitat, Fish, and Wildlife:**

- Minnesota has healthy and diverse wildlife populations and habitats that sustain and enhance the state's environment. (The human dimensions component is mostly addressed on the other three areas, this area should mostly focus on habitats, fish and wildlife)
- All of the above are extremely important, I can't pick just one.
- Maintaining or improving terrestrial and aquatic biodiversity within the state (and region) through habitat improvement on a qualitative and quantitative basis.
- Minnesota's aquatic and terrestrial habitats are managed to anticipate and respond to a changing climate.
- Minnesota aquatic and terrestrial systems support native biodiversity, including species, habitats, and ecological functions and services that are vulnerable to human impact.
- Ensure that significant areas of biodiversity are protected and sustainably managed throughout the state, in every ecological subsection.
- Instead of focusing on wildlife populations we need to focus on landscape level conservation. Without the natural habitat you lose many non-game species (insects, non-game birds etc.) and your wildlife populations will not be as adaptable and flexible as the climate changes unless the natural communities are intact and functioning.
- Minnesota protects and enhances its most vulnerable, significant habitat AND reverses the decline in loss of habitat across the state to benefit healthy ecosystems, wildlife and people.

## **Other strategy ideas offered by subject matter expert survey respondents for the area Habitat, Fish, and Wildlife:**

- Climate adaptation strategy, natural environments will change and a proactive approach to assess mitigation and adaptation opportunities is needed.

- Continue to promote outdoor recreation and provide education so that people care enough about the resources that they want to continue to protect and conserve them.
- Addressing loss of critical habitat, habitat fragmentation and species relationships via research and education.
- Advance research and measurement of ecological functions and services and their economic impact.
- Set goals for Minnesota that will help contribute to the United Nations goal of protecting 50% of the world's biodiversity by 2050, and establish a plan that helps to accomplish this.
- Focus on connecting already conserved lands and increasing the amount of land that is permanently conserved. We only have 1% (or less) of our historical prairies in MN left. Secure habitat is the best safeguard for
- Habitat protection, restoration and enhancement.
- Monitoring and evaluation, to increase the long term return of investment the effort to understand the impact of different conservation efforts has to continue. Uncertainty will increase and we cannot just rely on old practices or untested ideas.
- Develop partnerships, and find collaborative funding mechanisms to achieve goals.
- Maintain and enhance investments in Minnesota natural heritage data and information systems sufficient to provide people with the information necessary to achieve sustainable, systems-based conservation and management solutions.
- Use the data from the Minnesota Biological Survey, as well as from other sources, to set statewide goals for protection similar to those already established in the Minnesota Prairie Plan.
- Lots and lots of education to private landowners and in schools (grade 2 on) on the importance of natural and native functioning ecosystems and all the ecosystem services/benefits they provide. EX Runoff reduction, increased water quality, resiliency with storm and flood events, groundwater recharge, healthier soils, pollinator habitat (pollination for crop species), wildlife habitat, unknown future uses (medicines etc.) etc.
- Education

## Appendix J: Outdoor Recreation & Open Space

As a result of the Issue Identification Panels, **three goals** emerged in the area of outdoor recreation and open space.

These three goals were voted on by respondents who participated in the subject matter expert survey.

**Table 1. Percent of subject matter experts who prioritized each goal in the area of Outdoor Recreation & Open Space**

		Count	Percent selected
<b>Goal 1.</b>	Outdoor recreational users in Minnesota understand the environmental issues that impact those activities (e.g. habitat loss, invasive species, toxic ammunition), are meaningfully engaged in conservation efforts, and have adopted more sustainable practices when needed.	65	38%
<b>Goal 2.</b>	All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative outdoor recreation.	62	36%
<b>Goal 3.</b>	Parks and trails receive funding for maintenance and enhancement, on par with the funding for developing or creating new parks and trails.	41	24%
	<i>Other</i>	5	3%
<b>Grand Total</b>		<b>173</b>	<b>100%</b>

Because Goal 1 and Goal 2 were closely matched, in terms of the amount of support from respondents to the subject matter expert survey, participants at the Prioritization Panel were asked to prioritize one of them.

The Prioritization Panel participants selected Goal 2 as the highest priority, but modified it slightly to read as: *All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative **connections to the lands and waters of Minnesota**.*

Subject matter experts who participated in the Prioritization Panel were asked to review strategies recommended by survey respondents relating to Goal 2. All of the strategies submitted by survey respondents are included in the next section below. Panel participants were invited to revise strategy ideas or come up with their own, and as a group they prioritized six strategies that would be necessary to achieve the goal. Those six strategies, in no particular order, are:

- Address the social, economic, and physical barriers to outdoor recreation through programs that encourage inclusivity and address inequities.
- Research people's interests in outdoor recreation and understand barriers to participation.
- Assess programs, activities, and physical spaces for their accessibility; support changes to adapt and retrofit to welcome more people.
- Through collaborative efforts, provide curriculum, programs, and outdoor environmental events that teach K–12 students what public lands are, introduces them to public lands near them, and encourages them to explore local public lands.
- Through partnerships between schools, environmental learning centers, and other community resources, provide evidence-based, engaging programs to bring students to outdoor experiences.

- Capital projects that develop culturally relevant, accessible, and resilient outdoor recreation facilities, infrastructure, and equipment rental programs that create innovative experiences (including parks, trails, fishing piers, shoreline fishing areas, birding trails, shelters, etc.).

The following provides the full list of strategies for the area of **Outdoor Recreation & Open Space** that were recommended by subject matter experts who responded to the survey. They are organized by goal.

**Please Note:** These strategy recommendations are provided verbatim, as they were submitted through the survey. Therefore, they may contain errors or typos. They have also not been vetted for alignment with the ENRTF mission or charge, and may therefore not be allowable strategies for the ENRTF to pursue or include in its strategic plan.

**Goal 1—which 38% of survey respondents prioritized: Outdoor recreational users in Minnesota understand the environmental issues that impact those activities (e.g., habitat loss, invasive species, toxic ammunition), are meaningfully engaged in conservation efforts, and have adopted more sustainable practices when needed.**

- Research for invasive species, improve existing habitat, add more habitat in appropriate areas.
- Continued monitoring, analysis, strategy development, and implementation of methods to manage and eradicate invasive species. Additionally, engaging stakeholders in these strategies will be critical.
- Education and outreach
- Remonument all Section corners in the State.
- Effective education through on-the-ground demonstrations at Parks, Nature Center and other points of confluence for people using recreational opportunities in MN.
- Since the focus of the goal is users, the strategy should be education and outreach.
- Research/demonstration projects that include a communication/education component.
- education/Extension outreach and programs and applied research to support it
- Hard to achieve this goal without maintenance and enhancement so the goal should have components of both. More than education the strategy would be to quantify the level of understanding that people has on the impact/importance of open spaces and recreation have on their life and livelihoods.
- More research and education on invasive species is essential.
- incentive programs for adopting sustainable practices.
- Continued education on invasive species for all boat users
- research and education
- education
- better communication strategies to explain the issues beyond boring govt agency press releases
- Education
- Greater access to environmental education

- Changing the culture of outdoor enthusiasts by using community based social marketing techniques—identifying barriers, promoting behaviors, securing commitments, etc. We can develop a culture that takes pride in performing activities that promote environmental conservation by changing social norms.
- Education and research into how to most effectively deliver that education
- Education of the public is most important when trying to engage them in conservation efforts and best practices. They need to know why doing these things is important and how it might affect them if they don't.
- ENRTF needs to support environmental education programming for all ages, in particular, a dedicated funding mechanism for educational organizations and community groups to get support and resources to integrate EE.
- Engage user groups to expand their recreational interests into environmental awareness and action.
- Environmental education—connection to the natural world occurs through recreation and after people connect we need to educate them on how to wise stewards of what they are enjoying.
- Research and demonstration associated with adaptive forest management techniques to address invasives and global change
- Establishing clear checks and balances when permitting activities
- State agency staff have part of their work program dedicated to providing outreach and education to citizens, developing partnerships and meaningfully engaging community groups and members.
- Educating the public. Particularly at the local level to get buy-in in order to promote for larger audiences.
- Education
- Education
- More outreach and education to MN citizens is needed to make them aware of impacts of habitat loss, water quality degradation, and invasive species
- environmental education activities offered at the various parks- maybe working towards a “badge” of some kinds that indicates a wide range of exposure to these activities.
- integrate educational information to the places (real and virtual) used by those recreating
- Education and outreach
- collaborative efforts on research, education/engagement, and assessment. It cannot be done by one strategies.
- On a regular and sustained basis, provide articles, videos, descriptive content, and other materials dealing with key open space issues for use by newspapers, newsletters, webpages and other communication outlets
- Work with sporting goods stores to develop a culture of protecting natural resources.
- Find ways to restrict movement between areas with invasives and non-impacted areas. Move beyond research, education, and measurement to serious demonstration by enforcement.
- Education, perhaps including park areas that highlight problems
- Education - a concerted effort to provide ecologically accurate information in a variety of ways to help people understand how our actions affect habitat and outdoor recreation.
- Develop partnerships with community-facing organizations with ability to reach and educate a wide variety of Minnesotans (zoos, botanic gardens, museums, schools, volunteer organizations)
- Outreach campaign to educate hunters and anglers regarding (and the general public) about threats to resources.
- Research, particularly research engaging the community (citizen science), can directly engage users while enhancing understanding of issues.

- Adopting and training the public in Broman and Robert's 4 science-based, peer reviewed sustainability principles
- More environmental education and outreach to the general public on how research, natural resource management and restoration impacts their enjoyment of the outdoors.
- Funding to umbrella user groups to educate their members
- Connect the impact of the climate crisis to the harm inflicted on habitats water and air through research and demonstrations to combat the harmful impacts
- Education and Demonstration
- Fund education experiences for users where it is facilitated by professionals, e.g. not simply outdoor recreation. Also, fund users to engage with individuals and organizations where the user sees/learns of models that support positive change toward addressing the issue.
- Support projects to evaluate effectiveness of toxic ammunition replacement programs. Support research to evaluate the effectiveness of habitat restoration.
- Promoting an integration of research and outreach would help.
- Offer opportunities to subscribe to news or Facebook postings with current information.
- diverse and innovate education and engagement
- research and education
- Measurements especially related to invasive species
- More educational signs at parks and trail entrances—there are some and they are great.
- Each park could develop an educational experience identifying how the park is affected by the issues
- Look to our neighboring States and see what they are doing, what is working, and what is not.
- Research
- Find ways to engage new communities (for example Native American; urban dwellers, recent immigrants) in outdoor activities and make environmental issues an integral part of this effort.
- Demonstration—people often need to see the impacts and/or results of conservation efforts and practices.
- Behavior, efforts have to be made to promote positive behavior towards nature by using recreation and open spaces as vehicles.
- education
- Research to develop strategies to either remove, treat, or somehow utilize invasive species.
- Providing more opportunities for youth to get involved.
- leading/demonstrating activities in the field
- Research
- Taking down the large organizations who exploit our natural resources—you know who they are.
- Continued research to better understand what methods are effective for counteracting these issues.
- Effectively communicate the importance of natural resources for ecological value, not just recreation.
- Marketing Campaign specific to user groups
- Dedicated funding for more environmental education in K–12 to expose students to natural resource issues and help them understand what it means to be effective stewards.
- Measuring the impacts, or showing cause-effect, to determine a program's success.
- Demonstration
- PSAs or pop-up ads on cellphones, etc.

- Case study and exemplary demonstration
- Find more ways to engage people in citizen science, habitat restoration activities, and other hands-on activities, perhaps through new partnerships between various conservation agencies and organizations.
- Signage at public access points.
- Sharing best practices through education is key to achieving environmental sustainability.
- Training county parks and open space commissions and city park commissions on their potential to move policies through the local democratic process.
- Support projects to remove invasive species and research long-term effectiveness of those efforts.
- Ask resource users to report invasive species or provide information to help people ID invasive species
- Research in how people view and interact with management

**Goal 2—which 36% of survey respondents prioritized: All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative outdoor recreation.**

- Education and outreach
- Use demographics to define groups so as to provide all Minnesotans with an environmental experience. This is important for building support for environmental initiatives.
- Provide investments for DNR and local resource professional to engage with school districts to establish outdoor extra curricular events e.g. high school fishing clubs.
- Provide assistance to schools, parks and environmental learning centers to enable all Minnesota youth to make a connection with their parks and outdoor recreation resources.
- Impactful education for all groups, especially minority groups because they usually either don't have access to or are not introduced to these outdoor activities.
- Land purchase for conservation/recreational use
- Early education and engagement so that youth learn to value natural resources and want to invest in their protection.
- Looking at access opportunities, identifying gaps, and funding work to protect open space and provide recreational opportunities.
- Public programs for taking inner city youth to the parks. I would love to help out with such a program, but don't have the bandwidth to get it off the ground.
- providing outdoor, experiential educational opportunities
- We need curriculum and transportation funding for K–12 schools to introduce kids to the concept of public lands and that allows them to explore or encourages them to explore their local public lands. Most of our citizens cannot define “public lands” and cannot list the public lands nearest to them or the recreational activities available at these locations. This is a public health concern as well as an environmental/conservation concern. How can we protect what we don't even know exists?
- Increasing the amount of and quality of accesses to water resources (e.g., boat ramps, shore fishing locations) and preventing any barriers to water recreation (e.g., boat ramp fees, off-site inspection requirements).



- I think you should expand on your definition of “outdoor recreation.” I think we should think of this as connections to the outdoors and land of MN.
- Educational outreach in particular with public schools with a high percentage of students with free/reduced lunch.
- Ensuring that local green spaces (and not just baseball fields) are valued and supported and preserved in neighborhoods of small, medium sized towns. Large cities have some capacity already, but can also be enhanced. Large state and regional parks are wonderful and much better for non-human habitat, but daily visual and physical access to local green spaces is very important for human habitat.
- Put more emphasis on creating opportunities for underrepresented people in urban areas
- Review of already developed strategies that are related and getting to the target audiences to listen to them.
- building trails, landings, parks, hosting events, introducing young people to outdoor activities
- Research that identifies effective ways to increase outdoor participation by Minnesotans. Answer this: what will get people outside and lead (presumably) to valuing wildlife and the outdoors?
- Education via demonstration
- Research on barriers to outdoor recreation
- Create more areas for outdoor recreation.
- Develop programs that encourage inclusivity and address inequities that lead to unequal participation in outdoor recreation.
- Providing culturally relevant programming combined with a research/evaluation component to measure effectiveness and impact and contribute to the field of knowledge
- Provide funding for in-classroom and in-field exposure to outdoor recreation.
- In all areas regarding outdoor and recreation space we have seen a decline in avid outdoors people. I know firsthand on Leech Lake Band of Ojibwe Reservation we are seeing the number drop dramatically when it comes to hunting and gathering and keeping to our traditional ways that we are not seeing as many young people pick up the ways of our older outdoor generations. I think we can combat this issue as well as others by offering education and demonstration.
- Determining what recreational activities or modifications to physical spaces would welcome more people to outdoor recreation areas
- Outreach to underserved communities
- citizen science-based activities that educate while participating in assessments of species, habitats, etc.
- promotion and adapting to social changes/patterns
- Stipends for low-income households to increase participation in camps, and/or reducing other barriers such as time away from work to take a child to camp.
- Creation and maintenance of green space for outdoor recreation where Minnesotans live and work.
- Resources in multiple languages and formats
- Developing outdoor recreation opportunities in underserved urban areas.
- Programs that introduce young people to the outdoors
- Schools (pre-K through college) should have outdoor education opportunities built into their curricula.

- Education segments on the health of the environment (addresses lead shot, invasive species etc) and the ecosystem services that natural lands provide for all grades K–12. If kids understand and enjoy being in nature and in natural lands they will be stewards for the future.
- Providing funding for environmental learning centers across the state. Our experience with these organizations has been more beneficial than Girl scouts and Boy scouts for learning the value and fragility of our public lands. Environmental learning centers teach about the outdoors and ecology but also leadership, team work and many other qualities.
- Funding access and camp programs, like through schools that foster contact with wild spaces, that tell the stories of how those landscapes have changed through time and the peoples that have depended on them, and actions that can help us learn about those landscapes (like through community science activities).
- educational opportunities to take kids outdoors, establishing their relationships with the natural environment early in life
- Emphasize innovative outdoor recreation, that has an impact. Offer different levels of recreation engagement: casual, introductory, meaningful, etc.
- Staffing commensurate with numbers of users
- partnership with local school systems to develop curricula for outdoor recreation and education
- Support projects that get youth Outdoors
- Guided activities accessible to underserved communities. Nature based experiential learning opportunities like Wolf Ridge and Eagle Bluff provided to students in underserved school districts.
- Figure out (research) what will entice young people outside to use Minnesota’s amazing natural areas, then (second step) work to implement these things across our state.
- Increase the diversity of staff and volunteers within the organizations (governmental and nonprofit) that are delivering outreach, interpretive programming and environmental education programming. Objective is that all young people may be able to recognize themselves in the people delivering those programs, receive culturally-appropriate programming and be inspired to become conservationists, whether professionally or as citizens.
- Addressing barriers to participation (transportation, access to public spaces, understanding what is available).
- Consider outdoor recreation/participation beyond traditional park use as a way to engage broader audiences—extended school experiences, preschool family opportunities in local parks, enhance state forest promotion for gathering and other cultural uses
- Developing more opportunities for inexpensive outdoor recreation, such as shorefishing sites or kayak sites.
- Engagement—learning about interests in outdoor recreation and barriers to participating in outdoor recreation; addressing social, economic, and physical barriers; offering facilities and programs appropriate to these participants. Programs and efforts may need to be intergenerational in nature. An important aspect of these efforts may need to be staff professional development.
- Thinking about innovative programs to get people out into natural areas. Using things such as iNaturalist etc. It would be great to key into what kids are using—snapchat, instagram—instead of highlighting these as the enemy.
- Removing state park parking pass to encourage greater participation and in return greater support for funding state parks.

- Improving opportunities to access and discover outdoor spaces and recreation benefits linked to education and public engagement on environmental impact and conservation efforts has benefits in public valuing of outdoor recreation and open space and thus environmental issues.
- Bring students to more outdoor experiences. Use applied scientific research to facilitate engagement. Perhaps a natural resources internship that are short and engaging.
- Education programs and developing facilities such as fishing piers and shore fishing areas, shelters for summer and winter use, affordable equipment rental programs.
- Regional distributions so socio-economics (e.g., access to transportation) does not influence access to recreation.
- Technology is continuing to be the source of entertainment for youth. Recommend investments to study or develop technology (as entertainment) that requires greater interaction and understanding of outdoor recreation. Geocaching comes to mind as one effort but I'm sure there other ideas that haven't been created yet.
- All students have multiple opportunities to experience outdoor recreation. Encourage partnerships between schools and community resources including environmental learning centers to facilitate sharing of staff expertise and equipment. Promote and provide training for formal and informal educators to integrate outdoor experiences and outdoor recreation across the curriculum.
- Another strategy might be to fund transportation and lunches for these young people so they actually are exposed to these activities.
- Research to determine what engagement strategies work (i.e., what strategies help engage MN citizens and lead to a lifelong connection with natural places and spaces).
- Focus on innovation. Digital connections and non-consumptive uses are rising. Using apps like iNaturalist or taking photos can help get people outside and connected to what they see.
- More "free days" at state parks, and possibly buses from large cities to the parks (only needs to run on select weekends).
- Work with the health care industry to promote outdoor recreation as a health prevention tool. Work with health insurance providers to offer free park permits, like gym memberships, to allow low income folks to access these public spaces.
- Include historic and ongoing connections to the land of indigenous peoples as a model for interacting with the landscape.
- Offering financial park aid to towns & cities, BUT only if these entities create & enforce planning & zoning ordinances that preserve green space. e.g. Towns should require a green space/landscape plan with every development and require at least 25% of land stay as open space or green space. Towns must not fear they will lose a developer over green space. Note that the argument that we need denser housing for affordable housing means that poor people will have homes without green space!
- Share the stories of culturally relevant and innovative outdoor recreation with those same audiences to motivate others to have fun outdoors.
- Management strategies that open up lands to recreation—WIA, for example—and acquisitions of new lands for Minnesotans to use. Sometimes the hard part is finding a nearby place to go.
- Developing programs that are not "one time" experiences.

- Education and outreach
- Support for capital projects that develop culturally relevant outdoor recreation facilities and/or infrastructure for innovative experiences.
- If you look at the permits issued across the state off and on the LLBO Reservation and gather the age of the permits issued, you will see a pattern of no new outdoors people taking part in the various activities. The younger generation is less inclined to seek out that knowledge and in part of that is the fearfulness of rejection or not having anyone to teach them. If we could develop a state broad approach to increasing outdoors activities I believe all would see an incline.
- Focused curriculum in schools about natural resources and outdoor recreation opportunities
- Getting young people out of classrooms and into the outdoors, visiting streams to explore what lives there while learning what supports the life they see.
- Welcome activities for new immigrants that include outdoor programming or information on outdoor recreation opportunities in MN
- Support for outdoor events that feature a park, trail or conservation issue.
- Have all kids have a certain amount of “field days” as part of MN science curriculum. These would be influential and memorable field trips to private natural lands, state parks or state natural areas where kids would be able to explore and learn from experts about the habitat, wildlife, and why it benefits us all to have “wild” lands.
- Funding partnerships that will work to preserve and maintain parks as well as provide programing. Organizations like local river and lake groups support volunteer work and the YMCA has been working to provide programing in local parks. Make the money go further by investing in partnerships.
- Demonstration spaces of actions people can also take in their own spaces that have tangible impacts, i.e. native plant rain gardens, smart usage of winter salt, etc.
- access to these areas of the state; more opportunities closer to the metro to experience outdoor recreation
- Work with Division of Forestry to manage the vegetation age class and related features within parks
- Expansion and continued protection of parks and wilderness
- I suspect that native americans don’t see themselves much in our concept of parks and preserved natural areas. We need to figure out how to engage these communities as well as recent immigrant communities.
- Ensure all young people have ready access to high-quality natural spaces near them. This will involve strategic protection of land, restoration of degraded habitats, improved accessibility via public transportation, and making programs more culturally-diverse (e.g., through use of language, deeper historical and cultural interpretation).
- Determine how all Minnesotans want to participate in outdoor recreation. What will increase participation?
- Education—increasing opportunities for outdoor recreation and environmental education in formal and informal settings
- Include environmental studies and statewide initiative like National Park System for all students in i.e. 4th grade free parking pass
- Improving access should include not only young people, but also people of all abilities.

### **Goal 3—which 24% of survey respondents prioritized: Parks and trails receive funding for maintenance and enhancement, on par with the funding for developing or creating new parks and trails.**

- Allow agencies and LUGs apply for maintenance funding.
- As much as outdoor spaces are required, it is equally important to understand where these can be developed with minimal env impact. Education around land use, wetland, rezoning in cities needs to be encouraged
- Maintaining existing facilities should be a priority.
- Monitor funding year over year
- This is basically an infrastructure question. Similar to aging infrastructure outside the world of parks and trails people don't seem to understand how quickly these resources fall apart. Education of citizens and elected official is critical.
- Maintaining what we already have is vitally important. If we do not have resources to maintain and enhance what we have, we should not build new sites.
- Timely repair and maintenance of high-demand facilities to provide high quality recreational experiences.
- Identification of the gap for maintaining the asset and public value of the asset.
- Rain Gardens, educational parks
- Providing funding for the basics especially to smaller municipalities or other managing bodies.
- Have funding for current trail maintenance, but to include trail connection via new trails. Make the trails have a meaningful route.
- A crumbling infrastructure necessitates repairing/maintaining existing facilities, rather than acquiring more.
- Prioritization of state outdoor rec strategies for use by LCCMR in recommending resources and for legislature in awarding funds.
- A program for funding all trail upkeep. A per mile contribution to trail maintenance to all public trails.
- Education of lawmakers and governing officials, as well as the public, about the benefits of parks and trails (Return on investment)
- Consistent funding would provide for the ability to maintain existing facilities while providing the opportunity to focus enhancements and improvements to those areas of highest quality recreational opportunities.
- Complete a comprehensive assessment of all Minnesota State Parks & recreational areas to understand current conditions and usage, then develop a funding plan to address the highest needs over the next five years.
- The trails could be enhanced to provide learning experiences for users to include things like plant species and pollinators.
- We must maintain what we have as well...no real worth in creating a park and not keeping it functional.
- I selected funding to maintain and enhance because it's the most elusive, easily overlooked strategy but critical to providing all Minnesotans the opportunity to experience and benefit from outdoor recreation
- With the legacy amendment, we have focused a lot of "new things" and not maintaining the heritage and infrastructure of our parks and trails.
- ENRTF funds are allocated for rehabilitation and enhancement of existing parks and trails at a sufficient level.
- Fund projects that not only repair/maintain what was there, but change to become more resilient and responsive to climate change.

- funding for maintenance and upgrade
- Educating the general public about this relatively self-explanatory issue, hopefully building support for this type of funding. This is a big issue
- Develop trail centers/facilities to increase park use, especially in the winter.
- Community-based efforts to maintain parks and trails.
- Creating Trailhead Centers where people have safe access to both non-motorized and motorized trails.
- Investment in recreation infrastructure.
- adaptive management research: the use of the funding includes some type of monitoring and evaluation to assess whether the goals have been met so that modifications can be made to improve the outcomes
- develop and use equity metrics to help prioritize trail and park projects; prioritize projects that address issues identified in MPOSC's study of regional park use by people of color—such as wayfinding (presumably this list of issues would be common to state & county parks too); prioritize projects that enhance visual & sound buffers between parks/visitors and manmade infrastructure (esp roads); require fund recipients to follow dark sky standards for lighting and bird safe designs
- Re-evaluating ways to connect existing parks to reach more communities rather than trying to create more parks, especially when there is so much land being developed for residential use, more so in suburbs than the metro area.
- Design, develop, rehabilitate and manage outdoor recreation facilities to encourage use by people with all abilities.
- Maintenance and enhancement will need to be tied to a relevant water/habitat improvement metric.
- Find ways to measure maintenance of existing resources.
- Include trails that go from state parks to local cities. Increase connection for users.
- Outreach programs not only to youth, but communities of color as well.
- Clarity for LCCMR and legislature as to what constitutes supplanting.
- A gas tax for non motorize trails to help encourage people to develop habits to not use our vehicles for trips along trails.
- Saving native prairie sites is a key goal for us here
- Need to make sure that the parks have facilities for education and experiential activities to engage a new generation of Minnesotans. Don't develop with boomers or X'ers in mind, but what will millennials want. Also, we don't have a Yellowstone or Glacier park that is national park that is accessible to all. So, need to determine what state park is a crown jewel that can be enhanced and promoted.
- Fund projects that pay high school aged youth to do some of the maintenance work, helping achieve goal #2 and teach job/life skills.
- flexibility to research and try new strategies (e.g. different accessibility strategies; ecosystem management with fire; variety of vegetation and/or wildlife management strategies)
- Increase the quantity of permanent staff who do maintenance and enhancement.
- Leadership group to evaluate recreation needs and establish statewide strategy for proving next generation opportunities

- as much as the statement is “maintain and enhance”—a missing key word is protect. how can parks receive funding to better protect existing high quality areas instead of funding after the fact to remove invasives—terrestrial or aquatic?

## **Other goal ideas offered by subject matter expert survey respondents for the area Outdoor Recreation & Open Space:**

- I would broaden the first goal noted above tied to Parks and Trails to also include other public lands that allow recreational uses.
- Outdoor Recreation and Open Space is available and funded proportional to user type e.g. mountain biking opportunities available proportional to users or atv opportunities proportional to users and conflicting uses have proportional exclusive opportunities e.g. atv vs quite hiking.
- All Minnesotans have access to opportunities for relevant and innovated outdoor recreation and are a part of understanding of the environment, activities impact it, and how to reduce negative environmental impacts.
- All Minnesotans have access to community-based public lands and open spaces that represent the full range of native biodiversity for their area.
- Securing additional open space by developing new parks and trails in areas without critical recreational opportunities in natural habitats

## **Other strategy ideas offered by subject matter expert survey respondents for the area Outdoor Recreation & Open Space:**

- Monitor/research tied to the impacts of different recreational uses and the pros/cons to the public associated to each (Environmental impact, cost to the tax payer, etc.).
- Conduct analysis of existing opportunities and needs.
- Co-locating projects at certain locations around the state maximizes the educational, research, and outdoor experiences. A habitat restoration or research project in isolation doesn’t hold as much education, outreach, or outdoor value as a collection of projects that reinforce the importance of a given habitat. But DO NOT simply locate these at State Parks. LCCMR was not meant to simply replace DNR funding for things DNR should already be doing.
- Identify, protect, and restore representative sites of Minnesota's full range of biodiversity throughout the state.
- Developing new parks and trails in urban core areas, in suburban areas undergoing conversion to high-density development, and in new ex-urban developments.
- Maintenance and Enhancement of our Public Recreation Units (invasives controlled, access/parking improved, trails fixed, campgrounds updated, etc.)
- Develop plan to fund and implement strategy to address opportunity needs identified in analysis above.
- Make open space trails and parks a requirement of any new developments or redevelopments, including increases in density in urban environments.

