

APPENDIX VII

Public Outreach Efforts and Summary of Public Outreach Comments

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Public Outreach Efforts

Through the course of this project there were many efforts made to reach multiple public audiences. These efforts included public outreach forums, presentations, brochures, media coverage and the use of websites. Outreach efforts were spread across the state and presentations alone reached an audience of over 2,000.

<u>Date</u>	<u>Audience/Group/Location</u>	<u>Number of People</u>
	Governor's Clean Water Council (bi-monthly updates)	35+
1/07	Project MN 2050/Crookston	27
1/07	Environmental Quality Board	25
2/07	Project MN 2050/Tower	25
2/07	UM Foundation Board of Directors	
2/07	MPCA Sr. Management	25
3/07	Project MN2050/Wadena	25
3/07	Rotary Club Twin Cities	50+
3/07	MN Native Plant Society	150
4/07	Project MN 2050/Spicer	35
4/07	Project MN 2050/Rochester	35



Figure 1.
St. Paul Public Outreach Forum

5/07	Project MN 2050/St Paul	28
9/07	Minnesota Land Trust Conservation Summit	150
10/07	MN Community Foundation Annual Meeting	75+
10/07	MPCA Sr. Management	25
11/07	DNR Sr. Management	30
12/07	UM Regents	35+
12/07	Minnesota Department of Health Sr. Staff	3
12/07	Environmental Quality Board	25
12/07	Minnesota Department of Agriculture Sr. Management team	5
1/08	Project MN 2050/Baxter	25
1/08	Project MN 2050/Stewartville	25
1/08	UM Alumni "Minne-College"/Naples, Florida	200+
1/08	Pheasants Forever Pheasant Fest (display with brochures and mentioned in two workshops)	2000+

2/08	Project MN 2050/Alexandria	30
2/08	MN Senate Committee on Enviro & NR	35
2/08	Embrace Open Space Quarterly Meeting	60
2/08	DNR Ecological Roundtable/St Cloud	300+
2/08	MPCA Stormwater Steering Committee	35
2/08	Metro Watershed Partners	10
3/08	MN Senate Committee on Enviro & NR Finance Division	30
3/08	Environmental Quality Board	30
4/08	MPCA Sr. Management	25
4/08	DNR Sr. Management	30
4/08	Regional Council of Mayors	25
5/08	Hennepin County Environmental Services	35+
5/08	Board of Water and Soil Resources Sr. Staff	2
5/08	Sustainable Land Use Coalition	140
6/08	MDH Sr. Staff	3
6/08	Minnesota Environmental Initiative Policy Forum	150+
6/08	Environmental Quality Board	25
6/08	Metro Chapter MN Association of Watershed Districts	15
6/08	MPCA Stormwater Steering Committee LID Workgroup	15

Public Outreach Forums

<u>Date</u>	<u>Location</u>	<u>Number of People</u>
5/08	Morris	21
5/27	Grand Rapids	28
5/29	St. Paul	50

Media Coverage

<u>Date</u>	<u>Publication</u>
6/07	Press release on Preliminary Plan to Bonestroo media list - coverage by Pioneer Press
Fall 08	Institute on the Environment Magazine
2/08	UM Office of the Vice President for Research Annual Report



Figure 2. Morris energy tour. Photograph by Les Everett

Brochures

<u>Date</u>	<u>Location</u>
3/07	5,000 brochures printed and distributed through out project

Website

<u>Date</u>	<u>Website</u>
2/07	Initial MNConservationPlan.net website established
9/07	Preliminary Plan added to website
5/08	Webcast recorded at St. Paul Outreach Forum and put on website
5/08	Outreach materials and comment forms added to website

Report of the Public Input Forums

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Public Forum Overview

Plan Background

In 2006, the Legislative-Citizen Commission on Minnesota Resources (LCCMR) awarded the Institute on the Environment a contract to produce a Minnesota Statewide Conservation and Preservation Plan (SCPP) with funds from the Minnesota Environment and Natural Resources Trust Fund. The intent was to create a comprehensive inventory and assessment of Minnesota’s environment and natural resources that could assist decision-makers with relevant short and long-term planning, policy and investment. The SCPP plan will be completed July 2008 and consist of recommendations for addressing critical issues and trends identified as having significant impacts or implications for Minnesota’s environment and natural resources.

