ENRTF Strategic Planning | Summary of Stakeholder Input

Over the course of several months in 2019, from July through October, stakeholders provided input to help inform the Environment and Natural Resources Trust Fund (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 Legislative-Citizen Commission on Minnesota Resources (LCCMR) members were given an opportunity to provide input. These groups are collectively referred to as "stakeholders" in this report. The LCCMR contracted with the state's Management Analysis and Development (MAD) department to design, support, and analyze the results of these efforts.

This report summarizes the input received from stakeholders related to the next ENRTF strategic plan. The first section highlights some 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 that subject matter experts[1] prioritized for recommendation to the LCCMR.

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

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

Key General Findings

Stakeholders identify water and climate change as their biggest concerns

When asked about their biggest concern or the greatest threat to the state's environment and natural resources, water emerged as a clear area of consensus across all stakeholders. 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 number two biggest concern. During Site Visit listening sessions open to the general public, participants' comments related to water quality or quantity came up 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, there were so many goals related to water that they had to be separated into two different categories for further consideration.

Climate change was also an area of concern where some, but not all, stakeholder groups had consensus. Climate change was explicitly named as a top concern for some LCCMR members, but not the majority. Climate change was the number one, 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 related to 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

[1] Subject matter experts were identified as stakeholders doing on-the-ground research or work on issues related to the environment and natural resources. Other stakeholders, including the general public, are generally considered "non-experts" for the purposes of this report, even if they have a high interest in issues related to the environment and natural resources. The appendices contain more detailed descriptions of how both expert and non-expert stakeholders were engaged, and how the process for each group differed.

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.

Stakeholders generally prefer 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.

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 when interviewed indicated that research is important for finding "what works," comments were then divided between members who would rather "see things get done" versus 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 four of 16 identified it as the greatest emerging threat.

General Public and Other Non-Expert Stakeholders

Among the 2,430 people who participated in the general public survey, 31% 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, water, wildlife and habitat, and agricultural practices were mentioned by these participants more often than climate change.

Subject Matter Experts

The process of engaging subject matter experts was not originally designed to allow for an explicit conversation about climate change as its own topic. Consensus emerged among many of the experts who participated in the Issue Identification Panels that they considered climate change to be 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. So, the recommended strategies in this summary report

were identified and prioritized by subject matter experts through the lens of 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. Water is also clearly an issue 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. Water concerns were also raised, both by non-experts and experts alike, 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 as a top concern. Clean water was also named by three of 16 LCCMR member as the greatest emerging threat.

General Public and Other Non-Expert Stakeholders

Among the 2,430 people who participated in the general public survey, 19% 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' comments related to water quality or water quantity came up more often than any other topic.

Subject Matter Experts

Subject matter experts who participated in Issue Identification Panels identified more goals for Minnesota 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 the goals, are listed on the next page. Other goals and strategies that were offered and considered by experts related to water are included in Appendix G and Appendix H.

Water - 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/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 - 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, 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.

Habitat, Fish, and Wildlife

There are many issues and sub-topics that 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 and recommended high leverage strategies related to that goal, in the final step of the input process, experts did not prioritize a goal or strategies that directly mention invasive species. However, invasive species were raised as a major concern among LCCMR members.

LCCMR Members

When asked about their top concerns related to Minnesota's environment and natural resources, seven of 16 LCCMR members named invasive species, four named pollinators, and four named habitat or land preservation. Invasive species were also named by four 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 Non-Expert Stakeholders

Among the 2,430 people who participated in the general public survey, 12% 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' comments related to wildlife habitat and management (including birds and pollinators) came up 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 that were offered and considered by experts 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 can be found in Appendix I (Habitat, Fish, and Wildlife) and also Appendix J (Outdoor Recreation and Open).

Habitat, Fish, and Wildlife - 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 (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.

Working Lands

As mentioned above in the section on climate change, subject matter experts struggled to separate issues from one another into the neat categories of air, water, land, fish, wildlife, etc. 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

Only one member identified a top concern that seemed directly related to the topic of working lands, which was the identification of forests as one of this member's top concerns for the state's environment and natural resources. 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 regarding working lands prioritized by subject matter experts.

General Public and Non-Expert Stakeholders

Among the 2,430 people who participated in the general public survey, 12% 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, where 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 below. The total list of cross-cutting goals and strategies that were brainstormed and considered by experts are included in Appendix L.

Working Lands - 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 (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.
- 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 & 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 like water, habitat, and wildlife. Environmental education can also be thought of as both an issue and a strategy to combat issues in all areas.

LCCMR Members

Trails and parks were identified as a top concern for three 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 Non-Expert Stakeholders

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

Also on the survey, 22% 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."

There were several comments from participants at Site Visit listening sessions related to environmental education or outdoor recreation and open space, when participants were asked about their biggest concern or the greatest threat. However, the number of times comments related to these topics came up trailed behind topics like water, wildlife and habitat management, agricultural practices, and climate change. Although 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 to 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 that were offered and considered by experts 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.

Outdoor Recreation & 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 (including parks, trails, fishing piers, shoreline fishing areas, birding trails, shelters, etc.).

Air & 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 were not explicitly linked in LCCMR members' comments.

General Public and Non-Expert Stakeholders

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

Few comments from participants at Site Visit listening sessions were related to air quality or energy, when participants were asked about their biggest concern or the biggest threat to Minnesota's environment and natural resources. 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, are listed below. Other goals and strategies that were offered and considered by experts related to air and energy are included in Appendix K.

Air & Energy - Recommended goal: Minnesota achieves reliance on non-polluting, 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 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.