## Appendix K: Air & Energy

As a result of the Issue Identification Panels, **three goals** emerged in the area of air and energy.

These three goals were voted on by respondents who participated in the subject matter expert survey.

**Table 1. Percent of subject matter experts who prioritized each goal in the area of Air & Energy**

		Count	Percent selected
<b>Goal 1.</b>	Minnesota achieves reliance on non-polluting, renewable energy in all sectors (including transportation, building, industry, agriculture, and others).	120	75%
<b>Goal 2.</b>	Minnesota has a growing consumer and manufacturing economy that is increasingly non-toxic and is efficient regarding use of resources and waste production.	32	20%
<b>Goal 3.</b>	Minnesota reduces indoor and outdoor air pollution, with a significant positive impact for Minnesota's most vulnerable communities.	6	4%
	<i>Other</i>	1	1%
<b>Grand Total</b>		<b>159</b>	<b>100%</b>

Subject matter experts who participated in the Prioritization Panel were asked to review strategies recommended by survey respondents relating to Goal 1. All of the strategies submitted by survey respondents are included in the next section. Panel participants were invited to revise strategy ideas or come up with their own, and as a group they prioritized five strategies that would be necessary to achieve the goal. Those five strategies, in no particular order, are:

- Encourage bundling renewable energy production and battery storage.
- Demonstrate the ability and statewide potential to generate solar energy on perennially vegetated lands, reducing CO2 and water runoff, while making the enterprise economically viable.
- Incentivize the use of non-polluting renewable energy in agriculture, industries, and commercial transportation.
- Demonstrate community-scale, net-zero renewable energy systems.
- Fund energy efficiency improvements and renewable energy for rental properties, small businesses, and schools.

The following provides the full list of strategies for the area of **Air & Energy** that were recommended by subject matter experts who responded to the survey. They are organized by goal.

**Please Note:** These strategy recommendations are provided verbatim, as they were submitted through the survey. Therefore, they may contain errors or typos. They have also **not** been vetted for alignment with the ENRTF mission or charge, and may therefore not be allowable strategies for the ENRTF to pursue or include in its strategic plan.



## **Goal 1—which 75% of survey respondents prioritized: Minnesota achieves reliance on non-polluting, renewable energy in all sectors (including transportation, building, industry, agriculture, and others).**

- Making renewable resources based products more accessible to people and building infrastructure for sustainable use of such products
- Research on understanding all impacts of resource/energy use and extraction—not just direct impacts.
- Demonstrations
- More Solar farms are popping up all the time
- Provide incentives for rapid adoption of proven renewable energy and energy conservation technologies and behaviors. Provide dis-incentives for continuing those practices that contribute to pollution.
- Make this a law that is enforced by the PCA.
- Renewable energy should be the most important goal. Research, measurement and education should all work together toward this goal. I don't know exactly how.
- Take a look at what some of the Northern European countries are doing in relation to sustainable clean energy. Some of these countries (Sweden & Norway) are really working hard to make this happen successfully.
- Financial investment in renewable resources.
- Demonstration and measurement
- energy storage for solar and wind generation
- Technology transfer, ENRTF funds can be directed to investigate and support the strategies to transition MN economy and ways of life into non-polluting/renewable options.
- Support GreenStep Cities and GreenStep Schools in reaching city officials and schools. These organizations have the framework to make a big impact by implementing clean energy strategies and educating our youth.
- More research on renewal energy is needed
- Encourage solar and wind power development through incentives and tax breaks.
- Research to identify sustainable energy resources and ways to ensure they can be distributed throughout the state in a cost-effective manner
- Research and demonstration projects in renewable energy
- Increase accessibility of renewable energy to consumers.
- education
- Divesting
- Fund the research and development of innovative new technologies; subsidize their implementation, even if they aren't currently cost effective;
- If a project offers an opportunity to reduce reliance on vehicular transportation (e.g. new or maintaining bike access)
- Green Energy Grants
- Funding more renewable energy projects.

- Once again, education through our schools and through local town hall meeting events, etc. to share information about how renewable energy sources can also help our communities to be healthier and save millions of dollars in health care costs in the long run.
- Continue with solar and wind sources but make it available LOCALLY for benefit.
- Support the use of electric vehicles and small engines.
- Moving in this direction is key to our well-being. Help Minnesotans engage in these topics in their own spheres of influence, e.g., home projects, yard projects, community green space.
- Research
- Renewable energy that also does not pollute, like perennials, not corn or soybeans.
- Continue to support renewable energy projects
- Continued research and development on cost effective capture and storage of renewable energy. Storage is the key to renewable energy sources that are intermittently available during the course of a day...for example sun and wind.
- Marketing of opportunities
- demonstrations of new products or technology in renewable energy generation and use
- Development and implementation of statewide strategy to achieve those goals. Unclear if LCCMR has a significant role in this, however.
- Research that identifies “best” energy options.
- Support outreach and education to citizens about personal impacts of energy use and air pollution impacts (can be through K–12, community groups etc)
- Demonstrating the long-term economic benefits of clean energy.
- Research
- We need to demonstrate ways to achieve our goals.
- Research
- funding for research to include investigating and demonstrating new methods (things that may not be “mainstream” but have potential applications).
- Fund demonstration projects to help accelerate adoption of new technologies.
- I believe our future is sustainable, renewable energy, to include bundling energy production and battery storage to become self sufficient. This could be a funding goal, especially for key assets like city water and sanitary sewer systems, and hospitals.
- R&D for developing MN-specific strategies
- Provide funding for decentralized renewable energy.
- We start by maximizing our efforts to offsetting the greenhouse gasses that are emitted into the atmosphere we can eliminate the effect it has. Currently we do offer some support in this effort but i think we should be doing even more and should increase that offset even further. We can do so by developing projects through mitigation measures that will further offset greenhouse gasses. Renewable energy has to be the main point of discussion when identifying a proper way to move forward.
- Continue promotion of habitat friendly solar projects.
- Education regarding the problems that conversion to more renewable energy solves—the payoffs to people’s health and the environment they enjoy.

- demonstrating the ability to generate solar energy on perennially vegetated lands making the entire enterprise economically viable while reducing CO2 and water runoff.
- Focus on developing new renewable energy sources that will sustain MN for the next century. Need to promote research that industry is not willing to take on for various reasons. MN needs to be a leader in this area to protect our resources and our economy. We can't take the easy route like North Dakota and pump oil and mine coal for short term solution to a long term problem of energy needs. Also, ND's strategy is out of date and out of touch.
- Support policy that directs Minnesota to do so.
- Demonstration projects that show the viability of EV transportation and net zero new construction in highly visible applications.
- There is constant resistance to changes in energy, mostly based on outdated information and on the thought that renewable energy technologies will not change. Education and research to address the knowledge and practical gaps in renewable energy will help move people to more sustainable systems.
- Research and demonstration in associated with substantial development seem key here.
- Develop incentives for agriculture, forest industries, and commercial transportation to increase use of non-polluting, renewable energy.
- Economic and engineering studies demonstrating feasibility and cost effectiveness of efficient energy utilization
- Increased use of renewables should have significant positive impacts on air pollution and manufacturing. Increase research, measurement, and education to quantify.
- I think the weak link is energy storage for solar and wind—needs research and funding for pilot projects.
- Clean and renewable energy is a central challenge of our time. Minnesota should lead through research and development of new energy conversion and storage technologies.
- Create incentives for businesses and other organizations to convert to renewable energy sources.
- Support for innovative ideas to reduce pollution, conserve energy and/or reduce waste.
- renewable energy mandate
- More research is needed in this area. This would be a huge achievement.
- Education about the feasibility and best practices to achieve goals.
- Research to improve renewable energy technologies.
- Requiring counties and cities to have a solar and electric vehicle implementation plans to their comp plans aligned with state goals, gov't must lead.
- Support move away from coal and petroleum for energy and transportation
- Partner solar energy research and demonstration with energy storage.
- Agriculture—More research/investment on perennial non-invasive agricultural crops, more diversified crops, more alternating crop strips, and cover crops more widely used=less fertilizers needed, less wind and water erosion, less time/fuel spent working soil and planting, less herbicides needed
- Funding incentives for energy efficiency improvements not only for homeowners but rental properties, businesses, schools, etc.
- Improved subsidies for renewables, particularly towards innovation research.
- Demonstration of how the newest renewable strategies can be implemented by Minnesotans in their homes and businesses.

- Many different demonstration projects to help develop a regenerative economy.
- Research
- Providing support to model strategies to achieve the goals.
- Mix of solar, wind, biomass, natural gas and hydro power depending on location, resources and community capability.
- Support projects that assist in the development of renewable energy infrastructure for MN.
- research to support MN energy transition and independence
- Invest in renewable energy such as solar for the public sector (schools, local govt).
- Support research into more perennial crops rather than just corn and soybeans.
- Not sure on technology here but private-public partnerships would be key.
- Phrase environment in economical terms rather than environment to fend off political criticism.
- Research on viable personal, motorized-vehicle transportation that is non-polluting;
- Help make geothermal, wind and solar power more available to small businesses and private homes.
- Tax policy that would create incentives for movement in the desired direction.
- More grants for people to switch to renewable resource use.
- Education and outreach
- Mobilize students in every school and community to promote sustainable practices and technology. Learn by doing. Do by learning.
- Incentivize the transition from fossil fuels at an accelerated capacity.
- I think we should be looking at nuclear as a potential clean energy. There definitely are some challenges with this kind of energy, however, this country should have the technology and ability to implement nuclear. This may be a lost cause however, because nuclear has a huge stigma attached to it.
- Outreach/education
- Research and Development of new technologies.
- Discourage use of corn-based ethanol fuel for operating vehicles.
- Education that helps consumers understand the true costs (financial and environmental) from using different energy sources.
- Education
- research
- Education
- More e-car charging stations
- Taking down fossil fuel empires.
- Continue to provide cost incentives for businesses and communities to invest in renewable energy. Many homeowners want to do the right thing but cannot afford solar panels and residential wind turbines. We want clean energy and we want to support businesses that invest in clean energy.
- Support solar energy on ROOFTOPS.
- Share research and techniques through workshops and other sources of info.
- Easy to use on-line assessments/models to run for your life situation. I have not found an easy/good model to assess my energy use and improvement opportunity.
- promoting change in building and transportation practices

- Incentivizing (carrot and stick) industry to use renewable energy.
- Use state departments and properties as demonstration—state agencies use renewable vehicles, state buildings rely on renewable energy, state lands (e.g. farm lands) are used as test plots for potential energy crops.
- More research is needed to assess the “life-cycle” impacts and develop new technologies and processes using local resources.
- Demonstration and outreach
- Provide incentive programs for the industry to achieve success.
- Cultural Change needs to take place and this is one area where education could be done to inform the public about the possibilities for doing things different.
- Linking solar and wind projects
- Fund strategies that facilitate this goal.
- Education, outreach, and research that can help manage potential land use disputes of increasing renewable energy development in rural MN.
- Create incentives and educational and financial assistance to farmers who want to run small organic farms that also sustain biodiversity.
- Enhance education and outreach to inform citizens about how they can contribute to air and energy conservation.
- Demonstrations particularly for agriculture to show practical value of regenerative agricultural practices
- Research and outreach to provide practical strategies for farmers to use less fossil fuels.
- Fund local gov’t transitions to solar and electric vehicles.
- Education on life cycle of products.
- Develop sustainable and environmentally benign strategies for said technologies.
- Strategic investment in common sense renewables (wind, solar, geothermal, wave action?! (north shore and large lakes) where appropriate and sensible) as a state (start with public buildings, state park facilities etc) and from outside sources like the federal government and for profit companies.
- Fund solar plus electric vehicle charging projects at workplaces to offset the cost of on-peak charging taking place at workplaces.
- Subsidies for organizations to install renewable energy elements, like rooftop solar.
- Increase affordability (and thus access) of renewable energy options.
- Help fund policy analysis and efforts to changes policy to support a net zero economy.
- Demonstration
- Provide education facilitated by professionals.
- Support projects that assist individuals in converting to renewable energy sources.
- Like Xcel Energy tries to brand itself as an environmental advocate, environment needs to brand itself as business/utility fiscal bottom line.
- Implementation of non-polluting electrical-generation capabilities including dispersed-grid solar (on buildings and houses as opposed to solar “farms”).

## **Goal 2—which 20% of survey respondents prioritized: Minnesota has a growing consumer and manufacturing economy that is increasingly non-toxic and is efficient regarding use of resources and waste production.**

- Research and innovation
- provide more incentives to wind and solar.
- Waste minimization and re-use. Find an economic process to benefit from the waste re-use.
- If, and that's if, we've done enough research and measurement, we need to move toward developing tangible, measurable ways to show change; and legislators need to support changes that could impact MN businesses. This goal would seem to be the route toward achieving the other goal choices listed.
- Facilitating meaningful partnerships between various stakeholders: researchers, private industry, non-profits, government sector to develop and implement innovations.
- Fund more air quality research.
- Promotion of reuse and waste reduction
- education and research
- Research and implementation of environmentally friendly manufacturing techniques and products.
- Identify key areas needing improvement and create a work plan to get to that goal.
- Research on relative and real costs of different businesses, e.g., consider ecosystem services costs of a business in addition to actual costs.
- More research on recycling additional household and industrial waste is needed to increase cost effectiveness.
- research and implementation of diversified options
- Promote widespread and expanded recycling and reuse of discarded materials.
- better testing residue of pesticides in surface and ground water with lower levels reported and not limited to EPA standards
- Partnership and publicity for companies that are already doing these things.
- Research and education on the environmental and health effects of everyday products we take for granted and don't think about their long-term impact, particularly plastic bags and excess packaging.
- promoting transportation mechanisms that rely on clean fuels
- Develop local recycling industry—do not ship overseas or out of state
- Emphasis on renewable, bio-based materials from Minnesota's farms and forests
- Communicate best practices that are proven to work to the larger manufacturing community.
- Catalyze research and technical assistance activities to ID and create new best practices. Support technical assistance to bring these new best practices to businesses and embed them in business culture.
- Focus on diversifying energy production including research on new renewable energy options. Full reliance on renewable energy may not be achievable, but energy conservation should be part of the solution. Education for consumers on alternatives and energy conservation practices.
- Continued research in this area will help develop and improve processes that are eco friendly.
- Fund to bridge the gap between the research and the company to implement some technologies for minimizing environmental pollutions.

- This isn't really my area of expertise; but I'd say we need to look more closely at some of impacts of the renewable strategies we're already putting in place (e.g., significant runoff and its impacts from impervious solar panel "farms/gardens."
- demonstration
- Find ways to utilize waste products without damaging the environment.
- Meet with key groups and develop action plans.
- Passing results of research onto users
- Additional research at higher education institutions and industry through grant proposals.
- working together with industry.
- Present the information to Minnesotans in a fun and engaging way, rather than technical lingo.
- connecting communities through bike paths to encourage less driving, more biking and better health as a result
- increased state regulation regarding packaging materials and bags, especially plastic
- Application of circular economy concepts, goals, policies and incentives
- Provide cost sharing or rebates.
- Support internship programs to engage student workers for experiential hands on internships that teach sustainable operations practices and simultaneously embed these practices within participating businesses. This also has work force development aspects so our next generation of business leaders has understanding of the business case for sustainability from firsthand experience.
- Research to understand the tradeoffs and between renewable energy and the environment and minimize the risk (i.e. wind turbines and birds and hydrokinetic and fish).

### **Goal 3—which 4% of survey respondents prioritized: Minnesota reduces indoor and outdoor air pollution, with a significant positive impact for Minnesota's most vulnerable communities.**

- Measurement
- Hopefully a focus on this will also encompass a move to non-polluting renewable energy. I had trouble making the choice between these two. Both are very important. Minnesota must hold the line as EPA slips in enforcing and improving air pollution.
- Environmental justice is a key component of this goal and these are the folks who don't know how to call attention to the injustices pushed upon them by society. We need to do a better job of figuring out how much these communities are being impacted and then work to resolve these injustices and improve their air quality; this should provide a health care cost savings in the long run.

### **Other goal ideas offered by subject matter expert survey respondents for the area Air & Energy:**

- Minnesota reduces indoor and outdoor air pollution, and energy consumption, with a significant positive impact for Minnesota's most vulnerable communities.

## **Other strategy ideas offered by subject matter expert survey respondents for the area Air & Energy:**

- Assist communities in strategically increasing canopy cover in areas with high rates of vulnerable populations reducing energy needs and reducing particulate matter and other pollutants.



## Appendix L: Cross-Cutting Goals

As a result of the Issue Identification Panels, **five goals** cut across multiple areas, and did not fit neatly into one area or another.

During the LCCMR Site Visits, invitation-only group discussions were held with local subject matter experts. These conversations included participants reviewing the following five goals and working together to decide which one was most important for Minnesota to achieve:

1. Water is stored on the land for the mutual benefits to water quality, habitat, and flood mitigation.
2. Models, projections, and management strategies that take into consideration changes in weather patterns and land uses are available at a localized level.
3. Our natural and built communities are resilient to withstand changes in weather patterns, including extreme changes in precipitation.
4. Minnesotans have the information needed to make sound personal decisions that affect our environment and natural resources.
5. Working lands, including forestry, grasslands, and agricultural lands, provide long-term benefits to fish, wildlife, and people.

Group conversations were recorded by LCCMR members or participants. Over the course of all the small group discussions, Goal 5 emerged as the highest priority across discussions.

**Table 1. Number of times each cross-cutting goal was identified as most important during Site Visit subject matter expert discussions**

Cross-Cutting Goal Options	Number of times identified as most important
5. Working lands, including forestry, grasslands, and agricultural lands, provide long term benefits to fish, wildlife, and people.	7
1. Water is stored on the land for the mutual benefits to water quality, habitat, and flood mitigation.	4
3. Our natural and built communities are resilient to withstand changes in weather patterns, including extreme changes in precipitation.	2
4. Minnesotans have the information needed to make sound personal decisions that affect our environment and natural resources.	2
2. Models, projections, and management strategies that take into consideration changes in weather patterns and land uses are available at a localized level.	0

This goal is identified in the stakeholder summary report in the section on [Working Lands](#).

Subject matter experts who participated in the Prioritization Panel were asked to review all of the strategies recommended during the Site Visit discussions, regardless of which goal was preferred.

All of the strategies they considered are included in the next section below. Prioritization Panel participants were invited to revise strategy ideas or come up with their own. Unlike with the other goals, they were not asked to identify five strategies total, but five per area (water; outdoor recreation; habitat, fish and wildlife; air and energy). Therefore, there is a longer list of recommended strategies for the Working Lands goal than the other goal areas. These are listed below:

- Through demonstration, educate people on the benefits of working lands to slow and store water for multiple benefits (water quality, habitat, flood mitigation, carbon sequestration, etc.).
- Develop innovative, market-based policies to make substantive conservation efforts financially feasible.
- Preserve and protect the watersheds that are already in good shape.
- Support and provide technical assistance to private landowners on cost-effective ways to develop and restore diverse, native habitat.
- Conservation actions that prioritize the needs of vulnerable, declining, poorly understood, and sensitive species.
- Improve and demonstrate how working lands can be economically productive and good habitat.
- Increase understanding and assessment of tradeoffs among different environmental and societal goals to improve decisions on working lands.
- Evaluate, prioritize, and demonstrate how working lands and renewable energy can be mutually beneficial.
- Use public open space to demonstrate climate change adaptation, mitigation, and prevention.
- Create or use existing open spaces, or use them to demonstrate, CO2 storage, heat sinks, flood prevention.
- Promote, research, and evaluate best management practices (BMPs) on working lands, in order to provide long-term benefits to fish and wildlife.
- Encourage landscape-level and eco-type planning, instead of parcel-level.
- Identify high-quality habitat, recreation open-spaces, and other high-priority areas for action.
- Outreach, education, and engagement through citizen science for landowners, operators, and others on how to economically manage for water resiliency.
- Create market mechanisms for carbon sequestration on working lands.
- Demonstrate how to add diverse cropping systems and incentivize continuous living crops.
- Research and demonstration that show the practical value of regenerative agriculture.
- Development and implementation of agricultural cropping systems with diverse crops that provide multiple benefits, including exploring markets and supply chain.
- Education and public outreach to change landscape and ecosystem norms.
- Research and evaluation of approaches that achieve goals.
- Projects that enlist the support of multiple agencies and organizations.

## **Cross-Cutting Goals—All strategies recommended during Site Visit discussions**

- Demonstrate and educate on the benefits of working lands for storing and slowing water for multiple benefits (water quality, habitat, flood mitigation).
- Incentivize practices that use working lands for storing and slowing water.
- Outreach and education on how to economically manage and enhance wildlife.
- Outreach to land owners to highlight research findings on what works.
- Education and public outreach.

- Projects that enlist the support of multiple agencies/organizations.
- Incentivize best practices.
- Research and evaluation on what works.
- Education to change landscape and pesticide norms.
- Improve the cost-effectiveness of habitat restoration.
- Support the development and implementation of ag cropping systems with diverse crops that provide multiple benefits.
- Support and provide technical assistance to private landowners for developing/restoring diverse, native habitat.
- Collaborate with agriculture and horticultural industry to develop standards of native seed and live plants.
- Demonstration of how lands can be economically productive and good habitat.
- Research on vulnerable, declining, or poorly understood invertebrate groups.
- Conservation actions that prioritize needs for declining and sensitive wildlife SPP.
- Identify high-quality habitat and high-priority areas for action.
- Engage Minnesotans in education and citizen science.
- Encourage landscape-level planning, instead of parcel level.
- Reduce nitrogen use.
- Development and incentives for continuous living crops.

# Appendix M: Letter from University of Minnesota Morris Student Association President

*On the next page is a scanned image of a letter submitted by Samuel Rosemark, University of Minnesota—Morris Campus Student Association President. This letter was submitted during the LCCMR Site Visit to the University of Minnesota—Morris in September. Since the scanned image is not accessible, the text of the letter is reproduced below:*

University of Minnesota  
Morris Campus  
Morris Campus Student Association  
600 East 4<sup>th</sup> Street  
Morris, MN 56267-2132  
320-589-6086  
[www.morris.umn.edu/mcsa](http://www.morris.umn.edu/mcsa)  
[umnmsca@morris.umn.us](mailto:umnmsca@morris.umn.us)

September 11<sup>th</sup>, 2019

Dear member of the Legislative-Citizen Commission on Minnesota Resources,

The University of Minnesota Morris is a top environmental school and leader in sustainability within the State of Minnesota and across the country. UMN Morris was ranked number one in Minnesota by the Sierra Club and produces the most renewable electricity on-campus per student in the United States. We have wind turbines, a biomass plant, a cold-weather composting program across campus, LEED certified buildings, electric bikes, and multiple solar arrays with plans to build another array soon.

We lead in sustainability because we have to, this generation has to. Many UMN Morris students have an Environmental Science major, Environmental Studies major, or a Sustainability major. A 2006 Chronicle of Higher Education article titled, "Sustainability: the Ultimate Liberal Art" exemplified this. In it, it explains that the liberal arts give students the necessary problem solving skills and holistic education they need to lead in sustainability. Leaders in sustainability are being developed here. With this land belonging to Dakota and Anishinaabe people, a Native American proverb best explains how we need to view our environment: "We do not inherit the earth from our ancestors; we borrow it from our children."

Where do we, the students and young people, want to see MN ENRTF funds going? 1) We want to see continued investments in renewable energy in order to slow climate change. 25% in renewable energy is not enough in Minnesota if we want to make a true impact. 2) Waste reduction and recycling should be a higher priority as methane is much more potent than carbon dioxide and thus has a larger effect on our climate. Less trash and waste means less methane. Minnesota should follow the lead of UMN Morris and Hennepin County as they both are working to compost high levels of food waste. The 2019 Environment and Energy Report Card by the Minnesota Environment Quality Board lists Minnesota's recycling as "poor." 3) Greener transit should also be a priority. The report by the MN EQB also listed transit as "poor." Rural transit options, such as electric buses and vehicles, would benefit rural communities and the environment. 4) Minnesota is the "Land of 10,000 Lakes" but the level of nitrates in our water is ranked by the MN EQB in the report card as "poor." Our water is a precious resource that needs to be cared for and protected.

Lastly, we know the climate is changing and we have the means to slow or even reverse that regardless if it is human caused or not. We should use our means to do that, not only for us, but for our children and the generations to come.

We, the UMN Morris students, are grateful for your visit and thank you for coming to our campus.

[Signature]

Samuel Rosemark  
President  
Morris Campus Student Association

# UNIVERSITY OF MINNESOTA

*Morris Campus*

*Morris Campus  
Student Association*

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ummmcsa@morris.umn.edu*

September 11<sup>th</sup>, 2019

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The University of Minnesota Morris is a top environmental school and leader in sustainability within the State of Minnesota and across the country. UMN Morris was ranked number in Minnesota by the Sierra Club and produces the most renewable electricity on-campus per student in the United States. We have wind turbines, a biomass plant, a cold-weather composting program across campus, LEED certified buildings, electric bikes, and multiple solar arrays with plans to build another array soon.

We lead in sustainability because we have to, this generation has to. Many UMN Morris students have an Environmental Science major, Environmental Studies major, or a Sustainability minor. A 2006 Chronicle of Higher Education article titled, "Sustainability: the Ultimate Liberal Art" exemplifies this. In it, it explains that the liberal arts give students the necessary problem solving skills and holistic education they need to lead in sustainability. Leaders in sustainability are being developed here. With this land belonging to Dakota and Anishinaabe people, a Native American proverb best explains how we need to view our environment: "We do not inherit the earth from our ancestors; we borrow it from our children."

Where do we, the students and young people, want to see MN ENRTF funds going? 1) We want to see continued investments in renewable energy in order to slow climate change. 25% in renewable energy is not enough in Minnesota if we want to make a true impact. 2) Waste reduction and recycling should be a higher priority as methane is much more potent than carbon dioxide and thus has a larger effect on our climate. Less trash and waste means less methane. Minnesota should follow the lead of UMN Morris and Hennepin County as they both are working to compost high levels of food waste. The 2019 Environment and Energy Report Card by the Minnesota Environment Quality Board listed Minnesota's recycling as "poor." 3) Greener transit should also be a priority. The report by the MN EQB also listed transit as "poor." Rural transit options, such as electric buses and vehicles, would benefit rural communities and the environment. 4) Minnesota is the "Land of 10,000 Lakes" but the level of nitrates in our water is ranked by the MN EQB in the report card as "poor." Our water is a precious resource that needs to be cared for and protected.

Lastly, we know the climate is changing and we have the means to slow or even reverse that regardless if it is human caused or not. We should use our means to do that, not only for us, but for our children and the generations to come.

We, the UMN Morris students, are grateful for your visit and thank you for coming to our campus.



Samuel Rosemark  
President  
Morris Campus Student Association

# Appendix N: Letter from the Steering Committee for the Collaborative Health Impact Assessment: *Effects of Wild Rice Water Quality Rule Changes on Tribal Health*

*The text of a letter submitted by the members of the Steering Committee for the collaborative Health Impact Assessment: “Effects of Wild Rice Water Quality Rule Changes on Tribal Health” is included below. This letter was submitted via email to LCCMR Director, Becca Nash, on October 19, 2019.*

October 19, 2019

Becca Nash  
Director  
Legislative-Citizen Commission on Minnesota Resources  
65 State Office Building  
100 Rev. Dr. Martin Luther King Jr. Blvd.  
St. Paul, Minnesota 55155  
Becca.Nash@lccmr.leg.mn

Dear Director Nash,

As members of the Steering Committee for the collaborative Health Impact Assessment: *Effects of Wild Rice Water Quality Rule Changes on Tribal Health* published in October of 2018<sup>1</sup>, we are writing to provide input to the LCCMR’s important current strategic planning effort and to encourage a more robust focus on manoomin/wild rice therein. We note that the current draft LCCMR Strategic Plan is not sufficient in its scope or detail regarding the pressing need for state funding in support of wild rice related projects and programming.