Public Forum Purpose and Process

The planning effort included a series of statewide forums to engage the public in further developing the SCPP recommendations. Outreach forums were held in several locations to seek public feedback for improving the plan and advising effective implementation:

- Morris, Minnesota May 22, 2008
- Grand Rapids, Minnesota May 27, 2008
- St. Paul, Minnesota May 29, 2008
- Mankato, Minnesota June 5, 2008 (*Note: The Forum was postponed to July 14, 2008 due to a storm*)

Each forum was a facilitated, three-hour workshop with the following objectives:

- *Explain* the purpose of the MN Statewide Conservation and Preservation Plan and its development
- *Overview* the draft recommendations
- *Seek* participants' active evaluation/advice for improving and implementing the recommendations

Public comments were invited and received before and after the outreach forums and are recorded as part of this report.

Public Forum Agenda

Part 1: Overview of the LCCMR and the MN Statewide Conservation and Preservation Plan: 5:00-5:30 PM

- Introduction of forum participants, conveners, presenters and facilitators
- ***Plan description.*** Overview of the LCCMR, its purpose for commissioning the SCPP, guidelines and process for plan development and what the plan is meant to do and not meant to do.
- ***Public forum and input description.*** Explanation of the goals and role of the outreach and processes for providing input at the forum and through written and/or electronic input.

Part 2: Presentation and Discussion of Draft Recommendations: 5:30-7:00 PM

- Presentations by each of three teams representing the main sections of the plan.
- Discussion and observations following each team presentation:
 - + What caught your attention or stood out for you?
 - + In assessing how the plan benefits the natural resources of Minnesota...
 - ... what are key strengths of the plan and/or recommendations?
 - ... what are main weaknesses or gaps of the plan and recommendations?
 - + Which recommendations are most critical for your region?
- Viewing of maps, displays and identifying critical regional issues on a wall chart.

Part 3: Public Feedback Work Session: 7:00-8:00 PM

- Input and advice from participants:
 - + What might be potential challenges to effective implementation?
 - + What advice do you have for making the recommendations better?
 - + What other feedback or suggestions do you have for the teams or the planning effort?
- Review of next steps and ongoing opportunities for input.

Public Forum Report

Following is a report of the questions, comments and advice that participants shared in the forum discussions and through input forms as well as feedback received by the LCCMR before and after the forums.

Issue-Specific Questions and Comments

This section records the public questions and comments that were made in response to each of the three primary issue sections of the plan. The comments from each forum are listed under the key questions.

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Land and Aquatic Habitat: Issue-Specific Questions and Comments

A. Questions and reactions: What are questions or aspects that caught your attention?

Morris Forum:

- **Comment:** Happy to see that shallow lakes are being addressed in the recommendations
- **Comment:** Happy to see the recommendations to acquire choice habitat, but what about including a recommendation focused on maintaining good habitat?

- **Question:** By acquiring habitat, do you mean under agency programs?
 - + **Team response:** Would include a variety of mechanisms. Once all the maps have been developed and evaluated, we may be able to identify which mechanisms might be most appropriate in which cases.
- **Question:** In referring to drainage laws – do you mean in general or do you mean 103E?
 - + **Team response:** We think it means in general. What do you think of that?
- **Comment:** The drainage law statute works when it is implemented the way it is written. Drainage is essential to the economy out here, so it makes me nervous when we start talking about drainage laws.
 - + **Team response:** You said “implemented,” are there cases when it is not being implemented properly?
 - + **Participant answer:** Yes. But most farmers are under NRCS and have to follow rules. Some farmers are getting out of the Farm Program and don’t have to follow the rules. Farmers join up to pay to maintain drainage in that area. It is true that a huge part of drainage isn’t regulated at all. A lot of ditch systems were installed in the early 1900s. Most townships are doing well with enforcement but some counties are not doing a good job of oversight.
- **Comment:** We shouldn’t lose what is working
- **Question:** Was there discussion about revamping the drainage law or was it more multi-faceted?
 - + **Team response:** This recommendation is about habitat. An analogous recommendation is under land use. We can revisit it there.

Grand Rapids Forum:

- **Question:** Some recommendations deal specifically with shallow lakes. What about other lakes, including fragile deep lakes in more northern parts of the state that are a unique and important Minnesota resource?
 - + **Team response:** There is concern about other water bodies. This particular set of recommendations is habitat-oriented so it is oriented more toward shallow lakes.
- **Question:** So are there strategies for deep lakes already developed?
 - + **Team response:** Deep trout lakes need lots of oxygen and cold water. The nutrient loading and other policies are oriented to deep lakes.
- **Question:** How deep is a lake before it is a deep lake?
 - + **Team response:** Under 15 feet is a shallow lake.