Our Steering Committee membership included stakeholders and subject matter experts relating to water quality, ecosystem health, treaty-protected natural resources and tribal community health. As the LCCMR sets its funding priorities for the Environment and Natural Resources Trust Fund for the next six years, we strongly endorse an explicit and intensified focus on manoomin (wild rice) preservation, promotion and research. Manoomin is a treasured state resource for humans and wildlife. It is threatened and because of this, it demands our immediate prioritization and dedicated funding support from the Environment and Natural Resources Trust Fund (ENRTF).

Over the past few years, several Task Forces have met and reached the same conclusions. The 2018 Tribal Wild Rice Task Force Report<sup>2</sup> included the following recommendations:

- Adopt a more comprehensive wild rice monitoring, assessment, and mapping strategy
- Establish long-term funding... to prioritize wild rice protection, management, and restoration
- Preserve and protect manoomin/wild rice for future generations

Governor Dayton’s 2019 Task Force on Wild Rice Final Report<sup>3</sup> included a major recommendation to “invest in wild rice” and a recognition that the following are necessary:

- Comprehensive, state-wide wild rice management plan
- Additional research on wild rice

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<sup>1</sup> *Expanding the Narrative of Tribal Health: The Effects of Wild Rice Water Quality Rule Changes on Tribal Health*. Fond du Lac Band of Lake Superior Chippewa Health Impact Assessment, 2018. Available at <http://www.fdlrez.com/RM/downloads/WQSHIA.pdf>

<sup>2</sup> 2018 Tribal Wild Rice Tribal Task Force Report, available at <http://mnchippewatribe.org/pdf/TWRTF.Report.2018.pdf>

<sup>3</sup> Governor’s Task Force on Wild Rice, January 3, 2019, available at <https://www.egb.state.mn.us/sites/default/files/documents/FINAL%20Governor%27s%20Task%20Force%20on%20Wild%20Rice%20Report%20January%203%202019%20v2.pdf>

- A statewide education and promotion outreach campaign to raise awareness about the ecological, nutritional, and cultural value of wild rice

The Governor's Task Force Report explicitly references the role that the LCCMR may play in achieving these objectives, stating, "Encourage the use of funding sources such the Legislative Citizen Commission on Minnesota Resources (LCCMR)...for wild rice protection, management, research, and restoration activities through priority setting in the grant making process, and guidance to entities seeking funding for wild rice protection and restoration efforts" (page 24).

In our own document, *Expanding the Narrative of Tribal Health: The Effects of Wild Rice Water Quality Rule Changes on Tribal Health: Fond du Lac Band of Lake Superior Chippewa Health Impact Assessment* (2018), the Executive Summary includes the following key recommendations:

- increase food security and food sovereignty in tribal communities through treaty harvest of manoomin and supporting the healthy ecosystems it depends upon
- elevate public awareness about the ecological, nutritional and cultural values of manoomin
- promote a comprehensive and protective regulatory framework for wild rice waters that involves both the MPCA and MNDNR
- implement a concerted effort to inventory all wild rice waters in Minnesota; implementing a coordinated and standardized monitoring and assessment program for wild rice waters across the state and engaging citizen scientists/volunteer monitors to help accomplish that
- continue research into climate change impacts and manoomin ecology, as well as additional health and nutrition studies

We strongly support the elevation of manoomin as a statewide priority in the LCCMR's Strategic Plan. The July 11, 2019 draft of the LCCMR Strategic Plan provides minimal guidance or emphasis on manoomin conservation, preservation, promotion or research. It merely mentions the need to "increase awareness and protection of lakes containing measurable stands of wild rice" (p. 8) with a similar statement on page 29. It is *time to act* on the recommendations of these expert committees and task forces and help make the recommendations a reality in Minnesota.

The current draft plan lacks specific emphasis on funding wild rice education, promotion, research and conservation--activities that are urgently needed for our state grain. We encourage you and your colleagues to enhance significantly the language of the current LCCMR Strategic Plan for 2019-2025 to direct the LCCMR to explicitly emphasize and fund programs, projects and proposals that involve manoomin/wild rice in Minnesota. Furthermore, we would be pleased to provide sample language to assist in the planning process at your request.

Respectfully submitted,

Nancy Schuldt  
Water Projects Coordinator, Fond du Lac Environmental Program

Darren Vogt  
Resource Management Division Director, 1854 Treaty Authority

Emily Onello MD  
Family Physician, Assistant Professor University of Minnesota Medical School Duluth Campus

Nikki Crowe  
Tribal Conservation Coordinator, Fond du Lac Resource Management

Kari Jacobson Hedin  
Watershed Specialist in the Office of Water Protection for Fond du Lac Reservation

Joy Wiecks  
Air Coordinator, Fond du Lac Resource Management

Elizabeth Jaakola  
Faculty at Fond du Lac Tribal and Community College & Fond du Lac Ojibwe Band Member

Debra Dirlam  
Director, Office of the Environment, Lower Sioux Indian Community

Melissa Walls, PhD  
Associate Professor, Department of International Health  
Director, Great Lakes Hub, Johns Hopkins Center for American Indian Health  
Johns Hopkins Bloomberg School of Public Health

Wayne Dupuis  
Environmental Program Manager, Fond du Lac Band of Lake Superior Chippewa



## Appendix O. Outcome Measure Options

Subject matter experts who participated in the Prioritization Panel identified possible indicators that could be used to measure outcomes related to each prioritized goal. These outcome measure ideas are presented below.

### Cross-Cutting

**Priority Goal: Working lands in Minnesota, including forestry, grasslands, and agricultural lands, provide long-term benefits to fish, wildlife, and people.**

**Ways to measure progress:**

- Number of acres in continuous living cover
- Percent of watersheds with 75 percent forest
- Long-term habitat monitoring
- Amount of renewable energy generation on working lands
- Number of acres in working lands
- Change in the carbon content within the soil
- Infiltration and absorption capacity of the soil
- Economic production for each acre of working land
- Diversity of green cover crops retention that are driven through markets (by acre?)
- Attitudes, beliefs, and behaviors of trained citizen scientists

### Outdoor Recreation and Open Space

**Priority Goal: All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative connections to the outdoor lands and waters of Minnesota.**

**Ways to measure progress:**

- Increase number of participants in outdoors, especially youth
- Increase number of underserved/underrepresented participants in outdoors
- Increase understanding of “what works” to get participants outdoors
- Increase number of Minnesotans who identify as having an outdoor ethic/values
- Increase number of people taking conservation actions based on their outdoor recreation experience
- Increase amount of time that Minnesotans spend outdoors
- Number of Minnesotans who have at least one week of intense outdoor experience a year
- Number of people who live within a 10-minute walk of a meaningful outdoor experience
- Perhaps consider requiring evaluation of (some of) the above measures be a component of each project

## Air and Energy

**Priority Goal: Minnesota achieves reliance on non-polluting, renewable energy in all sectors (including transportation, building, industry, agriculture, and others).**

**Ways to measure progress:**

- Increase in renewable energy use across sectors
- Decrease in emissions across sectors
- Increased number of people served and how (type of community and saving to consumer) by each ENRTF-funded project
- Increased number of community members engaged by each ENRTF-funded project
- Amount of investment in environmental justice as identified by ENRTF-funded projects

## Water—Increased Knowledge

**Priority Goal: Minnesota’s water resources are better managed for both water quantity and quality, as a result of better understanding of the connections between surface water and groundwater.**

**Ways to measure progress:**

- The number of acres impacted by implementation of ENRTF projects broken down by sector
- The percent of surface waters classified as impaired (develop monitoring and reporting requirements that are consistent across strategies to assess collective impact)
- Percent of total wells contaminated (focus on private wells, consistent monitoring, and reporting across projects/strategies)
- Increased ability of streams and rivers to absorb precipitation without resulting in damage
- Percent of Minnesota residents that understand the status of water in the state (use survey before and after intervention, target audience for strategy, create survey bank for education/outreach and customization by strategy)

## Water—Improved Outcomes

**Priority Goal: Minnesota is prepared for water volume changes, both excesses and shortages, and extreme runoff events resulting from climate and land use changes.**

**Ways to measure progress:**

- A decrease in damage caused by floods (e.g., damage to infrastructure, homes, working lands)
- Increase in the ecologically sensitive water storage capacity of streams
- Decreased incidence of water use affecting lake levels and stream flows below aquatic thresholds.
- The number of counties with completed Geologic and Water Atlases
- The number of counties with completed Part C (Water Account) Atlases
- Reduced levels of sedimentation and other pollutants
- Reduced use of water through conservation

## Habitat, Fish, and Wildlife

**Priority Goal: Minnesota has healthy and diverse wildlife and plant populations that sustain and enhance the state's environment, economy, and quality of life.**

### **Ways to measure progress:**

- Report on the proportion of ENRTF-funded projects that do not align with the strategic plan each funding cycle
- Of ENRTF-funded projects, conduct follow-up reporting to measure long-term impact (e.g., is the prairie restoration a prairie 10 years later?)
- Increased diversity detected at multiple scales: location-specific (GIS) point level, polygon level, or county level
- The extent to which learning has been shared (counting accessible research publications)

## Appendix P. Big, Bold Ideas

On the general public survey and during LCCMR site visits, participants were asked to identify their big, bold idea for protecting Minnesota's environment and natural resources. Many of these recommendations do not fit within the mission or scope of ENRTF. However, a full list of ideas is provided below. Please note, these responses have been edited for spelling, but not for grammar or clarity. Other than corrected spelling, the responses are provided as submitted.

- \$1 billion of bonding to insulate, update HVAC, and solar panels on all public buildings in MN
- \$10 an acre for farmers to go cover crops—so they get a new \$0
- \$10/ac for tenants to plant cover crops and a \$10/ acre tax credit for the landlord.
- \*Promote environmentally responsible transportation (electric/hybrid cars, light rail, buses, bike lanes...).
- "big, bold idea" is an idea or action that cannot be limited to only Minnesota, with climate change causing or expanding damages to all natural resources, the starting point is to involve all of America's people.
- "Health prescriptions" to parks
- 1) Pass a law that makes it ILLEGAL to apply ANY fertilizer, pesticide or herbicide within 200 ft of a lake, stream or river on any/all non-agricultural property. 2) Fund inspections/enforcement of non-compliant septs on lake property.
- 1. A study to determine the effects of stormwater infiltration on the water table aquifer in the lower portion of the Minnehaha Creek Watershed District. 2. Water management alternatives to mitigate flooding. 3. Equitable water management
- 1:1 requirement for mitigation of damaged shorelines and rivers -you break it, you pay to rebuild it!
- 10% crop insurance discount for those who do no-till, strip till, ridge till and/or cover crops.
- 10% living cover on our agricultural land all year long
- 100% clean energy equitably and expeditiously implemented
- 100% clean, renewable energy for all energy providers (that includes no Line 3 pipeline)
- 100% renewable energy
- 100% renewable energy by 2030
- 100% renewable energy by 2030. Ban on non-electric vehicles by 2045. Makes these legally binding and hard to repeal.
- 100% renewable energy in all sectors by 2050
- 100% renewable energy produced in MN!
- 100% runoff abatement. Energy, fuel, and compost from all organics and sewage. Focus on reuse to eliminate waste. End demolition unless no other options exist. Use existing railroad lines to build out out comprehensive rail transit lines.
- 1st thing is to protect our aquifers that supply drinking water for many people and our cold water streams. The aquifers span MN. WISC. and into Iowa. Can we all work together to protect this great resource.
- 20 year Moratorium on sulfate Mining. Don't start anything that contributes to climate change.
- 5 to 10 year contracts with ag producers to implement soil health systems.
- 50% clean energy by 2030. All public buildings have solar or wind energy, Especially new.. We agree to The Paris agreements regulations.
- 80% of corn grown in MN is for feedlots and fuel. Eliminate the ethanol mandate and grow real food in the state using proven environmentally sound practices.
- A "Plant One Tree" initiative, encouraging every single person to plant at least one.
- A BALANCE Between the environment & JOBS !!!!
- a ban on sulfide copper-nickel mining until it is proven it can be done without environmental harm, with at least a 10 year proven record
- A beautifully presented some tart on our natural resources and especially those that are in danger.
- A big, bold idea that could touch on all of the areas of concern is to have all Minnesotans actively participate in creating Minnesota's environmental legacy. Small, but meaningful mandatory service. It could even take place in school. I AM MN!
- A blend of research, science to make sure you know what you are doing and that you are doing it efficiently
- A campaign fully demonstrating the long term value of protection and preservation of our natural areas; that we WILL reap tremendous benefits from maintaining balanced, uncontaminated wildlife habitats.
- A carbon fee and dividend
- A Carbon Reduction Emergency Campaign with education, local actions, and legislation all aimed at zero carbon by 2030
- A commitment to green energy, particularly a just economic transition to green energy jobs in areas like the Iron Range
- A green new deal
- A nature center at Coon Rapids Dam focuses on water education and outdoor recreation. Three Rivers has talked about one at the new Mississippi Gateway regional

park. I think a community center focused on the environment would make a huge impact.

- A number of ideas about usage of water, air and use of land that result in a plan, over time, that will our quality of life in the future.
- A reimagining of the food system in Minnesota to turn its focus to local foods from small to medium sized farms.
- A required class in primary, 4-6 and high school for all kids
- A robust vegetation management plan for riparian habitats, focused on reforestation or diversifying our riparian areas to make them more resilient to I&D threats as well as a changing climate.
- A statewide network of habitats creating corridors for plants and animals to disperse and thrive
- A study that determines the effects of stormwater infiltration on water table aquifer in the lower portion of the Minnehaha Creek Watershed District.
- Accelerate getting Minnesota to 100% carbon-free energy (current target deal = 2050; every year sooner makes a huge impact)
- Accelerate our commitment to benefit nongame wildlife including invertebrates by ensuring that forestry and game management considers broader biodiversity benefits. We also need to educate communities about the importance of wildlife tourism.
- accept wholeheartedly that agriculture needs to pollute to grow our food. Work together to find solutions. More grasses and forbs on the landscape in high risk areas (steep slopes, wetland, flooded areas, along rivers ditches) is a simple solution.
- Achieve population stability. Probably too big and bold for you!
- Acknowledge the threat posed by climate change and plan-implement the changes needed to adapt to this changing world.
- Acknowledging and fulfilling our unique geographical placement at the headwaters of three of North America's major watersheds; our resource management is crucial for health of downstream watersheds and aquatic systems
- acquire more habitat and make sure it is properly restored (ameliorates climate change) while educating citizens on the importance of Nature
- Active management of top priority wild rice lakes with stakeholder group and science based management strategies.
- Actively bring environmental education into (or outside) the classroom in meaningful ways.
- actively work to incorporate non-dominant ways of knowing (indigenous and POC knowledge of environment and natural resources) into management plans and visioning for the future. Divest from capitalism as a means for protection, & support collectivity.
- Actually fund and allow expansion for environmental educators. We need more permanent Naturalists to educate people and the funds to create programs.

Running nature centers and environmental education centers don't make money they need help

- Actually hold polluters responsible with substantial fines.
- Actually open wilderness areas for more users.
- Ad a climate change adaption fund as future ongoing source to prepare and mitigate.
- Adapt laws and follow procedures, teach children at a young age, science fund to develop new techniques
- Add environmental education to MN State Education Standards
- Add fee for all plastic bottles, pop and liquor cans so they are recycled. Increase recycling demands. End plastic bags. End grey water added to lakes and rivers. Environmental studies before marianas. Public input required before grants are given.
- Add protective requirements to all property development and road projects; require greenways in comprehensive plans.
- Address carbon through sustainable agriculture initiatives, build healthy soils, water retention, and bio-energy with diverse native grasslands.
- Address climate change by funding long term carbon footprint reduction programs. Require significant match and in-kind support from major local corporations such as 3M, Cargill, General Mills, etc.
- Address climate change, which will affect everything—farming practices, water quality, etc.
- Address Human Population as the root cause of Habitat Loss, Air and Water Pollution, Garbage production
- Address human population—if we keep increasing in numbers there won't be any non-human earth left.
- Address water quality on a watershed level and actively work to improve diminished water quality on a landscape level—especially with initiatives to restore permanent cover on private lands.
- Addressing Minnesota's future economy in light of climate change projections
- Adopt a systems approach where all impacts are considered (forestry, mining, energy, agriculture, etc.) to anticipate interactions between impacts and outputs to coordinate efforts.
- Adopt E.O. Wilson's Half-Earth idea.
- ad's on tv and internet
- Advance the development of continuous living cover cropping systems to address landscape level conversion from annual row crops to improve surface and groundwater quality.
- advocate legislation on behalf of a "carbon tax" on industries which are high-carbon energy consumers; promote awareness of the "green new deal" now touted by some legislators in the halls of Congress; show neonicotinoids re: its role in bee collapse
- After decades of talk about sustainable development, it's time to do it. One example is providing game crossings at highways and railroads to prevent the carnage and save

Minnesota's share of the \$4 billion wildlife crashes cost each year.

- Ag runoff is threatening water quality across the state. Farming must be environmentally sensitive.
- aggressively pursue an all-renewable energy goal ASAP.
- Agricultural drainage, erosion and nutrients cause more environmental damage than anything else in the state by far. Require no till, pay farmers to create wetlands/water storage areas and pay for performance.
- Agriculture is the back bone of Minnesota. Agriculture is by far the largest source of pollution in our state, its past time that we review agricultural practices and provide workable solutions to farmers to control soil, water, and air pollution.
- Agriculture needs to be held to the same standards as everyone else
- Air quality impacts climate change. The State should set stronger standards on air quality, and strict definitions on truly green sources of energy (solar, wind, not coal or even nuclear/natural gas) should be prioritized. Let industry met those stds
- AIS Control and study to eradicate. Septic system inspections. Cities dumping sewage into rivers and streams
- All the topics above are closely related. Part of the problem is that there are just too many of us - using resources, polluting, more housing, etc. How do you solve that? maybe instead of tax credits for children, tax those that have over 3 children.
- All electric cars in 2 years
- All ENRTF projects maximize climate change solutions
- All new buildings, both commercial and residential, should be carbon neutral. It needs to happen. Agriculture needs to begin thinking about their role in global warming and help to turn ag in to a carbon sink.
- All of our regulatory agencies have been captured by industry. Fire them all and start over.
- ALL public access landings should have 12 hr per day 7 day AIS detectors during ice out.
- All regions vary in needs. Though we are primarily an ag region, our greatest weakness lies in understanding shoreline protections/ riparian buffers. My BIG BOLD idea is for a program set up similar to MAWQCP focusing on the shorelines of our lakes
- All renewable energy by 2030 (yes, 2030); moratorium on copper sulfide mining; improve mass transit
- All renewable energy—need demonstration projects
- All small communities to focus on fixing water quality and maintain
- all utilities be carbon free by 2040 if not earlier
- Allocate funds to help remove invasive species along highways and county roads. It's hard to keep your property clean when the roads aren't clean.
- allow full scale CuNi mining only after pilot projects demonstrate how to minimize impacts.

- Allow mini electric cars on commuter only bike paths. Speeds less than 30 mph
- Allow more acres of marginal agricultural ground to be put into the lifetime trust of RIM and/or CREP. Provide more funding to make it attractive to landowners to participate.
- Alternative crops that protect souls for longer periods of time
- Alternatives to resource extraction
- Although I checked water quality as a big area of concern, Environmental Education is also important long term. Climate change is to big for ETF to deal with. Focus on effective local projects that have long term benefit to environment.
- An initiative (led by farmers) to provide connected wildlife habitat/corridors across ownership/political boundaries
- And continue to finding creative funding.
- Annual citizen clean up days to encourage more environmental stewardship.
- Anyone 55 and under can receive state tax or home owners rebates for installation of water and lawn improvements or 200 hi ours of volunteer activities
- Anything that promotes sustainable living (specifically promoting less consumption of natural resources)
- Anything that results in documented actual reduction of vehicle miles traveled.
- Apply regulation across the board for agriculture as well as city waste water going into our streams and lakes. Water is our biggest commodity and Minnesota may have the most valuable assets if we protect it.
- Appt the Planetary Health model to address the impacts of climate change in a holistic, fact-based way
- Aquatic Preserves as proposed by Peter Sorenson
- Aquifer system
- Aquifers—graining
- Arm local students (emerging thought leaders) with policy, data analysis, engineering and business development tools to execute a climate change projects to realize our State's goals.
- As alluded to in my response to address environmental education (EE) needs in Minnesota, I truly believe conducting a statewide EE Census could help us as a state to address issues of climate change, air & water quality, environmental justice, etc.
- Ask bartenders to not put plastic straws in my drinks.
- Ask persons in junior high to create a cartoon to demonstrate what change in our climate would make. 10 years down the road.
- Assess impact of climate change on water quantity (aquifer) and natural and agricultural ecosystem productivity, and courses of action necessary to achieve climate adaptation.
- Assist utilities and local governments with implementation of 100% RES.



- assisting farmers with preparing for climate change and its effect on agriculture. Paying attention to water quality in farm country is important. Plowing practices need attention and large varieties of natural vegetation are also needed.
- Assume control of Clean Water Act Section 404 from federal government and implement program to increase wetland acres in MN.
- Assure our next generation of young people understand the importance of our pristine wilderness, and safety for habitats.
- Assure that the BWCA is not further threatened and that counties are not restricted is how much land that can preserve,
- Back in the 1970s, during the “gas crisis,” I developed an idea to generate electricity by harnessing the flow of vehicle traffic, similar to the flow of water to power turbines to produce electricity.
- Ban all lawns from pesticides and fertilizers
- Ban all lobbyists.
- BAN any new fossil fuel infrastructures such as Enbridge's Line 3 in Northern Minnesota.
- ban copper mining
- Ban Glyphosate and reduce nitrogen in Agriculture practices
- Ban industrial frac sand mining
- ban neonicotinoids, they are killing/exterminating aquatic invertebrates.
- Ban petrochemicals.
- Ban plastics; make solar accessible to homeowners; give rental home land owner credits for efficiency improvements; close factory farms.
- Ban practices that destroy or have the potential to destroy the environment.
- Ban practices that pollute our waters incl non-organic fertilizers, industrial and commercial practices that pollute our waters or have the potential to pollute.
- ban roundup.
- Ban special interest from buying farm land. Stop urban sprawl. Keep the environmental fruitcakes in the 7 county metro.
- Ban TCE usage in MN.
- ban the sale and use of harmful pesticides and herbicides.
- Ban the use of fertilizer on all lake shore property. Farmers could be exempted or have less restrictions.
- Ban the use of one use plastic.
- Be absolutely fierce about insisting that SCIENCE take precedent over unprovable ideology.
- Be good stewards of the earth, but Stop wasting time blaming climate change disproportionately on Americans. When the fact is.... climate changes, and always will.
- Be specific with the placement of agricultural areas
- Because water quality and quantity is a huge concern in SW MN. Create a partnership with MN DNR to allow Public Water Water Suppliers to utilize DNR controlled property to establish drinking water sources within already protected lands of the State.
- Become a better steward of my own land.
- Become a leader in regenerative agriculture.
- Become the first carbon neutral state in the Nation.
- Better fishing
- Better manager my household to consume less and be more environmentally efficient
- Better public transportation. Light/high speed rail. Would reduce carbon emission. Line right of ways with native plantings and natural areas. This will increase environmental exposure and create environmental corridors for wildlife.
- Better stewardship of private lands
- better walleye management no indian netting
- Beware of foreign companies which would like to undertake sulfide mining. Ensure environmental studies are free from political bias.
- Big Ag land runoff is a huge contributor of pollution to our lakes and rivers. Educate farmers on best practices and require buffer zones.
- Big demonstration projects for perennial crops, and carbon pricing to be able to pay farmers to sequester carbon.
- Billboards telling everyone to plant just one native flower (each year). Given more time, I am sure I could come up with bigger and better. I don't know how to reach teenager's, but we need to inspire them.
- Boat cleaning stations across the state-post education in signs-education at rest stations, gas stations. Bait shops
- Bring even more wildlife friendly habitat into places where people live. Get people educated and excited about our wild plants and animals. Let's celebrate the return of the swallow, or nests of bald eagles. Or rally around an endangered bee or orchi
- Bring groups together.
- Bring nature back to school yards instead of all the concrete and mowed grass.
- bring school children into parks as part of their environmental education.
- Bringing awareness to the affects humans have on the environment on the little choices they make every day.
- Bringing Environmental education into schools, and spreading the word
- Buckthorn n Bikes campaign to put mountain biking in already degraded natural areas
- Buffer greenways
- Build a youth corp to bring youth to the outdoors and do restoration of existing park lands. Build the next generation of conservation to combat climate change.
- Build an Env. and Natural Resource Educational Center in Albert Lea, MN. This is the gateway into Minnesota via I35 and I90. 2501 Main St E. is for sale. This center could have aquatic native fish tanks, First Nations displays, etc.
- Build human-scale walkable places; no new roads.

- Build more solar and wind energy...Incentivize units for homeowners.
- build out network of supercharging stations across the state to accelerate adoption of electric vehicles.
- Build wildlife overpasses and underpasses EVERYWHERE! Build one over 61 on the north shore and it will sell itself to our citizens.
- Build wildlife overpasses and underpasses. Think big! Do an overpass that makes obvious the benefit, like the overpasses in Banff. Then build less costly ones.
- Build/develop model communities that others can look to for inspiration.
- Building relationships—encouraging people / groups to pool resources and cooperate on protecting the environment
- Businesses and individuals to limit waste, do no harm. Recycle or sell byproducts, properly dispose of toxic waste. Use natural resources as needed without causing harm to others, only benefits.
- But out floodplain farmland to restore to floodplain. The only land available is land that was acquired for farmland before X date (in order to avoid abuse of the program)
- buy land; stop all “refugees”,
- Buy out the School Trust Lands!
- Buy up a bit of present farm land in southern Minnesota and restore it to natural vegetation
- Buying more farmland to convert to native prairie
- campaign to increase public knowledge about MN’s natural resources, how they have changed over the centuries, and recent successes since 1970s. For example, the story of manoomin or wild rice exciting; focus protection around a beloved local food.
- Can we make it economically feasible to power individual homes, small businesses, farms, on site. Solar, wind, backup propane generators. Lease the equipment through the local electrical cooperative in rural MN, coop service equipment.
- Cancel mining leases for Poly Met, Twin Metals. Say no to copper nickel sulfide mining
- can't limit to one answer to Q1: ag practices, air quality, climate change, water quality and quantity - or to Q2: first 4 bullet points
- Capitalize on the chaos China trade wars have caused farmers. Provide an enticing alternative which keeps carbon in soil, increases water quality, promotes healthy pollinators and supplies food to local communities.
- Carbon fee and dividend, as British Columbia started in Canada.
- Carbon fee and dividend; tax credits for renewable energy development, installation and use.
- Carbon filters on exhaust ports of vehicles and factories
- Carbon neutrality; massive afforestation initiative; any action that can have a climate
- Carbon Tax
- carbon tax
- Carbon tax
- Carbon Tax
- Carbon Tax
- Carbon Tax
- Carbon tax on polluters
- CARBON TAX OR CAP AND TRADE RIGHT NOW.
- Carbon tax reinvested in communities for climate resilience and natural restoration.
- Carbon tax, carbon tax, carbon tax.
- Carbon use reduction of 75% by 2030; including DNR/State Park management, users (hunt/fish/camp/ride).
- Carry the water buffer requirement to private waters
- Change agricultural reward system, reward land managers for better practices and not reward them for more acres, higher yields as the federal government does now. Most growers are not producing quality food for people at this time.
- Change focus on our livelihood to other options than mining.
- Change from giant chemical corn and soy farms and animal feedlots, to holistic systems (the Savory model, probably) that restore topsoil and prairie, discourage diseases and pests by banning monocrop giant farms, and are resilient to climate change.
- Change homeowners minds about the value of native plants and grasses over manicured and green lawns. Developers of new communities and builders should plan for open spaces and yards that support natural wildlife.
- Change the footprint of agriculture to include perennial crops along all water paths to support improve water quality and decrease sediment transport in Minnesota's Mississippi River and downstream all the way to the Gulf of Mexico.
- Change the funding structure so that restoration implementation can be done better. I.e. more time for site preparation, when needed, prior to installing seeds/plants. And also fund more follow-up management treatments in a timely manner.
- Change the mindset about 20th century lawns, which not only are bad for pollinators, but take lots of polluting lawn implements - mowers, weed whackers, ridiculous leaf blowers, all of which create air and noise pollution. Educate, incent, ban.
- Change the mindset of private forest landowners thru a marketing and consulting campaign to get them to be more proactive in their landscape management. Adopt European approaches.
- Changing how we think about waste streams, ie, sewers and garbage systems and turn them into resource collection systems to remove nutrients and toxins from the environment and create new streams of value. example removing phosphorus from wastewater
- Channel and regulate development and its fallout.