St. Paul Forum:

- **Question:** Shorelines are mentioned quite a bit, does this include lakes AND streams?
 - + **Team response:** Yes, final recommendations will reflect this.
- **Question:** In recommendation #7 do you include upland areas and agricultural areas in terms of keeping water on the land?
 - + **Team response:** Yes. We plan to have good convergence of recommendations from different teams.
- **Question:** Recommendation #1 talks about climate warming and how that might affect habitat. Is adaptive management being looked at in addition?
 - + **Team response:** Because of the constraints of time and resources, they did not feel they had time to do detailed downscaling and analysis to address this specifically. The recommendations are fairly general at this time. We will be going through all recommendations and address places where recommenda-

tions would help with adaptation to climate as well. We will keep bringing up connection to climate change in final recommendations. There may be an addendum on the final report that describes recommendations that have a positive impact on climate change, etc. It is important to draw connections between our recommendations and climate change.

- **Question:** I am interested in dams and dam management, where would I find it in recommendations?
 - **Team response:** We haven't done a lot with dams specifically, but there probably are elements in recommendations that address this - probably in the "in-water" recommendations, also those recommendations that deal with drainage. The "keeping water on the landscape" recommendation is somewhat related. I encourage you to list it as one of your comments on the recommendations.

B. Strengths: In assessing how the plan/recommendations benefit the MN natural resources, what are key strengths?

Morris Forum:

- **Comment:** The drainage recommendations - working with nature rather than against it. Need to identify what you are going to solve regarding wetlands when you speak of drainage
- **Comment:** Any of the recommendations based on water resources are going to be very beneficial. We think it is tough to have oil problems, wait until we're out of **water!** It will be the "new gold."
- **Comment:** Anything we do to improve MN and MS rivers are critical. The Red and Mississippi Rivers are indicators of problems. I think of the Mississippi - below the junction with the Minnesota - as the "lower digestive tract." What are we doing to it? We are sending channeled water and nutrients to the rivers.
 - **Team response:** In our recommendations, how do we say, "keep water on landscape" without making it sound like we will flood all agricultural land? We need to let the soil do its job and replenish groundwater without getting rid of agricultural land and harming economic vitality. For the MN River Basin, a team member is looking for tools/funding to find the places for infiltration and use LIDAR to do fine resolution topography. Also, trying to get funding for that - precision agriculture. Doing precision drainage would also help.

Grand Rapids Forum:

- **Comment:** One strength of the plan is that there is a lot of focus on education. Maybe we need more on implementation details even in the summary.
- **Comment:** I feel that the focus made on acquisition and protection is not accidental or coincidental. We need to focus funds on acquisition. Acquisition is a big need that can have a huge positive impact.
 - **Staff response:** LCCMR invests a lot of funds in that and wanted specific direction on acquisition.

St. Paul Forum:

- No specific comments at this point of the discussion

C. Weaknesses: In assessing how the plan/recommendations benefit MN natural resources, what weaknesses or gaps?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- **Comment:** Need to include more on assessing and attending to impaired lands. If we can start to do things proactively to prevent impaired waters, we can save lots of money.
- **Comment:** In the education recommendations, nothing was called out in the summary about K-12 education.
- **Input form comment:** Water surface use is not addressed (motor boating in shallow water, re-suspension of sediment and phosphorus).
- **Input form comment:** Money. Acquisition is expensive.

St. Paul Forum:

- **Work session comment:** Rivers and stream aren't mentioned.
- **Work session comment:** Groundwater is lacking.
- **Work session comment:** Invasive species appears to be left out of the plan.

D. Implementation Challenges: What are potential challenges to effective implementation of the recommendations or plan?

Morris Forum:

- **Comment:** Modifying drainage laws is a huge, long struggle. There are phenomenal hoops that need to be jumped through to block a drainage ditch. Current law does not support restoration.
- **Comment:** The biggest issue is lack of consistency in how the same rules are implemented from one area to the next. Things need to be on a more level playing field.
 - **Team response:** Perhaps we need to add to the recommendation that the review of laws should also include a review of drainage law *implementation practices*.
- **Comment:** Drainage is impacted greatly by agricultural policy (e.g. barrier related to "protected water").
- **Comment:** Ten counties have proposed "no net gain" of public land. Some counties have no net gain laws. A possible solution to this impasse is to put responsibility back in local unit of government's hands. Having the program in DNR's hands is putting a barrier up to acquiring land. Let local unit be the assessing and taxing authority and have the DNR review the process. Let local governments tax the state for land that is set aside.
- **Comment:** Conservation Reserve Program is not a good solution. Now, as lands go out of CRP, even though we have spent tons of money on it, we have nothing to show for it. CREP program is better as a long-term solution.
- **Comment:** SWCDs don't have taxing authority.

- **Comment:** We are not as well prepared as the Western states in terms of water law. We are used to having water in abundance. We haven't evaluated our water resources enough.
- **Comment:** On the flip side, we have a law that we can't mine our water.
- **Comment:** Climate change will change precipitation rates, etc. We need to incorporate climate change scenarios into this.
- **Comment:** What do we do about water impairments? Once we determine that waters are impaired, what are we doing about it? The program is voluntary.
- **Comment:** You are speaking to the choir here tonight. When this goes out and have to deal with land-owners and the public – the biggest challenge will be getting people to deal with change.

Grand Rapids Forum:

- No specific comments at this point of the discussion

St. Paul Forum:

- No specific comments at this point of the discussion

E. Improvement Advice: What suggestions and advice or do you have for making the plan/recommendations better?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- **Comment:** Recommendation C12 regarding a program to restore natural features of shorelines should acknowledge the programs that already exist and avoid duplication of effort.
 - **Team response:** We tried to avoid sanctioning specific programs.
- **Comment:** More emphasis on K-12 education would be good.
- **Input form comment:** Recommendation A.2.a; Land and aquatic habitat conservation –acquisition. Please define your strategy for implementing long-term habitat acquisition and protection in the final report.
- **Input form comment:** Recommendation D regarding outdoor recreation: I believe that the LCCMR's 207 project titled "Regional Park for Minnesota's New Urban Areas" by George Orning already catalogs and positions this recommendation. If possible, have a look at it.

St. Paul Forum:

- No specific comments at this point of the discussion

Energy Production and Use: Issue-Specific Questions and Comments

A. Questions and reactions: What are questions or aspects that caught your attention?

Morris Forum:

- **Comment:** You imply in Recommendation 24 that the forest data in the data table is all forest and it is not.
- **Team response:** You are right. It is the “elephant in the room.” The key issue is that we need to know more about consequences, what is happening, implications of genetic modification on native species, etc. We need multi-dimensional solutions for what are very complex problems.

Grand Rapids Forum:

- **Question/comment:** Is methane being considered as strongly as it should? Landfills produce methane gas. What about a system to recover?
 - **Team response:** There is a company that is geared up to capture that gas. But we shouldn't be throwing so much energy away into landfills in the first place. We should change that practice. Europe and Japan are way ahead on this.
- **Question:** Did you look at anything to do with transportation system?
 - **Team response:** We looked at hybrid cars and battery systems.
- **Input form comment:** The fuel biomass crop idea is really interesting. Is it possible to use public lands for biomass production and is that type of crop production beneficial to wildlife.
- **Input form comment:** Addressing energy and ethanol stood out for me.

St. Paul Forum:

- **Question:** I am curious about the construct of healthy “rural economy” and you have a number of things listed that way. Why are these recommendations set in the frame of “rural” in these recommendations? How will this frame of rural be big enough?
 - **Team response:** It should probably be changed to say “state economy.” It doesn't just apply to rural. (*Team note:* Change ‘rural’ in text; some of these recommendations pertain to urban residents).
- **Question:** This is a lot of really excellent material. Have any current energy production entities been involved in developing these recommendations, such as Xcel and other big energy producers?
 - **Team response:** We have not had any official involvement of large energy producers, but there has been some input regarding bio-fuel production.
- **Question:** Did you talk about the challenges provided by the energy grid infrastructure for electricity recommendations? For example, how to get smaller entities onto the grid? (expansion, renewable, etc)
 - **Team response:** It was part of team discussion and appears in the detailed recommendations.
- **Comment:** Two years ago, local energy production was proposed in Philips neighborhood in Minneapolis. Was unsuccessful. Could it be revived?

B. Strengths: In assessing how the plan/recommendations benefit the MN natural resources, what are key strengths?

Morris Forum:

- **Comment:** Thank you to your staff for remarkable work you've done. Geothermal is a good option. There are several new examples of geothermal applications that should be mentioned. There are many local pilots in new energy sources and uses that should be mentioned.
- **Comment:** Pleased with consideration of the impact of GMOs vs. locally established species and sustainable, local food systems.