- Charge all extractionistic businesses for water use and discharge. Any Farm over 350 animals needs to pay for water use.
- Charge for carbon emissions
- Check water quality in rural areas.
- Choose solutions that simultaneously solve multiple environmental problems. Practices that improve water quality, create habitat, and reduce carbon use can and should be linked.
- City people quit over fertilizing your grass
- City-wide composting (pick it up)
- Clean (potable) water is under appreciated...maybe advertise in grocery stores how many gallons needed per pound of meat, produce, milk, etc...publish annually the gallons needed per capita to eat...not including all other uses.
- Clean up the Minnesota River by paying or incentivizing farmers to contain chemical runoff; "Adopt a section" program.
- Clean water is imperative. Water is MN #1 natural resource. Sustainable farming practices to reduce fertilizer use. Regulations that are actually enforced to protect pollution from industry. NO COPPER NICKEL SULFIDE MINING!
- Cleaning up all the pollution in Minneapolis
- Climate change affects all the others mentioned. My big idea is to implement carbon reduction legal and research questions, but implementation of climate helping protocols such as planting trees and reducing carbon is key.
- CLIMATE CHANGE LEGISLATION
- CO2 TAX!!!
- Collaboration with organic farmers (compost)
- Collecting rainwater to reduce over harvesting of groundwater.
- Combat climate change and save our planet or nothing else even matters.
- Combination of incentives (payment) and regulatory pushes on agriculture. It is THE water quality issue in MN.
- Commit to implementing carbon sequestration demonstration projects using Minnesota landscapes (restoring/protecting wetlands, older forest protection, soil-health agriculture)
- Commit to increasing diversity in the outdoors. Support camps and recreation spaces in their diversity efforts. If the demographics of outdoor users doesn't change and the faces of decision makers do change, our environment won't be a priority.
- Community engagement—climate corps
- community level civic organizing partnered with government leadership. gov spends \$ demonstrating a solution and coordinates with local leaders like SWCDs who can connect the ideas to implementers
- Community planning to decrease need for low passenger capacity motorized transportation that utilized carbon based fuels. Integrate non-fossil fuel power generation with statewide network of electric vehicle charging stations.
- Complete the North Country National Scenic Trail across Minnesota. Other states like Michigan and New York have recently launched efforts to develop a cross-state trail to benefit residents and local economies.
- Completely overhaul the 1985 Food Security Act as amended to provide more funds for conservation, crop insurance for organic crops, funding for farmer's markets and food coops, and prohibit any further wetland drainage.
- Compost locations that are easy to access
- Comprehensive statewide hydrological model
- Conduct an H I A prior to any permit involving water quality
- Conduct annual national/international conferences in Twin Cities to survey and analyze current data regarding climate change
- Conduct review by qualified experts of existing scientific studies of wake enhancing watercraft to determine the environmental impacts to MN lakes and rivers, as well as other significant impacts re safety, property damage, property values, tourism
- Connecting individuals and communities who are impacting and impacted by water quality issues to develop personal relationships that are required to address the most challenging issues of our time.
- Conservation agriculture covenants
- Conservation crops: invest in next generation of agricultural crops that protect our water and maintain farm prosperity and diversity
- Conservation is the work of 5mil people. Empower and nudge them. Support foundational tools (e.g. hydroconditioned LiDAR) that transform conservation. Acknowledge how ag markets and policy nudge actions. Develop markets for transparency and win-wins.
- Conservation Reserve Program was one of the greatest programs to save soil and create recreation in rural Minnesota bring it back in fact make it larger.
- Conserve
- Conserving agricultural land from urban sprawl. Better use of forest resources through new product and small business development with resources like NRR, Duluth. Recreate the position of Forest Utilization Specialist. who as.
- Consider long-term environmental health over short-term economic gains
- Consider looking at the Clean Water Act to see how we can leverage this work to protect Minnesota's drinking water
- Consider where we can use technology to both create renewable energy and solve environmental problems (ex. H2O turbine in stream that generates energy and reduces river erosion).
- Constant monitoring: remote sensing, census, sampling

- Consume less
- Contest for people to reduce their carbon footprint
- Continual mapping and monitoring of land and lakes by remote sensing and sampling for information and analysis that is needed for environmental and natural resource management. Ensure that this turns into projects—land protection, enhancement, restoration
- Continually reinforce our history of stewardship and caretaking.
- Continue and expand relationships with conservation organizations to grow and improve wildlife habitat on public lands.
- Continue environmental protection, and find ways to help with flood control—too much agricultural and residential land is being jeopardized by flooding due to climate change.
- Continue funding long-term ecological research.
- Continue funding resource management and outdoor recreation projects.
- continue research and development of green energy and renewable resources
- Continue to educate Minnesotans with radio and TV news reports about the state of our environment. If people aren't involved in environmental issues they don't know the reality the situation.
- Continue to educate our farming community regarding the benefits of no-till and cover crop practices.
- Continue to protect the land, air, and water through agricultural best management practices.
- Continuing to prioritize restoration of existing spaces for wildlife (e.g., lawns, roadsides, parks, inter-crop rows, crop field buffer strips)
- Continuous and seasonal observations of the state using optical, radar and lidar imagery from a variety of satellite, aircraft and drone platforms.
- Control Aquatic Invasive Species (AIS).
- Control of housing developments to decrease carbon footprint. /Stop dumping into landfills/recycle debris.
- Control the expansion of current and future hog barn operations. Presently, public input is politely listened to, but not taken into consideration. Hog barn smell ruins the quality of life and property values of rural residents.
- Convert drainage ditches to holding basins. Eliminates TDMLs in natural streams and rivers and provides irrigation resource in stretches of drought
- Convert MN to 100% nuclear.
- Convert to 100% renewable energy by 2030. Dramatically reduce carbon footprint, starting with commercial scale buildings. Implement bold policies to reduce emissions.
- Convert to all renewable energy sources by 2030.
- Convert to green energy and pressure other places to do the same.
- Convert Whitewater from a WMA to a special class of Recreation Area that allows trails and dispersed camping.
- Converting more land into wetlands and green spaces.
- Convince agriculture actors that it is in their best interest to protect public resources both below and downstream of their operations
- Cooperation is key to get anything done.
- Coordinate at different levels—Federal/county, and state programs are different with different goals—wildlife does not respect these boundaries.
- Cost-share with farmers with seeds.
- Cover crops and appropriate buffers for water quality; new crops (not just corn, etc)
- Create a “Cost” or “Fee” for pollution. When industries have to pay a fee for the pollution they cause, they very soon emit far less pollution. i.e. Iowa’s \$.05 bottle bill. They recycle 95% of bottle and cans because it costs money to litter.
- Create a charitable plastic recycling plant, it will never be able to remain in operation if working for a profit due to high labor costs, but if it used the work of volunteers or collected public donations to keep costs lower and stay in business
- create a Department of the environment.
- Create a division within the DNR that focuses on understanding, educating citizens about, mitigating, and developing technology for adapting to and reversing the effects of climate change.
- Create a government position director of outdoor recreation so we have someone at a higher level making our voice heard
- Create a new environment and natural resources commission that would oversee the DNR.
- Create a pollinator friendly habitat in my own yard.
- Create a required experiential natural-resource education curriculum to get every Minnesota child out into a natural setting for a meaningful experience 5 times before graduation. We need to educate and develop the next generation of cons stewards
- Create a research grant program for scientific and natural areas and allocate \$250,000 for a biennium, that would be available to MN universities, to research the top priorities designated by the DNR SNA Program. Univers. Direct thesis to needs.
- Create a stable budget for maintenance of our state lands so they don't degrade over time simply because there is no money to maintain them.
- create a subsidies within the state for those that practice good conservation and penalize those that don't practice good conservation. like raising kids if you put it in place you have to back it up. this is the only ground and water that we have.
- Create a tax on pesticides and fertilizer to pay for rural water systems and/or private drinking water treatment units.
- Create and sustain WATERSHED Associations across the state, and doing our water work on a watershed basis.

- Create awareness (through Social media, local advertising, etc.) about storm sewer runoff—1) what goes into it/from where; 2) where it goes—directly; unfiltered; and 3) the impact
- **CREATE CONSERVATION PLANS FOR EVERY FARM THAT IMPACTS WATER AND WILDLIFE; MAKE LAKESHORE OWNERS ALSO INSTALL BUFFERS ON LAKESHORES.**
- Create emissions standards for boats and off road vehicles, including snowmobiles.
- Create environmental curriculum for all grades in Minnesota and make a minimum requirement for each grade through high school. It will always be difficult to change the culture until we educate our youth—all of them. Include outdoors classrooms.
- Create incentives (means tested) for passive house retrofitting and new construction. Demolish structures with high energy needs.
- Create incentives for homeowners to remove invasive species from their yards, lakeshores, and replant natives and safe native cultivars in place of the removed invasive species.
- Create incentives for row crop and CAFO agriculture producers to implement known conservation strategies and then help them differentiate themselves in the market place to consumers!
- Create large inter-connected swaths of restored prairie or woodlands running from north to south in order for habitat to be continual.
- Create local markets and distribution networks for crops that are good for the farmers' bottom lines AND for water quality.
- Create more fear in people of climate change so their can be more support to fight it.
- Create more habitat. Stop tearing trees down in wildlifes. Drain useless bodies of water that are not deeper than 7 feet to create cattail and grass habitats for ducks, geese, pheasants, deer, and more.
- Create more large and small scale water retention across the land similar to the water retention activities in the Red River Basin of MN.
- create more opportunity for collaborative solutions to be discovered and implemented
- Create more wild land buffer areas around lakes and rivers with connecting corridors linking areas. Encourage vertical multi family housing surrounded by open spaces rather than traditional suburbia housing
- Create new patterns of travel that promote clean energy and low emissions.
- Create research grant program for DNR SNA Program. Allocate \$250,000 biennium. SNA PROGRAM ids topic. Mn Univers. apply, direct thesis to SNA I'd priorities. State benefits, since study is on controlled sites, solves issues.
- Create wildlife migration corridors that connect our few remaining large wilderness areas to each other, affording animals a safe way to move to new territories.
- Create workshops where landowners showcase and teach the community with the help of agencies. More peer to peer learning and show and tell for landowners with agencies in the background, not the forefront.
- Create Youth Climate Councils to help educate and publicize climate change info (so much data already exists), along with toolkits of actions youth can take NOW!
- Creating jobs for the homeless in Minneapolis/St. Paul by forming waterfront cleanup & maintenance crews to work along the river and chain of lakes
- Creative outreach and training to those that use our natural resources in MN. Better monitoring and enforcement of those that break the laws and regulations. Use digital tools to help.
- Crops other than soybeans and especially corn need to be profitable for farmers to drive crop rotation and reduce herbicide/pesticide use. Developing new food products that use grains or legumes.
- CRP signing up—DNR add into CRP
- CRP, need more.
- Curtail or restrict pesticide/insecticide use at a large scale.
- cut back hunting and protect wilderness
- Cut back on lawn fertilizer use. Wasted resources with no gain.
- Cut our emissions significantly by 2030, not 2050. 2050 is way too late.
- decentralized renewable energy including solar powered water pumps for private wells
- decrease agriculture pollution
- Decrease dependence on fossil fuels.
- Decreasing use of fossil fuels. Ways to capture carbon. Develop technological tools for energy, waste management and water management to the most efficiency possible.
- Dedicated weekly time in nature for every child in Minnesota—build it into the school day.
- Deep six sale of single-use plastic, continue retiring coal-fired energy plants, subsidize small farmers (not big ag), decrease use of water (eg, increase rate at which water use is charged), ensure nature-based curriculum is offered in grade schools
- Demonstrate energy storage as a way to reduce the effects of climate change. Beginning the storage industry in Minnesota could have the same effect as the wind industry.
- Demonstrate how the impact of protecting the environment affects them personally
- Demonstration projects of perennial crops, including prairie, as ethanol & food sources, as well as carbon sinks
- Deny permits for copper-sulfide mining.
- Design for temporary and permanent data trends for stormwater event conveyance for resiliency during and post construction land disturbance

- Deter migration from other states. Cut state level welfare programs. We don't need bigger roads, we need less people, and less consumption.
- Determine risks (including those of "emerging" concern: implement programs to PREVENT pollution; enforce AGGRESSIVELY.
- Develop & support diversified perennial agriculture to build soil health, \$ wealth, and protect water quality.
- Develop a perennial forage ground cover system of grazing for cattle in high risk watersheds.
- Develop a plan to protect waterways from local, regional, national and global processes that impact access to clean, available water.
- Develop a program similar to National Parks - Every Kid in a Park that provides a parks pass for state/regional parks across Minnesota to all kids in a specific grade. Compensate DNR for lost revenue.
- develop a recycling economy in place of more resource extraction, and move as quickly as possible to 100% clean energy in place of fossil fuels
- Develop an innovative technology solution to stop and reverse the proliferation of aquatic invasive species which affect so many of the state's lakes. Find a biological solution or genetic modification technique that disrupts the lifecycle.
- Develop and fund a public-private partnership (e.g., with the Nature Conservancy) to purchase conservation easements, and fund buffer zones so farmers aren't harmed.
- Develop local, sustainable food systems and provide education to farmers and consumers.
- Develop positive ways/incentives (not penalties) to incent/award private landowners to manage their lands in an environmentally sound manner, and structure property taxes in ways that reward not fragmenting rural parcels.
- Develop possible tasks that each person could do to be part of solutions to the overall situation
- Develop renewable energy products that helps make MN a leader in the nation and allow MN to reach 100% renewable energy. Morris model everywhere!
- Develop SMART (specific, measurable, attainable, relevant, and timely) strategic goals for ENRTF. Quit assuming lands/waters are "protected" just because they cannot be developed commercially.
- Develop tests for contaminants of emerging concern (plastics, ag chemicals, degradants, pharmaceuticals) and develop standards
- Developing / Integrating programs that encourage offsetting carbon emissions, carbon storage, and renewable energy into existing habitat and water quality programs. Multiple Benefits.
- Developing prioritization strategies for directing funding at problems and projects with high chance of success.
- Development and implementation of market based incentives for carbon reduction and water renewal with combination of payments for improvements as well as taxes—to be an innovator in developing these tools that are powerful as proven by SO2 scheme.
- Devote more tax money for this.
- Disband BWSR and let farmers take control of their own conservation practices.
- Discounts to install solar panels on all homes and businesses.
- Ditches for Pollinators: Organizing city, county, state and federal entities to plant ditches with native, deep-rooted prairie species throughout the state to increase habitat, water infiltration and water quality
- Divide the state in half so locals can control their own destiny as far as economic development while protecting our own area.
- Do all that's needed to curtail and stop sulfide mining in northeastern Minnesota. Failing that, make sure that Glencore and Antifigasta are named as owners and responsible to pay for any and all cleanup and monitoring of their mine sites.
- Do better marketing to non outdoors people
- Do it and stop talking about it NO CHEMICALS, NO more tree cutting. NO more building on greenspace, urban or rural. Eco and greenspace in cities not allow taking it away.
- Do more to stop zebra mussel spread. Make a law where if you use a boat on a zebra mussel infected lake, you cannot take that boat to a lake that does not have zebra mussels.
- Do not allow companies to dump waste into rivers, streams and lakes this defying Trumps policies.
- Do not allow copper nickel mining to occur in NE Minnesota. It will cause the loss of millions of dollars of economic dollars via decreased tourism and people moving away from the area.
- Do not allow corporate interests to rule over our environment, especially with the ever present phrase....jobs. They are only temporary while the natural environment is forever. Quit accepting funds from corporations with any restriction on its us.
- Do NOT allow cutting of mature trees for development in urban areas. Minneapolis is willing to sacrifice green space and trees for developers.
- Do not permit mining or motorized vehicles in places of wild lands. Encourage people to value unexposed areas to remain that way. Have a nature fest annually to support this.
- do NOT use that money for municipal sewer projects. it was intended for the recreation hours of MANY citizens.
- Do open, transparent reviews of mining petitions, using solid scientific methods.
- Do the win-win actions like preserving peatlands and forests as carbon sinks and wildlife refuges, supporting strong buffer zones and continuous cover crops to build soil and protect water

- Do what is right and not necessarily popular. We need to use our resources such as timber, mining, water, etc, but do it as research shows best. Compromise and do what is best for the public as well as businesses.
- Do whatever is necessary to halt sulfide mines in Arrowhead.
- Do whatever needs be done to convince sceptics that climate change is real!
- Doing a project with all highschoolers across the state where they take on their own project to protect a natural resource in their community
- Don't allow sulfide ore mining (copper/nickel) in MN.
- Don't allow the construction of new pipelines or coal burning plants.
- Don't let industry and agriculture continue to pollute the water. Prevent anyone from polluting waters and watersheds and give them the tools they need to avoid polluting.
- Don't listen to the few that make the most noise, listen to the people that live there. Especially don't listen to the lobbyists.
- Don't allow 5 G Towers into the state. Promote fiber optic. Get educated on it. There is very little testing on what these harmful rays will do to us, our environment, the planet!! 5G is military grade. It should be limited. There is information
- Don't allow Polymet or any other copper/nickel sulfide mine to operate in MN. (or anywhere for that matter)
- Don't create new resource draining solutions for energy. Instead create additional low/no carbon solutions to harness energy. No drilling, no coal. Yes wind, yes solar. Yes clean energy. Protect natural areas to support ecosystems.
- Don't do anything about climate change—it will always change. Nothing we can do about it. Protect the environment but don't be too zealous.
- Double our efforts to use renewable energy.
- Down size, starting at the top, use common sense, talk to people in the rural areas about ideas and plans
- Drain the swamp in st paul.
- dramatically restrict boat access—one or two lakes/rivers per year.
- Easy. Plant millions more trees.
- Economic incentives for farmers to improve water quality
- Educate about native planting for birds—trees, bushes, flowers. Better inform people about preventing bird deaths into windows. Get public bldgs on board by preventing bird crashes into windows (& turn off many lights at night—they kill birds)
- Educate all facets of the state on the positive affects regenerative agriculture can have on our environment and climate change. Every person can help change our future through this knowledge and choices.
- Educate all of us on the exact damage fossil fuel companies are doing to our climate, crisis.
- Educate and engage the public as partners in massive change effort and BRAND IT. Help everyone maximize and diversify use of their assets: every yard for water infiltration, pollinator-people food, energy production. Climate adaptation Ed.
- Educate and incentivize farmers to use better farm practices to reduce chemical use and erosion.
- Educate and train MN state legislators and DC representation.
- Educate Educate Educate the younger generation.
- Educate farmers, and especially landowners who rent out their land
- educate Minnesotans and others about ways to protect our environment for all birds and and other animals.
- Educate Minnesotan's on the impact of their actions and inactions on the environment—ex. the trash on Big Island and our rivers
- Educate on effects of climate chg in mn. How to adapt.
- Educate our citizens to love the environment and care for it. We need the next generation in!
- Educate people on the balance of environmental and economic best practices that benefit both the environment and the economy.
- Educate people where their food really comes from.
- Educate people.
- educate teachers, particularly elementary and middle school teachers, on environmental issues including air, surface water, and groundwater quality; surface and groundwater quantity; and positive and negative human interaction with the environment
- Educate the public about both sides of a specific topic.
- Educate today's youth about the importance of public lands through programs that actively engage those youth in multi-day outdoor education and adventure.
- Educate yourselves on agricultural practices.
- Educating farmers and the public on soil health, which can help with the issues of soil erosion, carbon release, water quality, and air quality.
- Education
- Education
- Education
- Education
- Education
- Education and enforcement—related to cover crops
- Education at the elementary school level. Direct contact between children and natural world on a regular basis. Ecology/biology as part of STEM.
- Education campaign for safe and responsible recreational boating.
- EDUCATION EDUCATION EDUCATION—innovative ways to inform the public about the impacts of projects and household level behavior are crucial.
- Education in regards to the ag practices that are being used today.
- Education needed to dispel myths



- Education on best cover crops to use
- education on recycling, I cannot believe this day and age people still don't believe their recycling is truly recycled. Rain barrels and compost barrels at affordable prices.
- Education. Especially in the schools as the next generation will sustain the work already underway.
- Education: The objective of all agricultural efforts is to "make a living." That means to make a profit. to have returns from the endeavor exceed the expense of accomplishing the goal. Non-agricultural uses of our natural resources result in damage
- Elect a better governor
- Elect a new president!!
- Elect better, smarter, more educated government officials that actually know what they are dealing with.
- Elect DEMOCRATS! Educate EVERYONE about being sustainable and environmentally conscious!
- Electing Government officials who will pass legislation to protect our environment.
- Electric Tractors w/ powerful batteries that serve as electricity storage when not in the field for farms and communities across the state
- Electric transportation by 2025 and clean rivers and lakes
- Electrified public transit (in rural areas, too!)
- Electrify school buses across the state. Help provide the infrastructure needed to keep buses moving during morning and afternoon runs.
- Elevate the efforts that the DNR and Soil / Water Districts are making with the watersheds the primary focus...let the DNR talk about the impact of mining, pipelines/lumbering. Put a policy in place before new economic projects & stick to it.
- Eliminate city ordinances that promote "green desert" lawns statewide. The standard should be native, edible and low nitrogen/carbon footprint/other environmental impact. Ban Tru Green and other lawn fertilizers that hurt our lakes and streams. and
- Eliminate ethanol subsidies to reduce the amount of corn being grown and tiling of fields. Encourage farmers to replant with trees and grasses to increase wildlife habitat.
- Eliminate property taxes on the most sensitive land IF the owner maintains the land in a way that enhances biodiversity, protects water quality, reinforces resiliency to climate change, etc.
- Eliminate single-use plastics.
- Eliminate the DNR.
- embrace the most aggressive global, national and state goals.
- Empower & hire the younger generations to do the work; they don't get bogged down by things like "not believing science".
- Empower PCA and MDA to bravely regulate water pollution.
- Empower youth to be agents of change to create positive changes in their communities
- Enable/enhance individual giving/investment in regenerative projects.
- Enact a carbon fee and dividend program.
- Enact a moratorium on new or expanding factory farms.
- Enc more kids and families outdoors so they are aware of consequences of our beautiful parks/green spaces as temperature sore from climate change
- Encourage and innovate sustainable farming through soil health practices state wide. Help all landowners keep the water on the land through conservation practices.
- Encourage businesses to let workers work at home whenever possible.
- Encourage citizens to the the responsibility on themselves to make a positive change.
- Encourage large corporations to replace their acres of grass with natives and trees.
- Encourage projects that realize multiple benefits across sectors (ie., habitat, water quality, etc)
- Encourage property developers to consider historic value.
- Encourage public awareness about what water quality is and the consequences of lowering quality.
- Encourage teaching of natural resources throughout the state funded schools.
- Encourage wind and solar energy.
- Encouraging regenerative ag practices will accomplish many of the above concerns at once.
- End any extractive practices that degrade the waters of Minnesota.
- End government.
- End the ethanol subsidy and stop allowing ag fields to be tiled.
- Ending the use of chemicals that are destroying birds & pollinators by outlawing their use!
- Energy storage
- Enforce current manure application regulations
- Enforce EPA Water Quality Standards without exception, no matter how much money the project brings to the state.
- Enforce fines for littering. Manage deer herd. Encourage cover crops and minimum tillage if agricultural land to reduce erosion and provide wildlife habitat. Support agriculture literacy so consumers understand farmers are the original environmental
- enforce Governor Dayton's buffer zone and don't allow any farming or farm animals within the buffer zone of any lake, river or stream
- Enforce right of ways on state highways.
- Enforce strict laws to prevent agricultural runoff into watersheds.
- Enforce the environmental regulations that we have and pass additional. I would like to think public education and motivation would work, but I think regulations fuel innovation by necessity.

- Engage all sizes of businesses in green solutions and development, and help them see the economic as well as social benefits.
- Engage and direct citizen scientists in the collection of data using various portals that already exist like eBird and iNaturalist.
- Engage kids in citizen science projects and hands-on experiential learning outdoors.
- Engage local citizens in cutting-edge research and restoration of MN's aquatic resources to boost MN's economy.
- Engage more volunteers or minimal pay persons young and old in all things concerning environment, outdoor sports
- Engage schools.
- engaging artists in activating communities—projects like Water Bar
- Enhanced markets for new crops—market development is not available.
- Enhanced policy-maker and public engagement to ensure that land use decisions (including forest management) are made using the best available science and are in the public's best interest rather than prioritizing forest industry special interests.
- enhancing our metro area's parks and open spaces. Good quality living environment is vital to our cities.
- Enlist the Fortune 500 corporations and their associated foundations to donate to the project for education of the public.
- Ensure that Minnesotans understand what a fantastic natural environment that they have and why they should care about current and future protection. Be cutting edge using the best public relations and educational strategies available nationwide.
- Ensure Tribes are properly consulted on projects at the beginning and that the consultation evolves into collaboration with the tribes.
- Environmental education as a curriculum in all MN schools
- Environmental education required in schools.
- Environmental solutions are better and more cost effective when handled the the free market sector, not government.
- Eradicate anti agricultural thinking.
- Establish a cabinet-level department devoted not just to pollution issues, but research and solutions related to the impact of climate change on Minnesota.
- Establish a program of "Environmental Observatories" at Community Colleges and High Schools throughout Minnesota with a goal of establishing a grassroots culture of environmental stewardship.
- Establish a robust Product Stewardship program that has a core mission of reducing waste of all types that are hazardous to the environment, which will require exceptional political will and effort.
- ethics, honor, humility, mindfulness-spiritual & better sex ed and access to free birth control
- Every citizen in Minnesota held to the same standard, regardless of where they live.
- Every time a house, mall, industrial building, parking lot, amusement park, subdivision or anything is built taking away from our natural MN ground we tax it. Therefore giving more resources, and they have to plant x amount of trees, or something.
- Everyone move to New York. Just kidding. Environmental impact tax on all oil and gas usage to be used for the pilots, demonstrations, etc.
- Everyone needs to drive less.
- Examine closely the uses of water, including farming, mining, forestry, and urban development to assure our natural water resources for the long term.
- Expand and promote the use of alternate sources of energy; solar, wind power and more fuel-efficient cars.
- expand the lawn to legumes program, put more money in it and long term management tools.
- Extend the deadline of the trust fund past the year 2025. This program has done so much, it would be a crime if it came to an end.
- Facilitate more human powered transportation options.
- Farmers needs to be made aware of their impacts on soil and water quality, told about alternatives to conventional practices and be engaged to make changes to improve negative impacts from chemical and sediment contamination, runoff, factor farms, etc.
- Farmers own/control a majority of productive land. Use them as a resource to protect the environment and not a target. Set up funds to pay them for regenerative practices on their land. Turn them into a solution.
- Farmers practices buffers, mowing practices ditches, l
- Fertilizer farmers needs to be les
- Financial incentives (probably tax breaks) for individuals and land owners to take action
- Financial incentives for landowners to plant field windbreaks; especially in prairie areas such as Renville County and similar ones. They would provide wildlife habitat, and reduce wind erosion. Also reduce snow drifting on to roads.
- Financial penalties for agriculture
- Find a balance.
- Find a better battery to store solar electricity, encourage people not utilities to own their own, in fact nationalize all utilities, monopolies are not supposed to be part of capitalism.
- find a better way to control fertilizer pollution.
- Find a way to exterminate some of these invasive species that have invaded lakes. Maybe employ more people in order to make sure everyone is cleaning their boats and emptying their live wells so the spread stops.

- Find alternatives to mining for those in need of jobs in the iron range. Keep our water quality in Minnesota protected for future generations.
- Find creative alternatives to expansion of hazardous mining and pipeline projects, protect lake superior watershed from risks of contamination (we can't undo that damage), invest in clean energy systems to combat the climate crisis.
- Find energy sources that do not add carbon to our environment.
- find more ways to get the landscape covered with plants all year round, esp. in vulnerable areas to protect water quality
- Finding revenue streams, like LCCMR and legacy
- Fine households that don't recycle. Ban plastics.
- Fire half the staff of the EPA and figure out how to clean up the invasive species in the lakes.
- Focus and invest in making rural (northern) MN the visionary green energy "hub" of the state. Localize the grid, improve internet access, use "smart" traffic signals, etc. Create rural jobs by focusing on green energy & future tech, helping tourism.
- Focus grants on proposals and projects that can scaled and replicated across the state for large scale benefit.
- Focus on funding water storage; removing and preventing installation of open tile inlets; promote no till and cover crops.
- Focus on one geographic area at a time and identify and implement all best practices and solutions needed to achieve environmental quality needs to demonstrate it can be done.
- Focus on renewables.
- Focus on the principal driver of all converging crises: Over population!
- Focus on the protection and restoration of manoomin; establish a model of state and tribal collaboration on the management and protection of this uniquely Minnesota resource.
- Focusing more on funding and implementing sustainable and cleaner energy sources
- Focusing more on public transportation and the reduction of carbon emissions
- Follow indigenous peoples traditions they lived here for centuries protecting the environment and Still do so.
- Follow the lead of what agriculture does.
- Follow the listen to the experts @ Nobel Conference at St Peters Gustavus this month.
- Following the model of the national parks, give every third or fourth grader a pass to a MN state park. But make it a family pass to encourage everyone, regardless of economic ability, to be able to experience the outdoors.
- Food forests everywhere. Permaculture required with every building permit. Replace the agriculture board if they do not support. Eliminate monoculture farming on all scales in the state. Become a center for other states to emulate.
- For every acre that is turned into urban sprawl add (hold onto) 2 acres of wildlife habitat. All wooded areas should be eradicated of invasive species and replanted with Minnesota natives.
- For example, install (or provide grants to install) more fast-charging stations across the state.
- Forbid copper nickel mining.
- Forbid new mining in Minnesota.
- Force government to make decisions based upon analysis that requires an accurate COST associated with pollution or habitat destruction.
- Forest bank model at watershed level; will address some water infiltration & storage issues while also dealing with changing climate and invasive species while providing sustainable management framework for private landowners to offset costs to State.
- Forever Green
- Fossil fuel free electricity in the whole state in x years (5? 10?)
- free mass transportation
- Free plants for individuals and property owners that contribute to a better environment
- Freshwater protected areas—go beyond the lakeshore to protect water quality and habitat in the lake because everything is connected. Watershed-level protection and management (see DNRs Cisco lakes project).
- Full-court press for watered land available to family gardens everywhere; educate even young children about why have an independent household food supply; teach everyone how to farm, cook, thrive on local produce.
- Fund an army to stop the Enbridge Line 3 project, if government doesn't do the right thing.
- Fund cap. Dnr wastes so much money.
- Fund climate change research and public awareness.
- Fund development of solar gardens, wind farms and other non fossil fuel power sources.
- Fund more basic research
- Fund non-profit residential environmental learning centers.
- Fund outreach, lobbies, and activists.
- Fund projects to make the Scientific and Natural Areas Program more sustainable while protected the rare resources it protects. \$500000 for accelerated public education programs that highlight SNAs and their value to our changing environment.
- Fund protection of our resources that are still in good shape. E.G. lakes that are still fishable and swimmable need protection of their watersheds through easements or other incentives. Watersheds that are still mostly natural are the key!
- FUND RENEWABLE ENERGY, carbon tax, bills to protect our water quality.



- Fund research independent (or not dependent) on large agricultural companies that does a fair literature review of practices in Europe and other industrialized nations; and does an honest analysis of our situation.
- Fund research project for Minnehaha Creek watershed district to study and find solutions to the increasing water volume problems in downstream communities—can be a standard for communities statewide.
- Fund small and large farm pilot projects demonstrating new crops and ways to protect water quality.
- Fund the creation and understanding of a sustainable local food system starting with our schools and Elder Care facilities.
- Fund UMN study in lower portion of Minnehaha Creek Watershed District to determine effects of large scale stormwater infiltration ponds on near surface water table, which has resulted in wide spread flooding and infrastructure problems.
- Funding for local trail gaps
- Funding for on-land water retention projects. These projects would improve agricultural drainage and water quality - flooding by reducing peak flow rates.
- funding for our parks to replace funds recently lost: more importantly, industry waste and human waste affecting our waters.
- Funding from the Legislature focused on doing all we can to ameliorate the effects of climate change.
- Funding more upland storage structures in ag areas
- Funnel more dedicated funding to the local County and WMO level similar to the AIS Prevention Aid Program. These funds inspire creativity to solve local problems in ways that work.
- Funnel more money into protection and education.
- Get a grip on our farm drainage and practices.
- Get citizens outside more. Nobody appreciates and values anything they are not familiar with.
- Get corporate and union money out of politics and put an end to industry capture of the regulatory agencies.
- get corporate lobbyists out of the capitol.
- Get corporate money out of politics.
- Get homeowners, businesses, churches and even gas stations, to plant native plants. Get to our nurseries that sell plants and get them to offer more selections and to market them instead of the crap they sell.
- get line 3 built! our ability to test and mfg new products are the best ever. Those old lines need to be replaced with new superior products.
- Get more money to maintain the areas through the legislature or small user fees.
- Get more of the state employees to leave their desk and get out and assess reality.
- Get more people involved and committed.
- Get more people outside so they they understand what's there that needs protecting. I lived in the Twin Cities before I really understood what we had within a hours drive and still don't really know.
- Get more youth involved, provide free educational sessions that are actually out in the woods instead of in classrooms.
- Get off fossil fuels.
- Get off the farmers back, like I stated earlier we are the best in the world. Look for the real source point pollutions.
- Get people to understand that we're lucky to live in such a pristine environment but through carelessness and thoughtlessness and ignorance we are ruining it.
- get researchers and practitioners (farmers, non-profit organizations, companies) working together to showcase solutions.
- Get rid of 2-cycle engines with buybacks, so they can be replaced with electric. Educate on the public on the damage done by engines—gas and especially diesel—by idling. This isn't just a global warming issue but a public health issue.
- Get rid of all the idiots.
- get rid of dnr.
- Get rid of Donald Trump.
- Get Rid of Invasives and Plant Native—Have people work to restore environment instead of destroying it with recreational activities, sports and pets—Educate people that they are by far the worst invasive species and need to work to restore nature.
- Get rid of plastic bags, increase renewable energy let's hit 100% renewable.
- Get rid of the dnr.
- Get rid of the farm bill.
- get rid of the radical left's ideas.
- Get rid of the white tail deer they are destroying our forests.
- Get someone who knows what their doing to run the DNR.
- Get the DNR to leave you clean up the rivers and stable the banks.
- Get the public involved. It is not government only job.
- Getting away from fossil fuels
- Getting citizens reconnected with nature by providing outdoor opportunities. This will help people focus on nature and not electronics.
- Getting people to understand the interrelatedness of the environment
- Getting rid of industrial agriculture as we know it and divesting from fossil fuels
- Give every resident of the state a 1-day pass to state parks, recreation areas and historical sites. At the locations have prominent volunteer sign-ups that's easy to use.
- Give everybody solar power.
- GIVE MONEY TO COMBAT CLIMATE CHANGE.

- Give people simple, actionable changes they can make in their lives to help reduce climate change.
- Give SWCDs taxing authority.
- Given the backlog of this type of work in public sector, it is imperative to involve the private sector in assisting to answer groundwater quality and quantity questions facing our State.
- Giving everyone, from urban to rural, to large inner city neighborhood, to suburbs, to small towns, to remote depleted mining districts the opportunity to fall in love with the nature that surrounds them. When we love something we protect it.
- Go 100% renewable energy by 2026. Stop the line 3 pipeline replacement and stop any copper/nickel mining.
- Go organic. Stop using chemicals that poison our water and soil.
- Go vegan. Animal agriculture is a huge contributor to destruction of the environment and natural resources.
- gov't subsidies for creating electric vehicle recharging stations
- Government incentives for sustainable farming instead of production
- Gradually change ag practices to improve soil and water quality as well as habitat for wildlife, invertebrates, pollinators, birds, and humans. None of us benefit from accumulating toxins of chemical monoculture ag.
- Grants for citizens to plant pollinator gardens and other natural habitats
- Greater restrictions on application of chemicals by cutting back on broadcast application techniques. Perhaps 5% of insects are harmful, yet we kill as many as 100%
- Green transit in rural MN—electric buses
- greenhouse gas emissions tax or cap and trade
- Ground water legislation; and a rights of nature amendment to the state constitution
- Grow energy in field crops. Ethanol, bio fuels.
- Grow food for people, not animals or cars.
- Have a family component in education, not just the children.
- Have a legislative mandate with funding included.
- Have a one day canoe rally in the Boundary waters canoe area and surrounding areas, this would hopefully attract public awareness to the area.
- Have a regulatory agency that is empowered to actually regulate agricultural practices as opposed to promoting agriculture. It is possible to maintain a strong agricultural economy in MN without degrading water quality.
- Have a resiliency officer for every town over 10,000 population.
- Have a State funded agency run an ad campaign advising TV & electronic media viewers the problems we face and things the State can do to alleviate and what the individual can do.
- Have all refuge haulers have closed tops so papers, etc. (like the phone book that almost hit my windshield) doesn't litter our streets and highways. Impose a very heavy fine on ALL polluters. Increase the awareness of recycling and composting.
- Have an "Anchor Event" every year, make it a monthly habit.
- Have more funding available for flood mitigation and water quality enhancement.
- Have other sectors of society take some ownership of their effects on the environment such as overfertilizing metro lawns and golf courses, forms of pollution, etc.
- Have State regulations be minimal to allow for Freedom in new tools, practices and solutions.
- Have the Governor put an end to mines next to the BWCA.
- Have the State reimburse and train farmers to plant nitrogen fixing cover crops along with corn and beans.
- Having them available now and for years to come for the next generations.
- Heavily regulate metro pollution, your metro beaches are all closed because of bacteria for Christ sake!
- Help farmers convert to regenerative practices.
- Help farmers do the things that help the environment not push them into things!
- Help farmers to take of their land as they want, not being told how.
- Help Minnesotans engage in the world around them. You will only protect what you love.
- Help private citizens by making seed for prairie plants affordable and provide help with burning these areas.
- Help transport people to outdoor locations, access is the number one issue (outside of time) for most people, a system to transport people (& Pets?) to the outdoors
- Highlight innovative pilot projects that are addressing the climate crisis so that these will inspire and get funding for similar projects that are in turn publicized and built upon.
- High-visibility demos of strategies to maintain productive, healthy native forests. Forests cover 1/3 of MN and are crucial to wildlife, biodiversity, and our economy. Wood is 50% atmospheric carbon and healthy forests are a climate solution.
- Hire farmers who actually love and take care of the land to teach the uneducated about the value of soil and livestock
- Hire Ironwood Foraging Co. to consult on a wild plant and mushroom curriculum for citizens to become foragers and foragers to become stewards of the lands and water.
- hold agricultural operations to the same standard as other industries.
- Hold agriculture to the same environmental expectations that we have for industry and municipalities.
- Hold metro lake cabins owners to same standards as rest of Minnesota. I know this one is a big ask. It is so hard to hold metro people accountable.
- Hold people responsible for mistreating the environment.

- Hold state agencies accountable, ensuring transparency and diminishing regulatory capture.
- Honor treaties to protect biodiversity.
- Host community education summits/conferences where people leave their community to make strategic plans and goals for their local communities.
- How do we best use the natural resources we have in MN. How do government policies stop the usage of natural resources.
- How will we manage excess water from climate change?
- Human sterilization.....(you asked for big and bold so there you go)!
- hydrologic restoration that maintains the drainage needed to produce food while at the same time slowing down the flow of water
- I am not that smart.
- I am very concerned about copper nickel mining near the BWCA and other waterways. The public needs to be educated, environmental studies need to be conducted and results respected by government officials.
- I believe that instead of adding more levees to protect small high value areas like towns and cities we should develop basins next to rivers that we divert water into during high water periods and use this water for irrigation and fish production.
- I believe that the majority of us farmers are doing what is right and good for the environment it is the one percent or less that is giving those of us that care and are trying a bad name we need to find a way to seek out those offenders and educate.
- I don't have a big, bold idea, but given the increase in Autism diagnoses in children, I would like to see more studying done on whether there is an environmental cause for this disability.
- I don't think I have any BIG, BOLD ideas. Applying some urgency, but tempered with common sense might help.
- I don't have any bold ideas for how to address this issue, but it's clear that we need to start dealing with the problems we've created now while we still have some chance of changing the situation.
- I don't have ONE. This threat is world-wide and existential. It's going to take major efforts (and money) from all levels of government.
- I have been working with a group of physicians to try and protect the BWCA and Lake Superior from sulfide mining.
- I live outside Ely and think for our area that we need to limit more the use of 4 wheelers and motorized boats. Stop developing shorelines for more cabins. Tourism drives our economy here but it also is hard on the area's environment.
- I teach classes for kids whenever I can. If the younger generation learns a different way to live, we all do better.
- I think it would be effective to develop a better and more effective strategy for out state MN. Surveys have been

done in western MN for example that shows a lot of support for clean energy but very few people know much.

- I think mn needs to be preemptive in replacing trees that we are going to lose to the ash bore Beatle.
- I think more education & resources are needed for effective recycling.
- I think permanent easement programs are very important. It would be great to have another usable option other than MN CREP. Prioritized and targeted, regardless of cropping history would be ideal.
- I think the state needs to make a large effort to shift towards renewable energy.
- I think the state should be more dedicated to protecting our water resources and promoting alternative energy sources. Never, never, never allow new oil pipelines or copper/sulfide mining companies to operate anywhere in Minnesota!!! DON'T RISK IT!
- I think we have plenty of protection. We need people to get out and enjoy the outdoors. They will spend money which helps the local economy.
- I think we need a Forest Climate Governor's Summit with commitments from the summit to move forward with rapid forest assessment, strategies for adapting the forest to our future climate and funding strategies to get it done.
- i think we need to get rid of all the chemicals poisoning our waters.
- I think we need to look at the metro area to see how that area is causing problems in the environment.
- I want every Minnesotan to think about alternative energies through solar, wind and renewable energy options. We can do this as Minnesotans without a national energy plan.
- I will be voting only for candidates who strongly support environmental causes, especially taking action to reverse climate change NOW. The research and solutions are in- now we need action on the part of our government.
- I wish I had one!
- I wish! Prevent prevent problems.
- I would have liked to pick two in the above questions. Education needs to be done conjunction with other projects.
- I would like to be part of a group that brings, farmers, hunters, industry, and citizens together to discuss and promote water quality and habitat.
- I would like to see support/assistance given to the small companies and individuals working with agricultural suppliers dealing with new and innovative ways to run their farms/businesses.
- I would like to see that recycling is clearly available all state parks and that there be a clear consistent message at the parks of what goes in the bins and why recycling is important.
- I'm an educator in a community college where there is a loud anti-climate change voice; frustrating, but I believe we just have to keep providing facts and truths. Perhaps they won't quiet down until they feel the effects.

- I'm concerned about what agriculture uses and how it affects air/water/earth.
- Identify and prioritize cross sector stacked benefits (i.e., solar farms, on lands that can provide habitat, in areas where drinking water sources are vulnerable).
- Identify habitat corridors for land protection and restoration.
- Identify targeted interventions for zebra mussels and other invasive species based on genomic information.
- Identify, determine risks of damage to the entire environment—whether it is agriculture, air, soil, water quality, climate change, wildlife habitat, visual desecration of landscape! Then create laws at all levels to protect the land!
- Identifying and establishing wildlife corridors in Minnesota to improve biodiversity, and therefore, resiliency.
- If people were more aware of renewable energy, they would understand it's cheaper and we can get away from fossil fuels, like the Enbridge pipeline that is so dangerous for our northern Minnesota environment, our precious waters.
- If the govt stopped being involved resources would be fine.
- If we don't have one, we need a state land ethic, that includes urban and rural communities, to foster awareness and action that everyone can participate in.
- If you work in the cities, make it mandatory to carpool.
- If your boat has fished in a lake with zebra mussels, then you can only fish lakes that has zebra mussels, period.
- Implement a carbon tax and return as proposed by Dr. James Hansen.
- Implement a carbon tax on producers and users of carbon-based fuels.
- Implement a cooperative partnership with private landowners to create and co-manage 9 square mile pheasant (wildlife) management zones.
- Implement a Montana style watercraft inspection program with regional inspections and massive fines for violations.
- Implement a statewide great outdoors day to get people from the city who might not be able to afford to enjoy the outdoors while learning about the environment.
- Implement additional help and resources to homeowners to make small changes to their property to protect our water.
- Implement Green New Deal!
- Implement local micro distribution systems for locally produced energy.
- Implement regulations that address what has been proven over and over again to be the new leading cause of water quality degradation, agricultural runoff! Stop turning the screws to cities that have already greatly reduced their pollutant loads.
- implement science based quantitative performance measures that require annual targets to be achieved by state and local agencies and utilities.
- Implement something similar to the Green New Deal legislation proposed in DC. Minnesota should lead on issues like climate change.
- Implement strategies that will improve our environments and last through generations.
- Implement stronger regulations on pollution and climate protection, since the EPA has lost it's way in this regard.
- Implement the social cost of carbon into policies and practices. Focus on a CLEAN and ecologically FUNCTIONING ENVIRONMENT as if our economy and lives depend on it—they do. (And, no copper sulfide mining, tar sands pipeline—create CLEAN jobs!!)
- Implementation of educational programs into our educational system starting with grade school classrooms.
- Implementing thoughtful conservation based grazing across MN
- Impose a significant tax on fossil fuels.
- Improve rules addressing environmental protections regarding sulfide ore mining. Eliminate gold exploration in northern MN as it is not a critical metal. The US is exporting gold so more mines are not needed. Make clean water a right for Minnesotans.
- improve state funding to implement cover crop and no-till practices.
- Improve water quality by improving stream banks.
- In all ways possible protect the BWCA and all Minnesota parks and forests.
- In general, more financial incentives for cover crops and bioreactors in targeted locations. There are a lot of groups doing this piecemeal, with limited resources.
- In schools have DNR give talks, bring in owls and other wild species to learn about them and learn to appreciate them.
- incentives for agricultural practices to improve soil health and reduce erosion
- Incentives for alternative energy development and use in agriculture, industry, homes and transportation.
- Incentives for electric vehicles, solar power
- Incentives for farmers to reduce acreage under cultivation, to reduce tiling fields and add land buffers to all streams and rivers
- INCENTIVES for land owners to preserve what they enjoy for future generations
- incentives to retire coal plants in favor of renewables and nuclear
- Incentivize denser development in urban areas.
- Incentivize projects to encourage participation, draw on experience/wisdom of all stakeholders, expand volunteer efforts, provide free educational programs to garner public support.

- Incentivize protection of contiguous habitat and decentivize parcelization. Prevent consumptive uses.
- Incentivize ramping down beef and dairy production (reducing GHG emissions and demand for mono) while ramping up re-forestation and other carbon sequestration.
- Incentivize regenerative farming practices and renewable energy projects through mandates and friendly legislation.
- Include charging stations/options in new construction, especially in the workplaces. Offer incentives for adding charging stations for workers.
- Include information everywhere in the media about how the health of our water and our environment is directly related to the health of people.
- Inclusive Financing or Pay-As-You Save to be state-wide tool for Minnesotans to lower their energy usage. Through ee and and distributed renewables, the “grid lab study” says MN can save \$1200/household/year.
- Incorporate ecology into our public school system so that everyone has an understanding of the ecosystem we share and the need to protect our ecosystem’s health.
- Incorporate more land-based conservation programs and promoting more diverse crop rotations.
- Increase access to the outdoors for underserved populations so they gain an appreciation!
- Increase crp payment to get marginal land out of production.
- Increase development of alternative sources of energy production (solar, wind).
- Increase education and collaboration to better manage water and other climate change issues locally, instead of pushing everything down stream. Native plantings to support water manage, pollinators, native wildlife and recreational opportunities.
- Increase efforts to link major public and private land holding with important habitats as corridors for wildlife movements and continuity of populations.
- increase emission standards on motorized vehicles.
- Increase env Ed in public schools.
- Increase environmental education around runoff, water quality, pollinators, and pesticides.
- Increase flow in lower Minnehaha Creek watershed district by removing obstructing public utilities and lowering creek bed.
- Increase funding for wildlife managers to manage the habitat.
- Increase funding/infrastructure to accommodate (or encourage) increased electric vehicle usage.
- increase insects by 25% in urban areas and 35% in agriculture lands.
- Increase investment in renewable energy.
- Increase light rail, electric express buses and more education on why we need to change our behaviors.
- Increase nuclear, not solar and wind.
- Increase PFA funding—funding new approaches to waste water systems—enforcement needs a look.
- Increase Public Land Acquisitions for Wetland Conservation.
- Increase rail transit across the state to limit cars on the road.
- increase regulations on all types of emissions.
- Increase renewable energy use to 50% by 2030.
- Increase renewable energy.
- Increase solar panels on roofs, solar powered windows.
- Increase the amount of prairie on the landscape.
- increase the percentage of funds that go into the fund from the state lottery.
- Increase the use of non fossil fuels.
- Increase water quality standards for cities over 25,000 population.
- Increase water storage, especially in highly degraded watersheds by restoring wetlands and wetland function on marginal lands. Where feasible, open land for public use
- increase young peoples participation in environmental projects, ie, planting trees, pulling invasives, bird banding, creating rain gardens, planting butterfly gardens in solar gardens, accompany professionals installing solar or car charging stations.
- Increased Bee and Butterfly habitat.
- Increased funding for public transit to make it usable for more people. Continue to increase use of solar and wind. Improve agriculture practices, such as reducing nitrogen use, expanding cover crops to retain topsoil.
- Increased implementation of Agricultural BMPs
- Increasing electric public transit
- Increasing public awareness of our natural resources using multimedia tools. Digital storytelling videos, signs, information campaigns, etc.
- Increasing soil health through the use of cover crops, composting, and improving soil biology.
- Increasing the amount of public lands used for carbon sequestration
- Index of non-profit, for profit, and government outdoor service providers—motorized and non-motorized - across the state; identify what they do, where they do it, and who they do it with
- Inform citizens—education.
- Inform me how we melted the glaciers that used to cover our state with our trucks!
- Inform the public—engage citizens.
- Initiate that selling land with reproducing noxious species is the same as selling reproducing noxious species.
- Innovation that would reduce car emissions. There must be affordable technology that will reduce emissions produced by cars.
- Insist that the state agencies follow existing laws protecting the environment and the citizens as a whole. Reject corrupt favors to commercial interests.



- inspire people to go local in their consumption—eat local, buy local, work local, connect locally—the more local we get in our consumption habits, the more conscious we become about the impact of our lifestyles.
- Install acoustic deterrents at more locks and dams along the Upper Mississippi to limit Asian carp movements.
- Install solar panels on every public building in Minnesota.
- Institute a state-level carbon tax.
- Institute the politically unpopular Carbon Tax.
- Institutionalize increased perennials in the landscape within the agricultural industrial complex. This idea is admittedly complex, but would address most, if not all, of the above concerns, the biggest of which must be climate change.
- Integrate environmental and natural resource education with basic scientific literacy lessons to educate the public on just how dire these issues are.
- Integrate environmental literacy throughout K-12 standardz.
- Integrated Water Management
- Integration of renewables: storage and beneficial electrification.
- Introduce and implement new growth management policies similar to Oregon.
- invasive species are reducing the value of habitat on the landscape. Disturbance such as grazing, haying, burning and logging are important to retain diversity and connectivity to parts of the landscape. “set aside” should not be “do not disturb”
- Invest heavily in dark sky light fixtures and public education in order to have a success story to show the public. Light pollution is easily managed, as soon as proper light fixtures are installed.
- Invest in a comprehensive plan to solve the huge problems of invasive species.
- Invest in busing for both the Twin Cities and other towns across MN.
- Invest in clean energy, mass transit, and EV charging stations.
- Invest in environment and recreation jobs in northern Minnesota to help wean that area from dependence on mining. We must protect Lake Superior, the BWCA and Area Rivers from the toxic impacts of copper nickel (sulfide) mining.
- Invest in green infrastructure and jobs!!!
- Invest in maximizing habitat quality on protected or publicly owned land, i.e. parks, WMA, conservation easements
- Invest in MN private woodlands.
- Invest in our environment.
- Invest in private forestland management: provide professional support to advise landowners, provide incentives for implementing active management > carbon credits, pollinator credits, cost share...
- Invest in public transport; protect more land, incentivize restoration of prairie grassland, changing to sustainable agricultural practices; urban forestry, roofs/buildings with greenery, reflective white, or solar panels.
- Invest in renewable energy and increase the DNR budget.
- Invest in transit statewide, making it easier and more affordable for families in urban areas to forgo driving. Stop increasing road and highway capacity in favor of maintaining or dismantling existing freeways. Put people first.
- Invest significant money in new ways of generating energy efficiently.
- Investigate foregoing new metals mining in Northern MN with underground data storage as Norway is doing. Big data, big money, big need for underground cool storage near water.
- Investing in more staffing/boots on the ground and paying them fairly. So often the limiting factor as to how much of an impact we can make boils down to having enough staff to give the initiatives the attention needed.
- investing more in pollinator-friendly urban/suburban spaces
- Investments in Natural Climate Solutions like large-scale tree planting efforts, development of local carbon markets for forest managers, and protecting existing forests. Also need proactive climate adaptation efforts, including green infrastructure
- Invite hunting and fishing groups and professionals into middle and high school level science biology and ecology classrooms to better explain the role of hunting and fishing to the success of the environment.
- Involve school students in all aspects.....science project programs.....school and other organizations outside of schools. Listen to the ideas of youth.
- It doesn't need to be big and bold... it's called science.
- It starts with kids! Give them areas to play in that they will want to protect for Their kids down the line!
- It was interesting to note that your 2 listening sessions are in the southern part of the state. Perhaps your big idea would be to bring a listening session to the Northern part of the state like Bemidji and invite all of the Northern SWCDs to attend.
- It's neither big nor bold, but apparently missing or incomplete: extensive data analysis of the watershed. All the watershed. All year.
- It's not new, but we must transition away from fossil fuels. Gas taxes and EV incentives would help.
- Jay Inslee's climate plan. Require all levels of govt to note how they are meeting IPCC goals, on the United Nations report.
- join California's automobile emissions standard.
- Jump start climate change adaptation: build solar arrays in the first 500 communities that apply. No match, just a guarantee to maintain the arrays.