Grand Rapids Forum:

- **Comment:** I think energy is a great unifier in three theme areas. Fisheries people can't easily manage fishing pressure, even if they can manage other aspects of fisheries.
- **Input form comment:** More use of methane gas from landfill areas would produce billions of gallons of fuel.
- **Input form comment:** Use of peat for fuel.

St. Paul Forum:

- **Comment:** Impressed w/integration of issues in recommendations.
- **Comment:** Energy is a new direction for LCCMR.

C. Weaknesses: In assessing how the plan/recommendations benefit MN natural resources, what are weaknesses/gaps?

Morris Forum:

- **Comment:** The impact of food production and its relationships and strengthening local sustainable food systems needs stronger emphasis. Are we ready for victory gardens again? Food production and distribution is a major cross-cutting issue across all issue areas.

Grand Rapids Forum:

- **Question:** Why don't you have CRP on your list of potential crops? Why couldn't you harvest CRP lands for a fuel crop? I recommend that you include it on list of options for biofuels on that map.
- **Comment:** We're going to lose at least last 6 inches of topsoil and aquifers to support SUVs! We take food on long journeys to get it to market. This is not sustainable and a weakness in recommendations. Transportation must be considered more deeply. It is fast becoming a major drain on energy and a huge impact on the resource. Current transport practices, policies, behaviors are based on a "no cost" mentality about natural/energy resources. We can't keep transporting people in huge vehicles alone. We need policy changes!
 - **Team response:** Land use recommendations include some of this. Things that have to be done in regions and in nation as a whole. We've looked at the pre-ignition catalytic converter, using fuel burned by catalytic converter in cars, etc. We need to look at unique, new ideas (e.g. Re-tooling corn-based alcohol plants to work sustainably).

- **Comment:** Was part of the strategy in the plan to use public land to grow biomass?
 - **Team response:** We have to make sure that we are using all land appropriately to meet energy goals and conservation goals while letting rural families make a living.
 - **Team response:** It is beneficial to rural communities to use biomass locally vs. transporting it long distances. Communities should be paying close attention/finding ways to use energy locally. The technologies are there.
- **Input form comment:** In the energy recommendations, need greater emphasis on local energy production down to the individual level – incentives, research, programs to implement; need to foster a different paradigm to be successful in changing this through more individual accountability.

St. Paul Forum:

- No specific comments at this point of the discussion

D. Implementation Challenges: What are potential challenges to effective implementation of the recommendations or plan?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- No specific comments at this point of the discussion

St. Paul Forum:

- No specific comments at this point of the discussion

E. Improvement Advice: What suggestions and advice or do you have for making the plan/recommendations better?

Morris Forum:

- **Comment:** Take advantage of the increased energy prices to increase awareness and action on resources issues – peak oil, peak food.
 - **Team response:** Peak-food and peak-oil are closely tied together. Producing ethanol is essentially mining water and shipping it out of state.

Grand Rapids Forum:

- **Comment:** With respect to the energy gap, it seems like studies are showing that corn ethanol isn't working. We need to deal with it directly.
 - **Team response:** The existing study looking at old technology vs. new. There are things that can be done to make plants more energy and environmentally efficient in terms of water and energy. On the flip side, there are opportunities around putting incentives into cellulose and other opportunities.

- **Comment:** Ten years ago we were talking about corn ethanol as great savior, how do we know that in ten years we won't say cellulose was a big mistake? Need to get away from corn-based ethanol and alcohol as the current "savior" of the energy problem OR replacing it with another simple solution. We need to take a more holistic, longer-range approach vs. relying on silver bullets
- **Comment:** The balancing act among food, feed, fiber, fuel is critical. Keen awareness is needed about resources that will be needed to produce this stuff. Bureau of Reclamation did a resource study and determined there wasn't enough water for new ethanol plants OR new population in the Red River Valley. In keeping the Four F's in balance we need to stay focused on the production of raw materials required to supply all the demands. Have to keep an eye on technology. Some things may happen faster than we think. Look at transportation as a more holistic picture rather than just looking for a substitute for gasoline.
 - **Team response:** Food, feed, fuel, fiber – there are truly many conflicting resource issues in that set of four. It's a balancing act to say the least. There needs to be lots of discussion about these balancing acts.
- **Comment:** A potential weakness with the recommendations is that they focus on improvements on mass production and energy, but don't say much about how we can scale down (reduce use). We need a reality check on consumption vs. just production.
- **Comment:** But I'm even looking at an individual house. LCCMR could provide models of how to be a sustainable household. Recommendations should be strengthened with regard to this. I would like the individual scale to be called out a little bit higher in the recommendations. There are lots of system level but not much individual ones.
 - **Staff response:** Commission could shape general RFP and would invite a variety of proposals.

St. Paul Forum:

- **Comment:** Role of local governments and non-profits is important.
- **Question:** Having heard about rationing of WWII and gas prices of the 70s, I would like to see something more specific about conserving. Is there anything more tangible/immediate recommendations in the energy plan (e.g. reducing speed limits)? Is there anything "newsworthy" that people will be able to see quick results from?
 - **Team response:** Good point, we will note this suggestion.
- **Work session comment:** Recommendations #27 and #40 need to focus on perennial-based livestock production.

Land Use Practices: Issue-Specific Questions and Comments

A. Questions and reactions: What are questions or aspects that caught your attention?

Morris Forum:

- **Comment:** A lot of the land in our area is all rented. Does that have an impact on buffer strips? Landowners don't live in area and don't care.
 - **Team response:** Data on farmland rental was hard to get.
- **Comment:** One idea is to contact the landowners and try to get them to participate in the buffer strip program.

Grand Rapids Forum:

- **Question:** Will you be looking at other reports and efforts like this before recommendations come out – like the *Forests for the Future*?
 - **Staff response:** *Forests for the Future* has influenced our forestry recommendations. We have tried to bring a lot of that in already.
- **Question:** More effective and coordinated land planning is a good recommendation, but who is going to coordinate that? Shouldn't the recommendations identify specific agencies and organizations for coordination responsibilities?
 - **Team response:** We purposely didn't say any organization. But there are several potential groups.
- **Comment:** What about re-building inner city instead of people moving out? What is done about people moving out of cities by incorporating urban re-development to attract people to stay in cities including more compact development, building "complete," multi-use roads etc. This has major impact on the environment related to reducing driving miles, impervious surfaces, etc.
 - **Team response:** There is one re-development oriented recommendation, but maybe we need to add recommendations about adopting some of these conservation and land use practices to urban redevelopment. The opportunity in the market right now is to institutionalize conservation into redevelopment.
- **Comment:** I need a point of clarification on Recommendation 56. This is not talking just about large projects is it?
 - **Team response:** No, it could be small blocks in large blocks or how blocks relate to one another.
- **Comments:** Regarding recommendation #54: The DNR manages over 5 million acres of land. The plan calls for incentives for private forest-land management, what are incentives for agencies that manage public lands? How do you apply incentives to the state-managed land?
 - **Team response:** Incentives that we've described are oriented toward producers. The mechanisms for influencing practices could be incentives or a policy. Policy might be more oriented toward agencies and continue to be the guiding tool for managing public forest land management. Forest certification applies to both.
- **Input form comment:** I liked recommendation 46B bring natural resources to the table.
- **Input form comment:** Forest land practices stood out for me

- **Input form comment:** Recommendation 25-26: I'm very concerned about social and environmental justice issues here. When we start talking about seed stocks and profit models for biofuels production – you are going to seriously grapple with patent issues and indigenous rights, etc.
- **Comment:** I'd like to see comprehensive risk assessment protocol development here with genetic contamination and biofuels – buffer width is very myopic in terms of genetic pollution issues.

St. Paul Forum:

- **Question:** In recommendations #16 and 40 related to biomass on private lands: We are losing CRP acres and have a gap between ethanol and cellulosic sources. How do we take the risk out of farmers having those acres lying fallow on land when there isn't a market yet?
- **Question:** What about animal livestock being raised on perennials? Did the team consider that?
 - **Team response:** The team has to identify a need and come up with an instrument to address that need.

B. Strengths: In assessing how the plan/recommendations benefit the MN natural resources, what are key strengths?

Morris Forum:

- **Comment:** Great effort to put this all together, but the implementation will happen at the tractor and the plow level. Need the money to get it done. Encourage everyone to support the Outdoors Amendment!

Grand Rapids Forum:

- **Input form comment:** Use of all wood products. (GR Input Form 3).

St. Paul Forum:

- No specific comments at this point of the discussion

C. Weaknesses: In assessing how the plan/recommendations benefit MN natural resources, what are weaknesses/gaps?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- **Comment:** Recommendation 46 and items beneath that regarding urban land use recommendations: This is a weakness of plan – going into that level of detail about conservation planning, but not going into level of detail in the agricultural part of plan. Recommendation 44 could take a look at watershed planning efforts in Red River Valley as a model from agricultural land use perspective. Local planning efforts are critical to accomplishing these goals. State agencies can't do it on their own.
- **Comment:** Aquatic invasives didn't really show up in the plan. Lots of communities are fighting this issue. Set up a taxing body at local lake association level to finance cleaning up public waters. Lakes with aquatic invasives ought to be classified as impaired.