- Jump start the infrastructure to electrify our transportation system.
- Just continue to limit emissions from all sources of pollution.
- just make people aware of the issues.
- Keep copper nickel mining out of Minnesota.
- Keep educating and engaging the next generation on how Minnesota's great environmental features all over the state can be utilized to relax and recreate and what can be done to protect and promote these natural areas.
- Keep environmental issues as non-political as possible in terms of policy development.
- Keep it green campaign....all canning corps, short season crops, and silage must incorporate a cover crop in their rotation. keep it green over winter.
- Keep looking at things to reduce our carbon footprint.
- keep motorized vehicles off park trails.
- Keep our human population down and stop encouraging mass immigration, including illegal immigration from outside the U.S.
- Keep politics from making true changes in environmental improvements based on science. Research is so important but useless when stupidity trumps it.
- Keep the BWCA free of mining run off.
- Keep the government out of it leave it to the people it affects.
- Keep toxic copper nickel mining and the proven polluters who run the operations out of our precious BWCAW.
- Keep using lottery money.
- Keeping more small farms active and grazing
- Kids are the future—get them involved with everything related to the environment; include it in schools.
- Kids hold the key to MN future, environment and Natural Resources. Dark Star Wildlife Center idea is too have 100 acres, Bringing the Kids and wild together. learning, exploring and discovering. Time to get the kids off electronics and back to wild
- Lake oversight teams, which has already begun
- Lakeshore owners should not fertilize their gardens it runs off into the lake.
- Land acquisition
- Land acquisition every year.
- Land Stewardship Project is already doing some great stuff....partner with them. Pay attention to not only ag but also forestry/wildlife because all farms have those.
- Landscape scale acquisitions and restorations
- Landscape sized project that integrates agriculture, water quality, wildlife habitat, economic development and outdoor recreation
- Large experiments that test new technologies or practices at scale prior to recommending widespread implementation.
- Large fines for littering, poaching, & jail time
- Large reduction in carbon emissions; ban toxic mining in BWCA watershed; re-invest in wilderness and wilderness-like hiking trails; focus on programs to introduce urban residents to outdoor recreation
- Large scale education of the impacts of climate change on all of Minnesota's natural environment.
- Larger state parks; more state parks; better funded state parks = better accessibility, programs and features to attract more people, to experience what MN has to offer.
- Larger tax incentives to protect land valuable to wildlife and imperiled plants.
- Large-scale program to foster shared values and collective action among native and new Minnesota residents alike to understand, mitigate and adapt to the climate crisis.
- large-scale reforestation with appropriate landowner compensation and growth of forest related employment
- Launch Pay as You Save inclusive energy financing across Minnesota to help rapidly ramp up energy efficiency and distributed energy for households and businesses to achieve 90% participation in deep energy retrofits.
- Lawns to legumes—urban pollinators
- Laws that protect Minnesota's water from drain tile runoff
- Lay out the facts demonstrating pollution and follow the money trail to end this pollution.
- LCCMR produces few truly innovative, paradigm-shifting outcomes because you keep supporting the same cast of players. Existing awardees should be precluded from continuous funding... not invited/favored
- Lead in energy and waste reduction on a national basis—become a model for the nation.
- Lead shot made illegal, crop dusting/spraying illegal near water
- Leadership [illegible]
- learn about infrastructure needs due to extreme weather and respond accordingly.
- Learning about nature by being within it. We curriculum should be a requirement in all schools.
- Leave all your liberal "progressive" bias out of the process. The biggest/boldest idea would be to restore trust that you'd look at how productive and ethical farmers are without the expectation that zero carbon is emitted and zero water.
- Leave farmers to tend to our natural resources and not the govt.
- Leave it to local government to take care of their areas.
- LEAVE THE FARMERS ALONE!
- Leave the farmers alone.
- Legalize recreational marijuana and use some of the revenue generated for an Environmental Defense Fund that could be used to track down and prosecute environmental scofflaws.
- Legislate restrictions ag chemicals applied to fields.
- Legislate to discourage single crop big farming.
- Legislate to keep parks for all and not to sell to the highest bidder. Teddy Roosevelt was a visionary.

- Legislation to prohibit idling while parked. Too many people are using smartphones while sitting in air conditioned cars.
- Legislative oversight
- Less bureaucracy, more boots on the ground so too speak. We don't need any new rules and regulations
- Less cars, use of fossil fuels
- Less government regulations on farmers, more privatization of government entities.
- Let farmers be farmers. Fix city pollution.
- Let farmers farm. They are not trying to ruin the planet. Duh.
- Let the farmer farm as they know how to better care for the environment then politicians in a huge city that produces far more emissions per year than a farm does. Politicians don't understand that farmers try what they can to prevent nutrient loss.
- Let the farmers who have been doing a great job for generations keep doing their job. A college piece of paper and clean shoes gives you no right to tell them how to do their jobs.
- Let the free market work
- Let the rules be reasonable and apply them to urban householders too
- LET US BE. DO NOT IMPOSE PROGRESSIVE IGNORANCE ON US.
- Let's do some scaled up pilot demonstrations on how agricultural practices can sequester carbon in the soil.
- Leverage State Forest and other public lands resources to maximize natural solutions to climate change (don't cut down the trees) and water quality (don't disturb wetlands).
- Lidar
- LiDAR statewide would help understand current forest and land cover conditions to help understand climate change (and MANY other) impacts
- Like the idea of a conservation Corp designed to address and educate on climate change and environmental problems like keeping mining out of environmentally sensitive area
- Limit agricultural practices that destroy habitat
- Limit corporate and municipality development
- Limit pesticide usage and replace it with something that won't get into the water. Like some type of physical barrier for plants instead of chemical.
- Limit the amount of nutrient-loaded runoff from agricultural land. Implement innovative strategies such as managed aquifer recharge, retention ponds, and controlled drain tile gates (<https://content.ces.ncsu.edu/controlled-drainage>).
- Limit the number of immigrants Minnesota sponsors to move here, and bring back the idea of zero population growth.
- Limit the use of chemical pesticides and fertilizers by farmers. It's contaminating our lakes and rivers and poisoning wildlife and ourselves in the process.
- Limiting pesticides and gas pollution.
- Link beneficial land uses to economic benefits—and acknowledge that environmental benefits cost money—and pay for them!
- Listen to farmers that are stewards of the environment instead of the uneducated suburbanites that blame farmers for everything and then pollute water with their chemicals and excessive fertilizers.
- Listen to the citizens and not do just what you want.
- Listen to the people that use the land, not just the “educated “ but the common man. We know a lot more then given credit for, why, because we love our environment and are not looking to gain notoriety.
- Listen to the scientists and experts.
- Local Sunday! Lets encourage people to buy local, organic, and pastured products. Its way better for the environment than meatless Monday.
- Look above.
- Look at ways we can improve water use and treatment to maximize use and minimize contaminants.
- Look elsewhere for solutions.
- Look in urban areas.
- Loons
- Loose parts playground
- Losing our loons
- Loved the buffer law, but did it get overturned? Educate/work with/regulate lawn care companies on the damage they are doing. Leaf blowers and overly manicured yards leave no habitat for any insects. Scary!
- Maintain government land.
- Maintain green spaces by using the money spent on capricious name changes to buy up small parcels of land amid encroaching development, e.g., Woodbury. Our wildlife is being displaced!!
- Maintain state parks and wild areas and protect them motorized recreation.
- Major investments in solar and wind power technology and power generation.
- Make a major move to “Regenerative Agricultural” practices. Soil carbon building, water retention. Show farmers how we can do this and fund the research and incentivize the practices while moving away from just corn/soybeans.
- Make baiting as part of hunting totally illegal. Get rid of the 30 day rule for stopping feeding before hunting season opens.
- Make big bold statements like “100% high school graduation for all in mn”. back up with science stats and say like farmers anecdotes on climate change. Work together to give message.



- Make city people pay farmers to take care of the land they think is so degraded. They don't mind paying more taxes it seems.
- Make Climate Change a item where all people think it real, then change environment for action in entire state.
- Make cover crops revenue neutral.
- Make Environmental education mandatory for middle school students.
- Make environmental Education part of state education standards AND teacher license requirements. Educate children about the issues AND foster a positive connection with the natural world.
- Make everyone pay for the water they use and pay to clean up what they discharge.
- Make fresh water a "state critical resource." Make policy based on best practices for clean water.
- Make general ecology mandatory coursework in high schools. Everyone needs to know the basics of how our environment supports all of our lives and how to take care of it.
- Make industries like mining and pipelines responsible for reliably protecting our watersheds for decades into the future and hold them to the EIA's done by independent agencies.
- Make it more expensive for the producers of the products that end up in our environment by having the companies buy a bond to cover future claims against them for possible pollution and health costs to citizens and consumers.
- Make it part of all MN schools curriculum.
- Make it part of the job of top leadership to authentically engage with tribes in collaborative projects.
- Make it required to recycle, and implement fines for not carrying out required recycling, similar to Seattle. Another option is to vote in an environmental governor position in each state to speak for preserving and conserving the environment.
- Make LOCAL environmental education a mandatory part of Minnesota's school systems so children learn about issues that pertain to their own lives and what they can do to make a difference, such as local river quality, CWD or rare & endangered species.
- Make Minnesota a Net-Zero state by 2050.
- Make smarter farming choices for the next generation.
- Make solar or water produced energy MUCH more available to all citizens.....Produce more clean energy related jobs with training.....be a leader in the country, not a follower
- Make stewardship and research on natural resource management and environmental sustainability required curriculum for all Minnesota high schoolers.
- Make sure climate change becomes part of the discussions in every secondary school curriculum.
- Make sure rules and laws are enforced.
- Make sure the public truly understands the DANGER to our waters from proposed copper nickel sulfide mining.
- Make the public aware of how corporations control the agenda for environmental damage—how "jobs creation" does not promise human survival; how health is affected by pollution, of waters and air, especially in vulnerable species: birds, fish, poor.
- make the republicans believe in science.
- Make using lead pellets illegal! So many wildlife birds and animals are poisoned & killed by them. Lead and lead pellets are poisonous for all why haven't they been prohibited from being used yet.
- Make wild rice more of a priority. It is an important ecological and cultural resource. Additional work can be done on management, monitoring, protection, restoration, research, education, collaboration, etc.
- Making humans environmentally neutral.
- Making Minnesota carbon neutral.
- Manage and care for the land the state already owns.
- Manage landscapes to maximize nitrogen return.
- Manage the state's energy resources to cut down on use of fossil fuel.
- Managing Minnehaha Watershed
- Mandate a % of new construction costs (or floor area) be dedicated to permanent conservation easements and/or restoration. Connect new building construction (which consumes habitat) to conservation easements (intact habitat or restoring habitat).
- mandate compostable plastics (utensils, straws), eliminate plastic bags, mandate solar on all new construction.
- Mandate cover crops and restore a certain percentage of wetlands in each county for stormwater runoff storage.
- mandate high recycling rates, charge appropriate fees for those who do not want to follow new rules, encourage material reuse.
- Mandate holding ponds for drain tile outflows.
- Mandate native plants (not "nativars") for all taxpayer-funded landscaping, including road ditches & gov't bldgs. Turn off all outdoor lights 12am-dawn. Ditto for business/apartment new construction (or remodeled landscape/exterior).
- Mandated invasive species training for anyone applying for a watercraft registration
- Mandatory classes in public school. Easing of restriction requiring people to have grass lawns.
- Mandatory environmental education in schools taught on what local problems are and how to solve.
- Mandatory improved soil health through the use of cover crops.
- Mandatory inspections and decontaminations for all watercraft and water related equipment moving between lakes within Minnesota
- Mandatory point-of-sale testing of private wells for drinking water

- Mandatory school classes (K-12) on the climate crises
- Mandatory watercraft inspections AND decontamination when leaving a known infested lake
- Man-made climate change is happening and is affecting all aspects of our natural resources, agriculture, etc which, in turn, impacts our economy, health, recreation, etc. Research & publish ways to ameliorate negative changes and get to policy makers.
- many protection and restoration projects that enhance water quality also enhance climate resiliency and carbon storage across the state
- Marketing campaign to be better stewards
- Mass demonstrations against water threats; putting forward political candidates that put healthy environment first
- Massive outreach and incentives for property owners to plant native plants
- Massive tree planting. Funds to cities, suburbs, municipalities for planting and stewardship, maintenance, trimming, and eventually, removal. Local govts. see trees as an EXPENSE, not an ASSET. Especially in the suburbs where cities do not build canopy
- Match California's EV/solar credits. Mandate, subsidize tighter buildings & ground source heat pumps. Mandate cover crops.
- Maybe not big and bold but wanting direct community participation in decision making and implementation, both of which increase buy in.
- Maybe not so bold but so very necessary is simply to talk about the climate crisis with everyone I know. However, it requires me to know about the topic and to know how to listen in order to have a positive effect.
- Maybe people would support a 1% take increase—put on ballot
- Measure, regulate, and enforce regulations for pollution sources.
- Middle and high school curriculum.
- Middle school informational class sessions
- Midwest low carbon fuels standard
- Mini camps for school age, introduce youth to wildlife especially inner city residents who might never have a chance to camp, fish or just hike in woods, and what it takes to manage nature.
- Minnesota has the potential to be a leader in understanding, adapting to, and mitigating the impacts of climate change on water resources. We should focus our attention and resources on climate change and water research and action.
- Minnesota should create incentives for measures, such as production plant improvements and farm practices, which would reduce the carbon impact of biofuels.
- Minnesota's environment and natural resources are valuable, unique, and worth protecting. Citizens should understand the importance of natural resources and have the chance to connect to and understand them.
- Minnesota's greatest resource, clean fresh water, is key to protect from toxins released from industry, agriculture, and mining. We need science that scrutinizes effects to our water and subsequently ecosystems, wildlife and human health.
- MN needs to work with farmers to teach them a better way to farm without pesticides or pollutants and be better stewards of the land. If we stop pollution at its source, it will help all areas of the environment. Leave natural areas, plant trees, etc.
- MN should implement Moist Soil Management to benefit waterfowl. Missouri had had great success using this strategy. Past studies said it may not work as well in MN due to colder temps, but with climate change it may be a good proactive approach.
- Mobilize every city to monitor conditions and propose and implement organizers and solutions at every local level.
- Moratorium on all pipelines, feed lots and mining.
- Moratorium on mining.
- More accountability for large corporations that demand heavy pollution for use of their products. Creating more viable support and opportunity for farmers to grow other crops and improve soil health, water quality.
- More acting and less talking on matters that where there are proven actions that will preserve and protect our environment & natural resources
- More awareness around chemical uses and the impacts on human health
- More big investment in land restoration and conservation of Minnesota's riparian areas, INCLUDING PARKS AND TRAILS! It cannot only be about protecting pristine natural areas. It has to go beyond to high quality natural areas.
- More charging stations for electric vehicles
- More climate/resilience education...for young & old!
- More co. To enforce the ordinances
- More emphasis on an individual's impact on natural resources.
- More events and education on public land showcasing how people use/enjoy the space (birding, hunting, hiking, kayaking, etc.)—I think we need greater visual awareness that public land is for more than just hunting.
- More farmers need to change old habits. Less tillage, less pesticide/herbicide. Better incentives to protect wildlife, water and air. Current practices cannot continue for long before we run into major issues.
- More grants or incentives for suburban and urban homeowners to invest in bee lawns, solar options, etc. Work to publicize how unique and priceless the BWCAW are.
- More incentives and opportunities for landowners to create habitat, both public and private!
- More incentives for farmers to remove unprofitable land from production and convert it back into native habitat to

benefit wildlife, pollinators, water quality, and flood management. Policy change will accelerate the adoption of many current programs

- More incentives for property owners (both individual and commercial, private and public) to reduce areas of chemical covered lawn grass, convert to native plantings.
- More leadership on reducing transportation emissions that cause climate change.
- More money for dnr.
- More outreach and targeting messaging in a variety of ways
- More park staff
- More perennials on the landscape/can be driven by market forces, especially for energy
- More promotion of land and water stewardship.
- More public land inspections
- more renewable options for private citizens - forcing energy companies to buy and renewable energy produced by individual consumers
- More research on wildlife habitat & water quality. Replace all lead fishing tackle with non-lead.
- More resources for organizing good, valid citizen science would collect needed data and increase education and awareness
- More solar heating rebates for homes
- More solar power installations in State Parks
- More state-funded and licensed nature preschools! Help nurture the next generation of environmental stewards!
- More trash barrels emptied often to encourage less garbage thrown on trails.
- More trees and plants in urban areas to capture carbon while also supporting wildlife such as birds and insects.
- More wild food eaters. An alternative food supply chain that requires wildlife, habitat, clean water and participation in outdoor lifestyles.
- More wind and solar.
- More wind energy and better recycling practices in Hennepin County
- More windmills
- Most of the state is too far removed from agriculture, thinking that food just comes from the store.
- Most of us farmers have been protecting our environment and our farmland for decades, learn from our ideas and practices.
- Move "protection" of environment and natural resources from DNR. The DNR receives too much funding from special interests, compromising their "protection" responsibility. Enact stronger legislation.
- Move aggressively toward lower carbon transportation and overall energy consumption.
- Move away from large corporate farms growing commodity crops and move toward sustainable and regenerative farming practices.
- Move forward with even greater support for the Forever Green Initiative.

- Move forward with the next steps using solar power: let's see it on roads, on pavement, on roofs. Let's be the solar state!
- Move most agriculture from annual tillage to perennial crops and pastured animals there by reducing erosion, pesticide and fertilizer use.
- Move people out of urban areas into rural areas.
- Moving the twin cities to climate friendly cities
- Much of what we call "forest" wasn't, instead grassland-savanna. Terms "oak forest, floodplain forest", etc. r erroneous, lead to bad projects. Grazing critical for prairie, If not grazed, is it restored? Restore AG land to prairie & graze & market!
- My biggest concern is the effect of emerging technologies on our resources such as wake boats and wheeled fish houses. We are behind on developing regulations to use those technologies so they don't harm our resources.
- n/a
- Name specifically who you are protecting Minnesota for. Currently, at best it's white middle or upper class Minnesotans who use our environment for recreation. At worse, it's the multinational companies who want to profit. Climate justice now.
- Nanotechnology
- National, statewide, regional, and local agencies acknowledging the existence of increased water problems and working together to solve climate change increased water issues.
- Natural Climate Solutions—MN can do this in our Forests and Agricultural areas
- Nature is smarter than you.
- need more regenerative agriculture
- Need new waste initiatives
- Neutralize nuclear waste and remove fossil fuels from our energy options. I'm sure there is a cancerous biological solution.
- No copper mines in boundary waters or affecting those waters
- no copper nickel mine in NE MN
- No fertilizer on golf courses, lawns in towns, and lake properties.
- No fracking, no pipelines, clean energy and a bigger and more useable transit grid
- No hard rock sulfide mining in the BWCA watershed
- No mining in the BWCA
- NO MINING. Lots of implementation of clean energy
- no more fossil fuels
- No more mining not any archaic agricultural practices that degrade our soil and water.
- No more residential development in marginal or rural areas. Keep rural areas intact. Urban areas should grow within strict boundaries. Protect remaining undeveloped shoreline with legislation, not just easements.
- No motorboats on lakes and No New Roads. Our impermeable roadways increase polluted water run off

and we already know that car dependency and urban sprawl vastly increase the carbon entering our atmosphere.

- No new projects that would contribute to a decline in water quality.
- No plastic
- No real bold move but we need to educate the public and make people more aware of potential problems.
- No stupid projects to line the pockets of trades for the sake of making them happy, putting public boat landings on small shallow lakes for example.
- Non motorized trails
- Not a new idea...the state needs to continue to purchase habitat to make more state forests, prairies, rivers, etc to permanently manage and protect habitat loss from urban and suburban sprawl and agriculture
- Not allow copper-nickel mines to operate in Minnesota.
- NOT allowing the Polymet Mine to go through, for a starter. Also opposing Line 3. Focus on renewables like wind & nuclear.
- Not an agricultural problem.
- Not building the Line 3 pipeline, making Xcel energy publicly owned, transitioning away from fossil fuels entirely.
- Not letting corporations exploit our people/resources and poison us.
- Not listed in Q2 is regulatory solutions such as new laws, standards, or rules that would further limit CO2 emissions in MN
- Not losing more critical habitat for wildlife in the state
- Not make it rural vs urban, bring everyone together to find a common goal
- Not my idea, but I would agree to sports betting in Minnesota. This would provide State income and NOT put an additional burden on taxpayers and have proceeds used by the State.
- Not my idea, but we need to halt new pipelines and get rid of many of the existing ones.
- Not necessarily big or bold or even a new idea. We need to educate citizens beginning at an early age on issues of importance related to Minnesota's resources, environment and recreation.
- Not something that LCCMR would address; but need more aggressive measures to prevent introductions (especially intentional introductions) of additional invasive species.
- Not sure at this time.
- Nothing
- Nothing big and bold, but keep new mines and oil pipelines out.
- Nothing new to add just emphasis on the last item in the list of possible things to do
- Nothing—it is Fine as is.
- Nucleate small, clean industry, services and/or green energy in job poor areas of the state to keep

environmentally devastating industries like sulfide or other mining, and huge factory farms from entrenching themselves in our state.

- Offer communities normally mining and farm dependent alternative income sources.
- Offer incentives for farmers to implement regenerative practices—such as cover crops—on farm ground.
- Offer trainings to small-to-mid-sized farmers in practices to regenerate soil health and protect water and waterways—and provide funds to those farmers for start-up.
- OLMSTED not OLMSTEAD. The time is far past to keep wasting tax dollars on researching and studying WHAT to do with regards to the various areas related to Minnesota's environment and natural resources and actually finally IMPLEMENT SOLUTIONS.
- On-bill financing fund set to the meter, all utilities are required to offer at no or low- interest to radically transform efficiency in housing stock, particularly low/fixed- income homes/renters. Declare water emergency and fund trips to show need.
- One area we could focus on is creating a mandatory school curriculum that would educate our children on the importance of protecting and supporting our unique environment.
- One On One Communication with Family and Friends
- One or two years of service in or post high school required by all in support of Minnesota 's natural environment. Instills the need to care for our home planet.
- Only allow organic farming practices.
- only spend funds for what the fund is intended by the trust fund.
- organic farming is a joke.
- Organize volunteers and schools to help out.
- Other counties
- Outlaw deer farms. They are the source of CWD in our state and we wouldn't be facing this issue if deer farms didn't exist. I am an avid deer hunting and want to see a future of deer hunting in MN.
- Outlaw fracking. Penalize farms who's manure or holding tanks/ponds runoff pollutes ground water and stands, creeks and rivers. Encourage people to look into beekeeping.
- Outlaw neonictinoids.
- Outlaw pesticides.
- outlaw RoundUp.
- outlaw RoundUp.
- Outlaw spraying Glyphosphate before harvest.
- Overhaul land use policy to ensure agriculture and urban development are executed in truly sustainable ways.
- Partner with citizen groups and lake associations to protect our lakes and forests from invasive species.
- Partner with private land owners to reach common goals. I've tried to do this through the DNR, but have been told no such programs exist.

- Pass environmental legislation.
- Pass legislature requiring mandatory deposits on plastic, glass and aluminum bottles, containers to promote reuse and reduce waste.
- pass stronger regulations.
- Pass the goals in H.F. 2836—the MN Green New Deal. We have less than 10 years to reduce our state's climate pollution by 45% according to the International Panel on Climate Change, and they aren't able to forecast all the tipping points.
- Pay back for cans, and bottles. Similar system to what Finland has
- Pay farmers enough so that they can make the sustainable choice.
- Pay farmers to implement conservation practices. There isn't enough money on farming to make some of these things feasible without help.
- Pay farmers to sequester carbon in their soils.
- Paying a carbon tax for certain activities, makes a person aware of their footprint. Improvements to ditch law so land owners pay for amount and quality of runoff into the ditch system; would pay less if BMPs to improve water quality and runoff
- People want to regulate others and control other people's lives but are unwilling to reduce the damage they do to the environment. They should lead by example not by controlling others. Need to do research on the damage to the environment that cities
- People/Companies need to be held responsible for their part in educating to prevent damage to the environment.
- Perennial grains and oilseeds
- Perform careful water quality monitoring on areas that could be potentially large polluters (Twin Metals Mines), and if traces of pollutants are found, react promptly and prevent operations.
- Permanent ban on mining in the watershed of the BWCAW and on new oil pipelines in state. Maximize solar power and electric car use by state employees and in state buildings.
- Permanently protect the Boundary Waters, including a buffer area around them.
- Permeable surfaces—focus on native species, especially pollinators
- Permits should be required for ALL water drainage projects in the state of Minnesota, especially ALL ag. drainage, to assess the exact amount of drainage being done, so impacts to water quantity are known and goals and action plans can be set.
- Phase out use of fossil fuels and nuclear power, including for transportation.
- Pilot solar to power water treatment systems in rural communities.
- Pinpoint the false beliefs that are blamed for the problems. Educate the people of the state with realistic facts.
- Place a moratorium on building mega livestock facilities. Encourage more sustainable practices.
- Place a moratorium on installation of any new drain tile. Drain tile could only be installed if a conservation easement on suitable ground on the same land, or elsewhere in the county, is secured.
- Place oversight and limits on the runaway political mess the DNR has become.
- planning at the small watershed scale to push for strategic restoration on our waterways rather than the shot gun approach. We need to work on small scales because this is the scale that restoration is being done at not at the 1W1P scale.
- Plant 10 million trees. Or a higher number—I'm not an expert, but having millions more trees would help restore ecosystems and cool down our communities.
- Plant co2 eating plants.
- Plant millions of trees everywhere in the state starting NOW.
- Plant millions of trees.
- Plant more trees on public lands, especially roads.
- Plant more trees.
- Plant more trees.
- plant trees for new climate conditions; promote wind and solar for residential and corporate; conserve water from aquifers—upgrade quality.
- Plant trees on private and public land; incentivize farmers to use cover crops and perennial living cover; demonstrate energy storage systems.
- Plastic bag ban in the cities of Minneapolis and St. Paul.
- Policies that support small farmers and use only native plant and tree species in all public and govt. owned spaces/
- Policy and laws that focus on positive long lasting environmental impacts
- Policy and regulation
- Pollinator habitat at local college
- Pollution control needs work, soil and water works well with people and helps educate and implement
- Precision agriculture (economic/environmental)
- Prepare a generic EIS on options for Minnesota for generation of electricity. This will educate, provide guidance and expedite clean energy deployment.
- Preserve and protect all public lands from agricultural and mining degradation. Aggressively increase public wetland holdings. Don't let the DNR manage any of our public lands but instead reallocate funding from the DNR to fund it.
- Preserve the boreal forest biome of northern Minnesota as part of the climate solution, and ban all new industrial activities and deforestation in the Rainy River Basin.
- Prevent copper-nickel mining from getting started. It has caused degradation wherever it has been done. There is NO safe way to do it. There is already enough copper in the world and it's eminently recyclable.



- Prevent local govt officials from imposing their aesthetic preferences for turf lawns on residents and labeling properties which contain “natural” (not manicured) landscapes as “nuisance properties.” Work on eliminating the “perfect lawn paradigm.”
- Prevent the President from rolling back protections by having state laws he can’t touch.
- Prioritize funding on projects with environmental services (carbon sequestration, water quality, recreation, habitat, renewable forest products) but do not require on-going maintenance \$\$ like prescribed burning or brush shearing that release carbon.
- Prioritize habitat connectivity through wildlife passages under and over roadways. Connectivity will be key going forward.
- Prioritize our lakes, rivers and forests over fossil fuel interests.
- Prioritize protecting treaty lands, wet lands, lakes, rivers, and streams over the profits of oil companies, mining companies, and agribusiness.
- Proactive
- Progressive fuel tax to drive motorists to EVs; plant a billion trees; buy more land for open space; sue the oil companies like the tobacco companies to get for these programs
- Prohibit any future frac sand mining in the Paleozoic Plateau area of southeastern Minnesota.
- Prohibit the use of dangerous pesticides and chemicals; and or fund conservation easements that allow organic farming practices that restore the soils and keep our waters clean.
- Prohibiting motor boats on lakes with threatened wildlife. For instance: for the first time, Turtle Lake near Marcell, MN, did not produce even one baby loon.
- promote better agricultural practices particularly ones that are regenerative not extractive.
- Promote cover crops, third crops, No tillage, and less chemicals.
- Promote leaving a piece of each land owners property—planted with prairie or natural plants. No matter the size, every little bit will make a difference.
- Promote less use of fossil fuels, credits for electric cars, solar and wind energy, copious recharging stations for vehicles, etc.
- Promote more diversity on the landscape.
- promote organic ag.
- Promote projects, people, and places that don't reinforce the false dichotomy of environment versus economy and reject those that do. Make Minnesota a leader in this arena.
- Promote tax incentives to make the state the greenest in America.
- Promote technology updates in business/home window manufacture to prevent bird collisions.
- Promote the idea that clean pure water is absolutely fundamental to everyone and everything and that anything short of that is unacceptable our water quality standards should be better and never degraded as many businesses and state agencies push!?
- Promote the things that are already being done that are working to protect the environment.
- Promoting alternative power, including nuclear; upping fuel efficiency standards on our vehicles; guarding our natural resources like water from contamination and exploitation, especially by multinationals
- Proper education on current agricultural practices.
- Protect and preserve undeveloped shoreland on lakes.
- Protect existing habitats.
- Protect high quality lakes before they become impaired.
- Protect lakes from harmful aquatic species and plants
- protect land for water!
- Protect LWCF funding and speak up against the POTUS’s proposed 2020 budget proposal.
- Protect more areas from development and things like pipelines.
- Protect much more wild habitat that is off limits to hunting and fishing.
- Protect our homes around Hiawatha golf course.
- Protect our waters from agricultural or mining waste to preserve water quality.
- Protect our waters! Protect the Boundary Waters. watershed, St Louis River, & Lake Superior. We cannot allow copper sulfide mining in any form.
- Protect soils from ag side.
- Protect the Boundary Waters by prohibiting additional destructive mining and construction of pipelines.
- Protect the Boundary Waters Canoe Area as a heritage resource that defines our state, makes us unique, and which deserves a higher level of care than is provided for now.
- Protect the BWCA and Lake Superior from Acid Mine Drainage that will be caused by sulfide mining.
- Protect the BWCA from mining pollution by holding the a agencies responsible for granting permits accountable.
- Protect trophy fish—get rid of the “one over [x] inches” part of limits, it encourages people to keep the largest fish in a body of water.
- Protect water at all costs.
- Protecting MN’s environment and natural resources starts with first understanding and studying the resources we have in the state. We should be funding research that helps us find the limits of our current resources and will help us predict change.
- protecting more water and lands
- Protecting the Lake Superior watershed from future mining
- Protection of our natural resources and public lands by NOT allowing corporations and companies to exploit

them. That should be the job of the environmental and natural resources fund.

- Provide easy to find information about how the money is spent.
- Provide free water quality testing to private well owners, especially in agricultural areas.
- Provide funding and assistance to private landowners to expand & improve habitat and protect watersheds.
- Provide general funding to Soil & Water districts who work directly with landowners to educate and implement best management practices to ensure our greatest resource, Minnesota waters—the land of 10,000 lakes, remains vibrant.
- Provide more \$\$\$ for CRP and other habitat creating practices.
- Provide State Park passes to volunteer participants in water way/park cleanups
- Provide strong incentives for farmers to adopt practices that sequester carbon in the soil.
- Provide tax credits to farmers willing to limit pesticide use and provide public waters protection.
- Providing an avenue to new approach to system (i.e. wastewater)
- Providing easy to access small grants (\$10k–\$15k) to community organizations for sustainability projects/organizing.
- Providing more accessible ways for businesses, homeowners and government facilities to generate renewable energy. Use more innovative technology to utilize solar on our roadways.
- Providing more opportunities for farmers to implement conservation practices. The biggest hiccup we face is financially. There are millions of projects to be done to protect water quality but they are expensive for landowners. They are costly project
- Public education on the blend of environmental concerns and recreation of same.
- Public lands need to be managed better.
- Public water quality reports posted on website per city wells, towers ect
- Publicize the impact on MN of climate change. I thought (wrongly) that our northern location and great lake would protect us.
- Publish how Powerball lottery funds are spent.
- Purchase development rights to entire watersheds to protect terrestrial and water quality. No research needed. Would protect wild rice, too. Let mining companies offset habitat loss by contributing to purchase.
- Purchase land for public use.
- purchase land.
- Purchase more jewels of nature as SNA's and step up on SNA maintenance.
- purchase school trust land so that conservation values have equal weight to economic return when determining land management.

- Purchase the important areas to connect critical habitat for challenged wildlife. Not a new idea, but very important.
- Purchasing land for habitat what would be permanent rather than temporary—permanent care, we will need more care, not less
- Push for more varied crops than corn & soy, regenerative farming and help for small farmers to sell produce to local schools, nursing homes.
- Push solar and wind energy development while modernizing the electrical grid.
- Push state lawmakers to enact legislation requiring 100% carbon-free electricity by 2040.
- Put as much land as possible into natural habitat protection, by conserving existing natural areas and reconstructing new ones.
- Put at least one windmill in the Metro area for every one windmill in southwestern Minnesota. And stop urban expansion into productive farmland areas.
- Put conservation on the ground at the local level through the local SWCDs. The SWCDs are a trusted resource for landowners and have a proven track record of success when working with private landowners to reduce erosion and increase habitat.
- Put conservation on the ground at the local level. Focus on private land conservation practices such as soil health, erosion control, wildlife habitat etc.
- put lots of impetus/funding/attention into the Agricultural Diversification Network and Steering Council.
- Put natural resources BEFORE economic development.
- Put people and planet ahead of corporate interests.
- Put plans into action. People lose interest and compassion when ideas are never put into action. Prove to the community that our wild spaces are critical to our everyday life.
- Put restrictions or limitations on water use.
- Put the BWCA in a land trust to prevent mining and pipelines there.
- Put together the cost of land/lawn management versus creating controlled pollinator areas.
- putting a price on carbon and returning the revenue to Minnesota households
- Putting vegetation on the landscape is THE one way to address each and every category above. We need to work on and with private lands and landowners to create innovative ways to add perennial vegetation in a way that makes sense for landowners
- QDM, Earn-A-Buck, Antler Point Restrictions, etc.
- Quarantine affected lakes until solutions for AIS developed.
- quit doing studies! start to implement best ideas from PF, NTF, DU, TU and other organizations without screwing farmers.

- Quit over taxing those who buy licenses. Promote safe use of our resources. Make bird watchers pay their fair share.
- Quit scaring our children that they are going to die in 5 years because of “climate change”!!..we lived through global warring, black holes, holes in the ozone etc We need people to be taught to clean up after themselves #1.Fossil fuels are not enemy.
- Quit taxing the hell out of us so I can actually DONATE money where I want, not give it to you to waste. Seriously MN lost 300 million and can’t account for it. Go find it and spend it on the parks.
- Quit the blame game and finger pointing. Educate educate educate.
- rain gardens for pollinators in city owned land/parks and roof tops.
- Raise the price of fuel so people drive more energy efficient vehicles, Stop retailers/store from—providing using plastic bags. Promote bird, butterfly, bees friendly yards—encourage people to make yards smaller by reducing grass and chemical.
- Rapid change to electric vehicles and switching from coal generation to renewables at lightning speed.
- Ration products that are creating climate change, e.g. gasoline, diesel fuel, electricity, cement, other high CO2 emitters.
- Re connect bodies of water to adjacent wet lands that have been cut off by roads.
- re install hydroelectric power at the Coon rapids dam.
- Read the book “Home Energy Diet” and publicize the Return On Investment ROI Chart, which shows how to prioritize the cost-effectiveness of various alternatives. Then pay city workers to make those improvements in all homes, start with poorest.
- Reclaim land near rivers that can be converted to wetlands and hold floodwater while being a carbon sink during non flood times.
- Recognize the changes agriculture is making to improve water quality and the environment in MN through changes in cropping practices, utilizing cover crop systems, rotational grazing systems.
- Re-collect lidar data statewide, but with very high density. This is bold and big because of the expense and the enormous return on investment capabilities.
- Recycle, reuse, preserve. Switch from Big-Ag to small farms, away from chemicals and back to crop rotation, etc. Connect greater Minnesota to the internet. Support, promote new jobs that preserve and protect our environment. No hunting for revenue.
- Redesign our cities so they are more densely developed and people drive less.
- Redpath Impoundment. Better spend dollars that benefit everyone.
- Reduce big industrial farming.
- Reduce car emissions. Reduce carbon footprints.
- Reduce deer population drastically.
- Reduce fossil fuel use & plant and keep our trees.
- Reduce lakeshore property taxes—high taxes lead to subdividing property and overdevelopment.
- Reduce light pollution and sky glow so that night pollinators can survive and thrive. Require wildlife friendly lighting with no blue spikes and shaded bulbs.
- Reduce mining in northern Minnesota, don’t allow the oil pipeline to cross the state, provide incentives for the solar industry, add a fee for all vehicles which aren’t either hybrid or solar powered, help ban plastic bags.
- Reduce regulations. Landowners are great stewards.
- reduce the amount of fertilizer that farmers use per acre.
- Reduce the deer herd substantially.
- Reduce the layers in government agencies so ideas and recommendations can be processed efficiently.
- Reduce the number of studies and provide State dollars for projects.
- Reduce use of pesticides and herbicides.
- Reduce vehicle miles travelled.
- Reform the mining permitting process to base it on science and protect regulators from electeds who are afraid of dark money.
- Refuse permission to build large animal confinement facilities and reward farming practices that conserve soil, timber growth, and protection of soil health.
- Regenerative agriculture
- Regenerative Agriculture
- regenerative agriculture-use of biochar and algae to make our soil a carbon sink to offset carbon in the atmosphere
- Regional strategic plan
- Regulate agriculture as we regulate other production facilities.
- Regulate electric coops.
- Regulate field drainage into bodies of water—my neighbor has a tile from his heavily sprayed farm field directly into the lake, and this is supposedly perfectly legal and not regulated. What about the effect of these pesticides on water quality?
- Regulate pollution in URBAN areas more. Stop focusing so much on Ag. They are NOT the main cause.
- Regulation on agricultural practices—on tiling, outlets and erosion.
- reimburse farmers for putting in non-will areas by streams.
- reinstall hydroelectric power at Coon Rapids and apply it to running the LRT.
- Remove algae and other harmful elements from our waterways with a natural or mechanical filtering system.
- Remove every diesel school bus in Minnesota from the road and replace it with an electric school bus.
- Remove Mining processes and tailings at least 100 miles away from the Twin Metals and Polymet mines near Ely, MN.
- Remove more dams and restore rivers!



- Remove plastic particles and micro particles from our waterways.
- Remove subsidies for crop insurance or some other solution to the increase in drain tiling. This is creating major flooding issues as well as losing habitat and affecting water table/quality.
- Remove zebra mussels from North Star Lake in Itasca county.
- Removing regulations
- Renovation of Farmstead Shelterbelts, because Emerald Ash Borer, age and Dutch Elm Disease
- Repeatedly hold up examples of best practices and honor those using best practices.
- Replace aging infrastructure—and not just at the homeowner's expense.
- Replace all school buses, transit buses and government vehicles with electric vehicles.
- Replace fossil fuel systems with renewable energy resource systems.
- re-plant all state highway "right-of-ways" with native habitat. can be harvested for biomass; provides habitat for animals, pollinators, rare things
- Replant one half million acres of forest out of the 15 million acres that have been deforested since about 1850. Focus on private land where farmers would profit from planting trees rather than row crops or grass.
- Replant one half million acres of forest out of the 15 million acres that have been deforested since about 1850. Focus on private land where farmers would profit from planting trees rather than row crops or grass.
- Require additional science and math courses in all levels of school.
- Require ADULTS and PARENTS to attend educational sessions on preventing pollution, proper recycling, waste reduction, not using pesticides fertilizers and concerns for the environment. They need to teach children how to save the earth from degradation
- Require agriculture to much more stringent point pollution requirements.
- require all new state buildings to be energy positive like the new proposed Winona State University's Center for Interdisciplinary Collaboration, Engagement, and Learning
- Require approved conservation plans and practices for farms to qualify for any public subsidy. Tax soil loss!
- Require drain tile outlets to discharge into spillways designed for erosion control rather than allowing outlets to dump directly into ditches/sloughs.
- Require environmental education training/eco-literacy foundations for high school graduates
- Require mass animal farms to clean the air and water they emit and fine noncompliance.
- Require McDonalds and other fast food eateries to recycle and compost.
- Require recycling, especially at public events.
- Require Soto's with better gas mileage. Reduce plastic packaging.
- Require the permits to have scientifically-based & independently determined SAFE & measured limits. Adaptive management is not acceptable nor is letting the company write its own ticket.
- Require township properties that are in close proximity to city services to CONNECT to them.
- Require treatment for drain tile discharges before discharge water is released to waterways to mitigate flooding and improve water quality.
- Require water quality treatment in drainage ditch systems, to improve water quality and reduce quantity/flow rate leaving these systems and entering the Public waters of Minnesota.
- required courses in environmental education at all public institutions of learning (from Kindergarten on up)
- Required School classes on conservation and environmental education
- Requirements for preventing fertilizer, manure runoff.
- Requiring new construction (ie: 5000 sq ft or greater) to have grid tied solar installed. This includes commercial, residential, agriculture, etc. everything within the borders of the state. An emphasis on schools would be very beneficial.
- Research any place that sulfide mining (tailings, etc.) have not eventually adversely affected the local environment and educate the public and advocate on the findings with the government.
- Research for bet practices.
- Research projects on cover crops.
- Restoration of ecosystems impacted by terrestrial invasive plants
- Restore instead of destroy the natural environment wherever possible. Sustainable harvesting from the environment.
- Restore native habitats, open them to public hunting and recreation.
- Restore perennial cover to ag land in row crops to increase soil carbon.
- Restore the Future Resources Fund as a supplement to the Trust Fund. Consider extending the source of funding from the cigarette tax to other sources (perhaps a small percentage tax on outdoor gear or pesticide/herbicide sales, for example).
- Restrict aircraft travel. Reduce air travel at all the state's airports, so only emergency personnel could fly out to rescue accident victims or get experts to crime scenes. Switch from people taking airplanes here to trains, electric cars, boats.
- Restrict fertilizer and chemical use within city limits and along water front property.
- Restrict urban sprawl by incentivizing developments with open space (small houses with little footprint, leaving acreage intact, go vertical—not horizontal).

- Retain the water where it falls. Stop sending it all downstream.
- reversing the farm fields tiling systems back to a more natural flow and include basins instead of running it directly to streams, rivers, and ditches.
- Review our conservation ideas from the 1970's. If it's brown flush it down, if it's yellow let it mellow.
- Reward farmers who use sustainable practices with cheaper loans and tax breaks. Penalized those who use excessive fertilizers, pesticides or herbicides
- reward people for actions that help planetary health—like biking, buying a fuel-efficient car, adding solar panels, reducing waste.
- Roads and need to improve trees and roads air.
- Rural areas need to take ownership of the water sheds.
- Sabotaging Line 3.
- Same as above
- same as above
- Save habitat—especially wetlands—through purchase, easements and education.
- Say “NO” to big corporations that only want to take our resources with no regard for the damage to the environment that they will create.
- Saying no to PolyMet mining and others like it.
- Scary, but is there any way to have only a few gals. of clean water for everyone for a few days
- see above statement.
- Sequester carbon in the growing stock of forests and harvested products by favoring the hard products sector of the timber industry through extended rotation of state forests and tax breaks to sawmills, furniture makers, cabinet makers, housing co etc.
- Set a VMT reduction goal that is cross-cutting over multiple agencies to make real progress on the largest and growing portion for climate-change causing emissions now that energy systems are becoming more renewable and efficient.
- set aside land and restore it for native plants.
- Set high goals for emission reduction.
- Set up demonstration farms with regenerative agriculture and pollinator habitat. Support farmers to transition.
- Share the space: Naturalized habitat for wildlife and people
- Shift funding to protect high quality water resources instead of restoring resources that will most likely never achieve water quality standards.
- Shift to a more collaborative governance model for natural resource management.
- Shift to using cropland to produce food rather than industrial inputs.
- Shoreline restorations and rain gardens to collect run off to improve water quality starting with the lake home owners, providing educational workshops and more funding available for them to implement these practices on their land.
- Show through pictures, drawings, personal stories how our environment and nature has changed in recent decades. These are likely more persuasive and a call to action for many people than data and graphs of seemingly abstract measures.
- shut down operations that pollute our waters or at least those that repeatedly do so.
- similar to the Chesapeake Bay initiatives, the state of MN could look at promoting and implementing sustainable farm practices, independent of current funding sources from agencies like NRCS. Fund cover crops, conservation tillage, precision ag.
- Single species problems are usually indications of bigger ecosystem issues. They need to be managed for, but it is critical to fold in the larger picture and to think long term in an adaptive manner as conditions change.
- Soil carbon payments (or at least research). 80% of a crop's outcome is determined by a small 20% of available resources, primarily water. Soil carbon enhances water retention and organic matter for crop resiliency in the face of a changing climate. And carbon sink to boot.
- Soil regeneration. Perennial agriculture. Create a transition plan away from producing so much gmo corn, soy, potatoes, beets... for fuel and grow/raise organic food.
- Solar and Wind Energy increase. Solar Panels on every home! research batteries—Biggest issue is storing energy.
- Solar on buildings
- Solar on buildings
- Solar panels
- solar panels for every public school, local hospital, and business in all towns and cities.
- Solar panels on every rooftop.
- Somehow we have to make individuals realize their daily choices impact the environment; Smoking, driving, failing to recycle, over-salting sidewalks, fertilizing lawns, lazy farming practices. Education is KEY.
- Something an individual could do, even though it might take one out of a comfort zone.
- Sorry, nothing comes to mind.
- Spend money to protect what we have rather than try to restore what has already been lost.
- Spend the money necessary to fix this.
- Spring Expo to educate and provide resources for Climate change, environment and energy concerns
- Stand up to “big ag” and get something done. Can't just keep talking about it.
- Start giving tax breaks for lake property owners who help with keeping the lake environment healthy.
- Start giving the FACTS. All of them. Not just information that supports your opinion or view.
- start in elementary school teaching concern for the environment; encourage students k-12 to brainstorm,

write, draw, speak out on how to protect the environment.

- Start with a state law that eliminates the use of ANY/ALL fertilizer on lake shore property! Exclude agricultural property to avoid the political battle w/farmers!
- Start with education in our schools.
- State agencies manage ecosystems, not manage for species based upon fishing and hunting licenses purchased.
- State funded program to train master “climate informers” to help residents take steps to save energy, water and air by informing them about home and car energy use.
- State Incentive Program (similar to federal CSP enhancement) to promote transition away from neonic-coated seeds.
- State mandates for actual protection, restoration & management of higher quality natural areas.
- State should have a bipartisan climate change office that is equally governed by Tribal Nations to address cl
- state-wide prohibition on vehicle idling which wastes energy, causes NOx & PM2.5 & benzene (diesel) and 19 lbs of CO2 for every gallon combusted. People idle vehicles in parks at schools in parking lots and on the street. I count 1 in 4 cars idling
- Statewide research and understanding on PFAS and statewide effort to regulate and mitigate.
- Statewide water testing
- Statewide, top-to-bottom and border-to-border model(s) of groundwater quality and vulnerability to geologic [arsenic, manganese, radium] and anthropogenic [nitrate] contaminants. Recent USGS modeling advances and MGS/DNR CGAs make it possible now.
- Stay steadfast on AIS.
- Step away from industrial farming (corn/soy bi-culture, and large-scale livestock operations).
- Stimulate job growth in northern MN (hopefully sustainable) so that toxic mining jobs are not so tempting
- Stop acquiring additional trails and put the money into fixing and maintaining the ones we already have.
- Stop adding poisons to our lands and waters.
- Stop additional lakeshore development and eliminate shoreline alteration.
- Stop all fossil fuel infrastructure development.
- Stop all new development on wild/ag/open land and invest instead in habitat for wild species. This also sequesters carbon, clusters development rather than sprawls it, which also reduces carbon emissions from commuting... the list of benefits goes on.
- Stop all new fossil fuel infrastructure (including Line 3), invest in renewables (wind and solar) and energy storage, and build an electric charging grid statewide. Incentivize people to reduce emissions through incentives/penalties.
- Stop all sulfite mining in vulnerable water sheds
- Stop allowing solar gardens that take away habitat

- Stop anti environmental lobbying and climate change denial
- Stop blaming everything on Farmers. Farmers are some of the biggest natural resource care takers out there. Why wouldn't they be? It's their livelihood.
- Stop blaming farmer.
- Stop building in the ever expanding flood plain. Currently there is a paved path being built along the MN River. Taking out valuable trees & leaving a paved path that will continually need repair.
- Stop building new pipe lines and new gas power plants. Increase solar/wind hybrid projects. Increase updating the power grid. Let's plant trees, millions and millions of them.
- Stop building stores over swamps and sloughs.
- stop burning fossil fuels and convert ASAP to renewables. No, not in 10–20 years, NOW. Provide incentives to do so. Require electric coops to support private solar and wind and stop fighting them. huge incentives for junking gas cars and going ele
- Stop burning fossil fuels and develop and implement alternative power sources to protect the environment.
- Stop copper nickel mining before it irreparably harms our water resources!
- Stop copper nickel mining in Northeast Minnesota.
- Stop copper sulfide mining from happening in MN. Enact a law to require a full analysis of health, econ., and other impacts. State agencies should be charged w/ determining if a proposal is good for MN rather than if it meets current reg. limits.
- Stop copper sulfide mining in Minnesota arrowhead region.
- Stop cutting down forests and destroying habits and use existing vacant lots for new building. Protect more land and make education of protecting our resources a part of a child's standard education.
- Stop cutting down trees for non-native grouse and destroying whitetail habitat, as well as fencing and grazing public lands with cattle/goats, rendering them useless afterward.
- STOP development in pristine, natural areas. Make clean fueled public transportation efficient, safe and more accessible.
- Stop draining wet lands.
- Stop ethanol subsidies, forcing farms to diversify.
- Stop fossil fuel infrastructure building, accelerate closing existing applications. Insist that raw material (mined, farmed, or harvested) not be allowed to be exported until “value is added” (processed or manufactured here!)
- Stop fossil fuel infrastructure.
- Stop funding the DNR with user fees. It encourages staff to allow too much game to be taken. Eliminate Muskies from Lake Vermilion, they are an invasive species, stocked to appease sport fishermen.

- Stop harvest of old growth trees by DNR and inform other forest owners of their climate mitigation role.
- Stop hitchhiking aquatics!
- Stop industrial practices known to be “accident” prone. Shut them down if they don’t want to modernize. Stop listening to people trying to make a quick buck and protect our state’s environment for generations to come.
- Stop letting cities dump “storm water runoff” into bodies of water or wetlands. This is a leading cause of fertilizers and chemicals entering our states water resources. Impose more penalties on cities that do this. Same with trash.
- Stop Line 3 and do not allow copper/nickel mining anyplace in the state.
- Stop Line 3 from being re-routed.
- Stop Line 3, Polymet and others cannot go forward. A stop to these is imperative to turn things around environmentally.
- STOP LINE 3, STOP PolyMet. Preserve our precious wilderness!!!
- Stop listening to people who have no idea what they are doing do.
- Stop metropolitan growth—move people outstate. The metro area is an environmental disaster.
- Stop mining.
- stop Minnesota population growth!! BUY MORE NATURAL AREAS to keep from any kind of human development
- Stop new pipelines and allowing carbon credits.
- Stop our elected representatives from shilling for corporate destroyers of our environment. the DNR should protect our land, water and air, not sell our resources in the name of capitalist greed.
- Stop permitting pollution altogether.
- Stop planting grass and mowing. Focus on water quality and keep nutrients local. Teach people chaos is natural, and requiring order in nature is toxic.
- Stop politicians from other states and executive offices from butting their nose in where it doesn’t belong.
- Stop Poly-met and Twin Metals mines as well the line 3 pipeline.
- Stop polynet mining from polluting are water and environment.
- stop pouring toxic chemicals on our earth why is it legal???? lawn services? agriculture? government does so... little most people have no idea how dangerous it is to have a “perfect” lawn when i have asked the he
- Stop PoyMet.
- Stop raiding this fund to pay for State Agencies and other State Government.
- Stop saying we can’t prevent Invasive Species.
- Stop selling public land, Forestry Service!
- Stop sulfide Ming until it can be done safely if ever.
- Stop sulfide mining and other threats to Minnesota’s water resources.
- Stop sulfide mining.
- Stop sulfide mining.
- Stop the chronic wasting kill off of whitetail deer! There has to be a better solution.
- stop the concrete crawl.
- Stop the DNR from wasting money on projects such as paved trails and start putting money into more testing, education, and remediation.
- Stop the mining companies that are currently trying to expand copper and other metals near the boundary waters area. There are no safe ways to mine near those pristine waters without damaging the land air and especially the water.
- Stop the mining proposals for the Ely and BWCA areas. I support SAVE THE BOUNDARY WATERS.
- Stop the pipelines and stop the lines.
- Stop the Polymet mining in the boundary waters
- Stop the Twin Metals and PolyMet mines.
- Stop the use of pesticides
- stop treating 16 year Swedish activists as if they are Messiahs
- Stop Twin metals
- Stop using pesticides on farmland
- Stop using salt during the winter
- Stop using salt on the roads
- Stop using the one size all approach to problem areas.
- Stop wasting resources
- Stop with the big, bold ideas! Environmentalists stopped Big Stone 2 for example. No coal, we want wind! Well, no new high capacity power lines, no wind turbines!
- Stop with the excessive regulation you put on farmers.
- Stop, for the most part, mowing parks. Lawn monocultures are potential goldmines for planting natural plants and more trees. Trees trees trees. More trees. Less concrete.
- Strategic conservation land buys for at risk and endangered species
- Streamline the mine permitting process in Minnesota. It should never take more than a decade to permit a new mine.
- Strengthen Minnesota’s environment and natural resources as strategy for climate resilience.
- Strengthening State’s Endangered Species Act
- Stricter limits on mining, development, and hunting of disappearing species
- Study Minnehaha Creek watershed in south Minneapolis including stormwater, groundwater and property.
- Studying the impacts of water retention systems & implement as feasible within river basins to promote water fowl habitats as well as address flood mitigation needs
- Subsidize cover crops and conservation croplands.
- Subsidize farmers that implement environment-saving practices.
- Subsidize organic farming.

- Subsidize/invest/research urban farming.
- Subsidize/monetarily reward agricultural land owners for implementing environmental Best Practices.
- Substantial, stable funding for SWCDs so they can do their job in conservation rather than the inefficient act of continuously chasing funding.
- Subwatershed groups of landowners that are provided a scientist to explore how changes in practices on land affect our watersheds. Then these same landowners are enact the changes and help form one other subwatershed group and mentor that group, etc
- Support an “Electric Road Trip” around MN to highlight people, businesses, and organizations that our taking positive action to protect our environment. Present MN as an environmental leader and example for the rest of the country and the world.
- Support conventional agriculture and producers of all sizes. Stop listening to the minority squeaky wheel and start trying to engage those of us who are the silent majority. Stop attacking conventional ag!
- Support coordination or State and Federal forest work to sustainably harvest wood while reducing risks of massive forest fires.
- Support economic growth while benefitting water quality by encouraging farmers to improve their soil health! Reducing rainfall runoff by improving infiltration into the soil will improve water quality.
- Support efforts to generate new revenue streams that do not rely on hunting and angling licenses and associated fees.
- support Gov. Walz’s policies.
- support land stewardship practices such as regenerative farming, renewable energy use, and water conservation.
- Support voluntary conservation through non-governmental incentive or cost share programs.
- Supporting small groups of farmers to exchange ideas
- Supporting statewide scientific and environmental literacy through regular outdoor experiences
- Sustainable Ag research CFANS research and working with sustainable organizations in Mn and Dakotas
- Sustainable farming practices
- Sustainable funding for MAISRC
- Swift action by Minnesota pollution control in response to complaints. Not allowing brides commissioners on boards who don’t respond properly
- Switching to a clean energy economy and zero carbon emissions within 10 years.
- Take a look at municipal waste discharges—salt is becoming a bigger concern.
- Take away funds from the MN DNR if you’re serious about cleaning messes up, quit dumping city lagoons in the water. I have pictures and a water test Hurricane Lake (cottonwood county mn) water pollution as well as air pollution. [Name redacted]
- Take away the power of the DNR. The mismanagement of our resources requires new ideas and new management that does not favor a metro mentality over outstate MN.
- Take Carbon out of the air and not releasing it.
- Take care of our natural resources and don’t ruin them for future generations...
- take care of what assets the state already owns!
- Take government out of it.
- Take government out of it. The least innovative people work in government.
- Take large swaths of farmland and restore and manage them as natural areas. Build corridors connecting natural areas.
- Take legislative action to address known environmental risks such as pesticides and other toxic chemicals.
- Take private land that is needed to rebuild natural habitats if necessary.
- Take the idea of managing MN’s forests as STABLE old growth forests to act as carbon sinks. There are enough models of this kind of forest management in existence that are funded in reproducible ways that we could effectively adopt.
- Tax breaks and grants to businesses for environmental improvements and growing organic crops
- Tax carbon emissions, use money to upgrade and enlarge state parks and other public lands.
- Tax credit to landowner who rents land
- Tax credits for planting and maintaining natives plants and trees.
- Tax credits for solar electric panels on all flat roofed buildings such as warehouses and office buildings to decrease reliance on fossil fuels. Install electric charging stations in all parking lots.
- Tax incentives for individuals and businesses that identify climate change innovations which are able to be implemented at a statewide level.
- Tax nutrient and sediment runoff from farms; tax excessive water yield from drain tiles; incentivize keeping water, soil, nutrients, and carbon on the land.
- Tax products whose packaging adds to the problem (magazines in plastic wrapping, plastic water bottles, etc) and give that money towards innovative environmental grants.
- Tax rebates for electric cars
- Taxing the crap out of corporations that are doing most of the polluting. And upping the minimum wage so that they can’t take it out on they employees that are just trying to make a living for their families.
- Teaching about the effects of what we are doing to our earth is mandatory. It should be part of the required curriculum in high school as well as in college and technical schools.
- Teaching government and non farmers how agriculture really works and that we aren’t the ones creating the environment problems.