- **Team response:** Limited resources caused the project team to not deal with invasives. However, we do agree that this is important.
- **Comment:** In the area of TMDLs and impaired waters, there is this big category of waters that are not impaired. I would like to see some assessment of unimpaired areas with respect to their sensitivity to impairment and have some protection measures for those types of waters.
- **Input form comment:** Recommendation 45: Remove landfill from sand and gravel areas (more education on all).

St. Paul Forum:

- **Work session comment:** The connection to food (livestock) isn't there, or difficult to see; there isn't an emphasis on local food, which will be necessary to conservation in the future.
- **Work session comment:** Soil is lacking.

D. Implementation Challenges: What are potential challenges to effective implementation of the recommendations or plan?

Morris Forum:

- **Comment:** Counties are dealing with a double-edge sword. Taxation and county budget are huge issue. Counties tend to follow the money. They believe they need development to increase assessment rates rather than conservation and setting land aside. They don't know about all these studies and plans that might help them decide for conservation.
- **Team response:** Jean Coleman does a lot of work with rural counties and tries to get local governments to look at both sides of the balance sheet. What about infrastructure costs of new developments? Let natural resources be the driving force for development.
- **Comment:** Zoning has huge effects in influencing land and forest protection. As with TMDLs in urban areas, cities and smaller communities have a lot of regulatory controls available to them that they don't use. They need to be more use of them. Local governments have zoning rights and therefore control over fragmentation but cities are not using the regulatory authority they have.
 - Its is a political "hot potato" to take land out of production
 - Local leadership makes the laws but they also need to live by them
 - Local politicians need to know about negative financial aspects of development, such as infrastructure, public services, etc., which cause development to not necessarily make money for local governments.
- **Comment:** Forest fragmentation – State can't afford to buy the lands, but local government has the ability to zone the land properly so they wouldn't lose the timber rights and only allow parcels up to 320 acres or so, they could control the fragmentation.
- **Comment:** More land is going out of production.
- **Comment:** Need to take responsibility for our "past sins:" Many of the current practices, patterns and issues we have in MN are things that government agencies and the University have promoted in the past. How do we deal with the fact that land owners do what we told them to do in the past when we were wrong? How do you change that?
- **Comment:** Study in the metro area showed that costs to local government of developing an area is more than the tax money coming in.

- **Comment:** Remember that engineered solutions don't deal with waterfowl or other habitat issues. We might just have to accept that we have to give up some farmland.
- **Comment:** Enforcement of buffer strips is a problem. The federal farm bill policy encourages people to farm right up to the edge. Farmers will tend not to implement BMPs voluntarily. It only works when you pay people to comply with the laws. If we lose CRP as a program, if farm bill goes away, we need more incentives, but how do we get those in place without CRP and farm bill? How does this impact rented farmland? How do we do conservations without CRP?
- **Comment:** People think doing a TMDL study means water is cleaned and no longer a problem, when in reality it can take years and years for water to become clean as the result of BMPs from a TMDL.
- **Comment:** Money directs a lot of things. The almighty dollar tends to drive practices - this is both a tool and a challenge. When we operate under "no new taxes" policies, society isn't willing to support these things. How do we address this factor of the economic side?

Grand Rapids Forum:

- **Input form comment:** Recommendation A:42: Round up ready seeds – reduces use of grasses in conservation practices.

St. Paul Forum:

- No specific comments at this point of the discussion

E. Improvement Advice: What suggestions and advice or do you have for making the plan/recommendations better?

Morris Forum:

- **Comment:** Solutions might include working to provide other economic benefits for farmland owners.
- **Comment:** Also need to be considering new potential markets such as seed perennial crops in places where you can flood - crop it when it is not needed for wildlife support and then re-flood it the next year. Need to look for new ways to do business. Make a note that not everything being farmed is farmland (we farm unsuitable land).
- **Comment:** Recommendations should include helping local governments be more aware of both sides of the balance sheet.