- Teaching/presenting land and water stewardship to both suburban and ag-communities to generate a partnership for successful results, while avoiding “turf wars”
- Technologies for the removal of known and emerging contaminants
- Tell the truth and stop giving in to stupid lobbyists and cut wolf numbers.
- The continued study of septic systems all around the state. Closing old systems down and testing wells in same vicinity.
- The greatest concern is Climate Change, Research to find species more suitable for warming climates, Identify invasive species likely to naturally die off, boldly walk in the direction to change what we can to create habitat favorable to new climates.
- The green new deal. Educate the public about this. Support it with new legislation. Start implementing it. The sooner the better. No time to waste. Any delay means the chance of dealing with climate change is decreased and suffering increases.
- The GreenStep Cities program has helped over 100 MN cities to implement above-and-beyond (non-regulatory) sustainable actions that improve the quality of life for citizens and business in the community. Expand beyond cities to tribes, schools, etc.
- The idea that teaching children about the natural world around them isn’t “big” or “bold” but will have an impact on what they will love and protect as they get older. Teachers and environmental programs (including recess!) are being cut.
- The Minnesota ag laws must be revised to focus on the environment and remove or revise all the archaic laws from the 1800s that allow ag to ignore the environment.
- The people of the metro area (who have ruined their environment pavement, building, etc.) feel the need to try to govern the rural areas and blame them for everything... (runoff, tile, etc.). People need to improve their own stuff before pointing ☞
- The population bomb—and ways to address it—should be part of every discussion. To avoid food shortages and extinctions, we need to find ways to reduce the demand for all natural resources.
- The research has been done and the tools, practices, etc. are known, the collecting and analyzing of the data has been done, please contact Land Stewardship Project on the steps to take for changing agricultural practices.
- The road ditches are planted with wildflowers. I find bees, including bumblebees. Two weeks later, someone has mowed the ditches. This is true for rest areas, county roads, state roads, township roads. What are our pollinators supposed to eat?
- The solar on schools bill passed and expanded to other public buildings.
- The State needs to take a position where they stop supporting with legislation the activities that negatively influence the environment and support adapting to the new needs.
- The state should work with the Nature Conservancy in there effort to protect the headwaters of the Mississippi.
- Their needs to be a broad discussion on how to use ENTF, OHF and DNR funds (e.g. game and fish fund) to maximize how to assess, manage and deliver natural resource objectives.
- There are devastating impacts from various aspects of the changing climate that are here now with more on the horizon due the alterations in planetary forces and systems. We must do as much as we can as quickly as we can to limit co2 emissions.
- There are so many big, bold ideas out there yet a lot of people are not aware of them. Education with our youth can bring it home.
- There has to be a much more intense push towards implementing ways to fight invasive species in all phases of the outdoors. We need to keep Minnesota!
- There has to be some way to protect our aquifers. More and more water is being pumped out of them, and the state is headed towards a water crisis. The state needs to implement policies now in order to limit pumping by large agricultural operations.
- There is a lot of misunderstandings regarding the environmental impact that various industries have on the environment. Have a simple resource page with reliable and clear information as well as debunking falsehoods.
- There is huge and wide potential in improved agricultural practices through the adoption of methods (such as cover crops) that sequester carbon and enrich soil and ALSO improving water and air and reduce pesticides use.
- There is no problem.
- This is not a new or big idea, but we really need to change the way Minnesotans farm. By implementing regenerative practices we are able to address most of the other concerns that are on the list.
- This isn’t bold or new—we need to continue to work with our utility companies here in Minnesota to make sure we and they become 100% renewable energy at some point in the near future.
- this used to be prairie. it has been turned into a rainforest. it attracts more moisture and causes large problems with storms and rains. first step is to have the highways and railroads do away with all the shrub trash and trees they have let gro
- Three priorities. We’re making progress in electricity generation. Now we need to address ag and transportation. For transportation lets incentivize transition to ev starting w subsidies for ev buses for schools. Ag:start a non chem
- Tie funding to make sure we protect water.
- To be as educated on all levels, as to what we can all do to
- To be fully educated as to what we all can do to help together & actually & actively participate in solutions.

Also, to educate as much as possible on what can be done.

- To create a Communication Zip Line for Local, State and Federal Agencies in order to solidify efforts/missions/goals for the restoration/conservation/preservation of our Natural Resources.
- To dedicate more undeveloped and under developed land for wildlife preservation instead of for human development.
- To direct more resources towards putting more water quality and soil saving practices on MN farm land. Reduce administration cost of grant reporting so more projects get on the land.
- To help and understand all the Hard work farmers go through. Which bigger cities and politicians have forgotten for without them for without them there would be no food there would be no food.
- To not allow copper sulfide mining in a water rich environment
- To prevent Invasive species, we need to rethink how we recreate on the water. I'd like to see better ways to clean boats at public accesses, possibly washing systems automatically spraying your boat while going in and coming out of bodies of water.
- To protect Minnesota's unique and valuable natural treasures, we need collaboration and support from public and private entities and enacted bold legislation, regulation, and executive orders to reduce the greenhouse gas emissions.
- To require all new buildings and vehicles to be carbon neutral.
- To take a piece of land and create a town of the future with university and businesses of green friendly designs that would be state of the art so the world could start understand that this could be possibly! Eco friendly neighborhood
- Tons of education for consumers, tight regulation on industrial use and release of pollutants into water and air, Huge political commitment to changing our energy infrastructure
- Training citizens the be water advisors that would meet with Shoreland property owners to discuss ways to prevent runoff, how to plant Shoreland buffers and using rain gardens.
- Transforming agricultural systems to store carbon, provide diverse habitat, and reduce impacts on water quality and quantity
- Transition all agriculture towards sustainable methods—organic, permaculture—get rid of all pesticides, petro based fertilizers, mono-crops.
- Transition all gmo corn and soy bean production land to organic vegetable production for food, not fuel. Outlaw roundup.
- Transition away from fossil fuels in every way possible.

- Transition our electricity supply to fully renewable energy, and then electrify everything that currently relies on other power sources (transportation, heating, construction/industry, etc.).
- Transition to zero waste.
- Transition Transportation to green energy.
- Treat climate change as the crisis it is and use Legacy to accelerate the transition in every way possible to a climate-friendly economy! WRT Impaired Waters, rethink agriculture & every other way we use land to cut our 40% impairment rate to zero!
- True measure of water quality affected by metro areas and shoreline inhabitants
- Turn to the state's Anishinaabe people for solutions, in particular the ways they view the relationships of humans and non-human beings (the non native folks call these natural resources.)
- Two ideas! Emerging issues fund & Small grants fund (\$50K and lower)
- Understand more people more problems.
- Understand that there is value to keeping soils covered.
- Understanding there is a value to cover crops
- Underwrite buffer strips. Farmers and other property owners will be more willing to do it or start it and maintain it.
- Undo the mindset of endlessly mowing yards, roadsides, parks, commercial landscapes, etc.
- Unfortunately it would be to undo the industry capture of MPCA and the DNR and return them to functional protecting our environment and natural resources
- Upgrade boat ramps with signage, tools, and pull off areas for cleaning.
- Urban Forests
- Urban reforestation; require developments to have trees
- use all renewable energy by 2050.
- Use and all means to not only protect the environment, but educate the public on the need.
- Use common practices.
- Use common sense & real science/data rather than emotion & politics when making decisions. The current hype with climate change is just that. & the MDNR should be managing wolves.  
[https://www.youtube.com/watch?time\\_continue=36&v=EhW-B2udhQw](https://www.youtube.com/watch?time_continue=36&v=EhW-B2udhQw)
- Use common sense—treat everyone the same regardless of location!!
- Use current computer technology to settle problems.
- Use data and interpret it rationally rather than blind emotion.
- Use ENTRF \$ and eventually general fund dollars to incentivize innovative soil conservation and improvement projects, then programs.
- Use known information on agricultural practices that are more respectful of our water, soil, air and other limited and critical resources. We have the research and

knowledge to change how we use the land, but need local people to help us and others.

- Use LCCMR to invest in think tank to encourage legislature to pass environmental laws with teeth. Regulatory framework was developed in 1970s and doesn't work for today's pollution crises.
- Use more Ethanol and biodiesel.
- Use more solar and wind power.
- Use PSAs to educate.
- Use public spaces—especially parks—to demonstrate and set the example for best practice on sustainable natural resource management.
- Use the amazing research, education, and technology resources we have here to develop an aggressive response to climate change, get everyone (regardless of political leanings) on board with how climate change is impacting MN, & be a national leader!
- Use the existing historical MN DNR data on lake levels in the Minnehaha Creek Watershed District to address rising creek and lake levels in south Minneapolis, Mn.
- Use volunteers to be at the state parks to do education on an area of concern for that park: invasive plants, earth worms, erosion.
- Using Alternatives
- Using education as a tool for not just children but also adults. So that as the knowledge increases so does our awareness of the current and changing climate
- using innovative practices such as floating islands with plants which take up nitrogen in lakes suffering from algal blooms (this has been done or is in testing)
- using nature and land to sequester carbon and prepare Minnesota for a changing climate
- Using the equity lens to improve the environment in communities affected by tremendous health disparities.
- Using the impact on climate change as the primary factor in determining priority expenditures for in the DNR and Department of Agriculture.
- vertical forests or agriculture. Think high rise building but for plants
- Vote Republicans out of office.
- Waste—infrastructure replacement
- Watch and listen to the farmers that are trying to maintain and improve their quality of land and water so it can be handed down to the next generation.
- Water cleanliness
- Water is important! Stop farmers from tiling and wicking it away as fast as possible.
- Water quality education campaign targeted to all ages available where they are, at lakes, aquatic shops... with small steps they can take to help improve water quality. Perhaps signage about watersheds and runoff/surface water pollution
- Water recharge
- We already have the knowledge to combat this problem, so we need our leaders to take charge and make sure all

of us have solar, wind, or geothermal power. We need to subsidize these industries instead of the oil and gas industry. Push for EV cars.

- We are currently doing very good.
- We can & must do more for all living beings. Stop eating animals. Start by telling the truth about our biggest environmental disaster & what it is (and will) cost us all by not changing our ways. Educate, educate, educate.
- We don't have time for endless research, education, data collection and analysis. It is time to take ACTION!! Build solar. Promote safe agriculture. Ban chems that kill bees. Replace plastics. Raise tax on gasoline.
- We grow too much corn, reflected in the current price. Let's revisit CRP and other set aside programs, giving wildlife a place to roost and humans a place to escape the urban grind.
- We have enough birders and photographers that love the outside. Have us help in certain areas where we live.
- We have not been especially effective at reducing nonpoint source pollution, either in cities or farms, in part because we have focused on structural practices, rather than source reduction—preventing pollution upstream.
- We HAVE to create awareness and understanding with all citizens of the necessity for each person to take responsibility and promote the right behaviors with others to protect our waters and wild places. Awareness, Understanding and Motivation to act!
- We have to realize that all out production on all landforms is very damaging to the environment and then develop workable programs that will be acceptable. Some laws on the books have to be enforced to make good strides.
- we know solutions, we have the money, we have the people, we just need to connect the dots and make it happen.
- We know what the problem is. We need policies and funding to take land out of production in a way that is economically acceptable.
- We must address leaching of chemicals and metals into our ground waters. So much life depends on it.
- We must get farmers on board with using better environmental practices.
- We need a blend of smart new technology and age-old land wisdom to improve soil health, restore natural habitat, and reduce the use of chemicals and practices that pollute and keep our farmers locked in an economic cycle that benefits only the few.
- We need a sea change in agricultural practices—no more bare dirt, no more tillage. It is time to make our soil whole again.
- We need a totally comprehensive plan that covers everything.
- We need bigger regional parks.
- We need more research to be sure that copper mining will not destroy the boundary waters.



- We need more support for land acquisition in southern MN—we have coluneers and tracts—became red tape area, low priority, so losing momentum; southeast MN needs to be a priority
- We need people to put their money where their mouth is by supporting programs and products that make a positive environmental impact.
- We need the basics: Support renewables in every possible way; divest from fossil fuels; stop issuing permits for new fossil fuel infrastructure, such as Line 3
- We need to be generating as much renewable energy as possible. Would also like to see us join California and other states re: MPG standards.
- We need to change HOW we live and HOW companies do business.
- We need to change the culture of outdoor enthusiasts through community based social marketing.
- We need to continue development of perennial crops that are profitable and marketable in our State. Our landowners and operators want to do the environmentally responsible thing but sometimes that isn't financially feasible.
- We need to develop ways to analyze groundwater for contaminants and sources of contaminants (agriculture, source point, surface water) to better assess groundwater quality as the majority of Minnesota utilizes groundwater for drinking.
- We need to educate communities on the consequences of climate change and the ripple effects it has on humanity. Renewables are key! Stop Enbridge from buying out politicians and ripping through our protected wetlands.
- We need to electrify our cars and heating systems and put in multiple charging systems.
- We need to encourage people to be more environmentally aware. Encourage the private sector to develop better environmental practices. People are more willing to go along if they feel they aren't being forced to do something.
- We need to get good information out to everyone, such as the new Audubon information on bird demise, and Lee Frelich's findings on tree changes in NE MN. Everything has to be personal, such as changes in the fish one will catch or not catch.
- We need to preserve more lands before they disappear forever.
- We need to promote good farming practices. Take measures to protect our ground water.
- We need to provide adequate funding for the federal, state, county, and local entities so there are resources to protect our environment and natural resources. All the areas listed in the above questions are important.
- Week of camping for each 5th grader—look at one gen model
- Wetlands for Water Quality and Wildlife; this would achieve many water quality goals by slowing the flow while also providing important habitat.
- What decisions are you going to use this survey for? What does race have to do with the environment? You realize that many respondents will be from an urban environment who have never been to, or are not concerned with the rural parts of the state?
- What percent of the land in Minnesota is state or federal land? How is it being taken care of? I also am pretty proud of what farmers have done to help improve the environment in recent years. We aren't perfect, but we are doing better. Promote that.
- What ways to insensitive lake shore owners to maintain or improve the natural resources. Tax benefit or joint programs.
- What's at risk
- When focusing on permitting hard rock mining any proposal should include a public health impact statement.
- When working with farmers on CCR land encourage planting of pollinator flowers etc. Think about supporting biochar production and implementation.
- When you enter rural towns across MN there will be a community energy station that puts \$\$ back into local economy and lowers community carbon footprint.
- While not a new idea, funding maintenance of restoration sites is critically important to the long-term success of habitat management in Minnesota.
- While there is no magic bullet to mitigate and adapt to climate change, the single most effective strategy is to implement a statewide fee and dividend program on carbon.
- Why not do like the Feds with the "contribute to the election" button for MN tax payers???? It is an opportunity to educate too.
- Wild areas around farms to prevent pesticide run-off into rivers and streams.
- Wildlife habitat and management in collaboration with hikers, wildlife watchers and photographers, wildlife scientists and advocates; with less of the old focus on sport and the taking of wildlife.
- Wind turbines small enough for yards or to be mounted on homes and buildings
- Wish I had a big, bold idea. Sorry.
- Wish I knew! Education and rewards for doing the right thing
- With climate change and current flooding problems in lower watersheds, research the causes and best practices for solutions on a comprehensive basis that crosses jurisdictional lines. The Minnehaha Creek Watershed would be a good project to study.
- With proposed industrial projects that will affect human health (ex: the Northmet project), it will be important to study the effects of human industrial activities on acid

mine drainage and mercury levels, as these will affect human health.

- Without strong massive enforcement, little will be gained with more research, statutes, ruling making and regulations.
- Work across mining and environmental communities to get water quality standards set and enforced; use the biologic systems that have been found to get sulfate out of taconite-mining-impaired waters
- Work more closely with the tribes.
- Work on Regen Ag
- Work to create a statewide atv/utv trail system. MN is home to two of the largest manufacturers of these recreational vehicles yet we have no established trail system to ride them on.
- Work to make all people understand that the environment is not a political issue.
- Work toward eliminating use of fossil fuels by mandating that companies/cities/industries use carbon neutral energy sources (solar, wind, etc) and continuing to improve emissions standards in the meantime.
- Work towards zero waste.
- Work with agriculture rather than being decisive. educate the public about the stewardship of farmers
- Work with communities along MN's rivers to create land use strategies that protect water quality while educating on water Q practices and connecting the communities to their water assets.
- Work with existing youth organizations!! MN 4-H Youth Development, for example. Partnering with youth organizations to help educate the next generation (and the current one!) will protect the future of our environment.

- Work with farmers instead of against them to come up with solutions to clean energy, clean water, good soil management practices.
- Work WITH farmers to create incentives to implement best practices.
- Work with farmers to identify and implement innovative environmental solutions that help their bottom line AND the environment. Such solutions do exist!
- Work with local conservation organizations and use their knowledge of local opportunities.
- Work with local policy makers, regulators, landowners, developers, realtors to understand impacts of their land use decisions and help them to practice better land use for water quality.
- working on invasives
- Working with Minnesota farmers to be sustainable and use habitat as a solution to delivering sustainable foods and products to market
- Yearly vehicle inspections to ensure vehicle emissions are being addressed correctly.
- You are doing it .try to find one yjonf and work on it.
- You need to reach those people who don't pay much attention to regulations or best practices. Go to where they gather: festivals, stores, public events.
- Young people
- Youth are very passionate and committed to addressing climate change—let's involve schools (esp high school and college), youth orgs, etc in creating and implementing solutions
- Youth service for 1 year in high school—working on regenerative projects
- Zebra mussel eradication method. Education, inspection only slow zebra mussel spread, there is no end in sight without eradication method.
- Zero waste purchasing as a consumer.

# Stakeholder Engagement Results

## Water (Increased Knowledge)

### Goal:

Minnesota's water resources are better managed for both water quantity and quality, as a result of better understanding of the connections between surface water and groundwater.

### Strategies:

- Research and demonstrate innovative, market-based policies and partnerships that solve local water issues in both forest-based regions and agriculture-based regions.
- Educate local officials on how to improve and protect water resources, including model projects and policies that can be emulated at all scales.
- Research, demonstrations, incentives, and policies to hold back water and increase evapotranspiration opportunities to prevent water pollution.
- Increase understanding of weather and future weather/climate patterns, and how these align with anticipated water needs across Minnesota.
- Research on the impacts of nitrogen and effective agriculture and urban practices to improve surface and groundwater quality, as well as manage water quantity and mitigate the impacts of agriculture drainage and urban stormwater runoff.

## Water (Improved Outcomes)

### Goal:

Minnesota is prepared for water volume changes, both excesses and shortages, and extreme runoff events resulting from climate and land use changes.

### Strategies:

- Research and demonstrate market-based policies that are economically viable and help pay for the land use and conservation practices needed to achieve water resources protection, especially in agricultural areas.

# Strategic Planning Workshop\*

## Water (Increased Knowledge & Improved Outcomes)

### Goal:

Minnesota's water resources are better managed for both water quality and quantity. (7)

### Strategies:

- Research and demonstrate innovative, market-based policies and partnerships that solve local water issues in both forest-based regions and agriculture-based regions. - 7

- Research and demonstrate market-based policies that are economically viable and help pay for the land use and conservation practices needed to achieve water resources protection, especially in agricultural areas. - 7

- Research effective water use scenarios to identify improvements needed to ensure the state's water resiliency and sustainability (including modeling water scenarios, managing water on land, optimizing use to prevent overuse of groundwater, improve water reuse and waste water management).
- Identify and promote workable, holistic, multi-benefit, diverse, and viable (economically and socially, etc.) solutions for storing more water on the land, through both engineered and natural solutions targeted at critical areas.
- Support cities, counties, and watershed districts with developing climate resiliency and adaptation plans, and processes for funding and implementing those plans.
- Compile existing research, identify gaps, and develop research to quantify land use and land cover changes, in order to identify restoration and protection needs to achieve sustainable water systems.

- Research effective water use scenarios to identify improvements needed to ensure the state's water resiliency and sustainability (including modeling water scenarios, managing water on land, optimizing use to prevent overuse of groundwater, improve water reuse and waste water management). - 5

- Support cities, counties, and watershed districts with developing climate resiliency and adaptation plans, and processes for funding and implementing those plans. - 3

- Fund pre-design and design of improved wastewater infrastructure for small communities - 8
- Fund waste water improvement projects and fund a rural septic assistance program to install the latest technology- 7
- Fund research on pesticide impacts & demonstrate projects for better alternatives- 5
- Measure drinking water contaminants in surface water used for drinking water- 4
- Prevent contamination of surface and groundwater.
- Prototype for wastewater treatment that includes energy efficiency-10
- Wastewater facility upgrades- 7

## Habitat, Fish, and Wildlife

### Goal:

Minnesota has healthy and diverse wildlife and plant populations that sustain and enhance the state's environment, economy, and quality of life.

### Strategies:

- Monitor the biologic and environmental health of systems through high quality research, to support management of lands and waters.
- Research key issues and develop strategies to combat them (ex. bird/insect crash).
- Species-specific and habitat-level research and management to effectively maintain, protect, and restore habitats and populations.
- Research to inform managing plant, fish, and wildlife communities to adapt to climate change.
- Conservation of additional lands and support for management of currently protected lands.

## Habitat, Fish, and Wildlife

### Goal:

Minnesota has healthy and diverse wildlife and plant populations that sustain and enhance the state's environment, economy, and quality of life. - 12

### Strategies:

- Monitor and evaluate the biologic, [chemical](#), and environmental health of systems through high quality research, to support management of lands and waters. - 6
- Research to inform managing plant, fish, and wildlife communities to adapt [to emerging issues, such as invasive species and changing climate](#). - 7
- Conservation of additional lands, [through acquisition or easement](#), and support for management of currently protected lands. - 6

## Outdoor Recreation & Open Space

### Goal:

All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative connections to the lands and waters of Minnesota.

### Strategies:

- Address the social, economic, and physical barriers to outdoor recreation through programs that encourage inclusivity and address inequities.
- Research people's interests in outdoor recreation and understand barriers to participation.
- Assess programs, activities, and physical spaces for their accessibility; support changes to adapt and retrofit to welcome more people.
- Through collaborative efforts, provide curriculum, programs, and outdoor environmental events that teach K-12 students what public lands are, introduces them to public lands near them, and encourages them to explore local public lands.
- Through partnerships between schools, environmental learning centers, and other community resources, provide evidence-based, engaging programs to bring students to outdoor experiences.
- Capital projects that develop culturally relevant, accessible, and resilient outdoor recreation facilities, infrastructure, and equipment rental programs that create innovative experiences (including parks, trails, fishing piers, shoreline fishing areas, birding trails, shelters, etc.).

## Outdoor Recreation & Open Space

### Goal:

All Minnesotans, especially young people, have access to and take advantage of opportunities for culturally relevant and innovative connections to the lands and waters of Minnesota. - 9

### Strategies:

- Assess programs, activities, and physical spaces for their accessibility; support changes to adapt and retrofit to welcome more people. - 2
- Through collaborative efforts, provide curriculum, programs, and outdoor environmental events that teach K-12 students what public lands are, introduces them to public lands near them, and encourages them to explore local public lands. -3
- Through partnerships between schools, environmental learning centers, and other community resources, provide evidence-based, engaging programs to bring students to outdoor experiences. -3
- Capital projects that develop culturally relevant, accessible, and resilient outdoor recreation facilities, infrastructure, and equipment rental programs that create innovative experiences (including parks, trails, fishing piers, shoreline fishing areas, birding trails, shelters, etc.). -10
- [Fund capital projects that Minnesotans can access \(multi-use\) and use statewide- 8](#)

Members did not discuss this section.

## Air & Energy

### Goal:

Minnesota achieves reliance on non-polluting, renewable energy in all sectors (including transportation, building, industry, agriculture, and others).

### Strategies:

- Encourage bundling renewable energy production and battery storage.
- Demonstrate the ability and statewide potential to generate solar energy on perennially vegetated lands, reducing CO2 and water runoff, while making the enterprise economically viable.
- Incentivize the use of non-polluting renewable energy in agriculture, industries, and commercial transportation.
- Demonstrate community-scale, net zero renewable energy systems.
- Fund energy efficiency improvements and renewable energy for rental properties, small businesses, and schools.

## Air & Energy

### Goal:

Minnesota advances reliance on renewable energy and energy efficiency in all sectors. - 6

### Strategies:

- Demonstrate the ability and statewide potential to generate solar energy on perennially vegetated lands, reducing CO2 and water runoff, while making the enterprise economically viable. - 6
- Develop and demonstrate the utilization of renewable energy in agriculture, industries, and transportation—10
- Fund renewable energy research that has a benefit for Minnesota. industry.
- ~~All LCCMR projects should incorporate sustainable energy implementation i.e. solar panels, geothermal, trees, wind—3~~
- Encourage sustainable energy implementation.
- ~~Develop prototype for energy efficiency for local community projects—3~~
- Develop and demonstrate renewable energy and energy efficiency for local communities.

## Working Lands

### Goal:

Working lands in Minnesota, including forestry, grasslands, and agricultural lands, provide long-term benefits to fish, wildlife, and people.

### Strategies:

- Through demonstration, educate people on the opportunity for working lands to slow and store water for multiple benefits (water quality, habitat, flood mitigation, etc.) as well as for carbon sequestration
- Develop innovative, market-based policies to make substantive conservation efforts financially feasible.
- Preserve and protect the watersheds that are already in good shape.
- Support and provide technical assistance to private landowners on cost-effective ways to develop and restore diverse, native habitat.
- Conservation actions that prioritize the needs of vulnerable, declining, poorly-understood, and sensitive species.
- Improve and demonstrate how working lands can be economically productive and good habitat.
- Increase understanding and assessment of tradeoffs among different environmental and societal goals to improve decisions on working lands.
- Evaluate, prioritize, and demonstrate how working lands and renewable energy can be mutually beneficial.
- Use public open space to demonstrate climate change adaptation, mitigation, and prevention.
- Create or use existing open spaces, or use them to demonstrate, CO2 storage, heat sinks, flood prevention.
- Promote, research, and evaluate Best Management Practices (BMPs) on working lands, in order to provide long-term benefits to fish and wildlife.
- Encourage landscape-level and eco-type planning, instead of parcel-level.
- Identify high-quality habitat, recreation open-spaces, and other high-priority areas for action.
- 

## Working Lands

### Goal:

Working lands in Minnesota, including forestry, grasslands, and agricultural lands, provide long-term benefits to fish, wildlife, and people.- 8

### Strategies:

- ~~Preserve and protect the watersheds that are already in good shape.~~ -5
  - Preserve and protect watersheds that are not impaired.



## Working Lands (Continued)

- Outreach, education, and engagement through citizen science for landowners, operators, and others on how to economically manage for water resiliency.
- Create market mechanisms for carbon sequestration on working lands.
- Demonstrate how to add diverse cropping systems and incentivize continuous living crops.
- Research and demonstration that show the practical value of regenerative agriculture.
- Development and implementation of agricultural cropping systems with diverse crops that provide multiple benefits, including exploring markets and supply chain.
- Education and public outreach to change landscape and ecosystem norms.
- Research and evaluation of approaches that achieve goals.
- Projects that enlist the support of multiple agencies and organizations.

- Fund pilot projects that comprehensively address impacts of long-term changes to Minnesota's climate- 9
- Develop and implement agricultural production systems that provide multiple benefits- 4 (4)
- Conserve lands for endangered, threatened, and special concern species. (7)

\*Has not been reviewed for accuracy.  
Represents status at end of day, November 13, 2019.  
Commission did not review all sections.  
No official action taken.