Grand Rapids Forum:

- **Comment:** One suggestion for recommendations is the idea that local governments have incentives to plan for conservation rather than development. It might be useful for local government to have some protection when they make decisions that may be controversial or are not popular with everyone, especially the development community.
- **Comment:** On recommendation 52 regarding reduced per capita vehicle miles. Revitalizing downtowns is a way to reduce vehicle miles.
 - **Team response:** We need to more explicitly express "compact development." Commute times have increased.
- **Comment:** Promote complete roads. Bike trails and walking paths should be associated with all roads.

- **Team response:** This does show up in complete recommendation. There are permeable highways that could be put in, but cost more. Federal dollars are available to do better road design for wildlife, etc. We don't use those dollars very well.
- **Comment:** Increase emphasis on promoting local food. This encourages smaller farms most focused on conservation and emphasizes decreasing the miles that food travels
- **Comment:** Focus some of land use planning on watersheds or ecological subsections rather than political boundaries. Base planning more on ecological boundaries.
- **Comment:** The deep lakes are probably most amazing natural resources in Minnesota that need to be emphasized more. This plan doesn't include enough about northeastern and north-central Minnesota and doesn't focus on protection enough. The current plan could almost be for any state.
- **Comment:** I would like to see more about conservation/recreation easements (Forest Legacy Program). It pays to keep recreation areas open while protecting working forests and timber production.
- **Input form comment:** Recommendation B.45: MS 1030 (and I think 1038 also) allows for the development of a water management district that could get at implementing this.
- **Input form comment:** Recommendation 46.E; Land use practices: Establish a statewide grant program etc. – the Local Initiative Grant Program, including the Regional Park Grant Program is already a state-wide program. It is chronically under-funded. You could really help by calling this program out.
- **Input form comment:** Within our forestry land practices, recommendations are great. I would just like to remind the group the significance and importance are some very traditional forestry uses that should not be overlooked. Examples would include balsam boughs, maple syrup, etc., that are called non-timber forest products. There are many people from the bottom rung of the economic ladder. (Fact: Balsam bough wreaths contribute \$21 million each year to the state's economy). We need to remember our forests can be managed for many products. And, that our forests are our 'community forests!' – especially when we need to diversity and help people find a niche in a global market.

St. Paul Forum:

- **Comment:** The stream bank erosion under agricultural recommendations – reduction in peak flows – should be an agriculture and urban recommendation. You could copy it directly to the urban and add reduction in bankfull flows.
- **Comment:** Under the transportation section, first time nonpoint source pollution (NPS) has been mentioned. Specific reduction in NPS should be mentioned in several sections.
- **Work session comment:** Recommendations #27 and #40 need to focus on perennial-based livestock production.

General Feedback for the Plan

This section records the public questions and comments about the plan as a whole. The comments from each forum are listed under the key questions.

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A. Questions and reactions: What are questions or aspects that caught your attention?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- **Comment:** I need a point of clarity. Is this plan destined for use by LCCMR to guide how it invests in funding?
 - **Staff response:** This is an LCCMR-funded project. The intention is that it will be plan for the state, but it is up to agencies and local governments in terms of what they want to do. There is not a real sharp line. Others will hopefully embrace at least some of the recommendations, as will LCCMR in their funding directions.
- **Question:** Will you be looking at other reports and efforts like this before recommendations come out – like the *Forests for the Future*?
 - **Staff response:** *Forests for the Future* has influenced our forestry recommendations. We have tried to bring a lot of that in already.
- **Question:** The consideration of multiple landscapes and areas across the state is a strength. I am curious about how the plan developers rank different parts of the state with very different levels of impact. How do you rank different parts of state in terms of funding priorities when comparing severely impacted to less impacted but threatened landscapes?
 - **Staff response:** We segmented state into eco-regions and looked at analyses by ecological subsection.
 - **Staff response:** The LCCMR is required to have a strategic plan to be revisited every 6 years. LCCMR tries to get geographic representation in each funding round.
- **Comment:** There are lots of competing land use priorities including the need to produce crops for fuel, wetland restoration, agricultural BMP practices, habitat, production, etc., but has there been any discussion on identifying priority areas? Will there be conflicts among these priorities? The Red River Valley has identified priority areas for agricultural conservation, etc. in advance. Have used a lot of tools to do

that such as thunderstorm maps, fisheries data, etc.. I suggest adding a recommendation to establish priority areas for certain activities in advance such as providing tools for local implementation.

- **Team response:** We have done pieces of that but haven't integrated or focused it to the level you are suggesting.

St. Paul Forum:

- **Question:** It is an ambitious plan – who's plan is it? I hope that it will filter up to policy level and influence the legislative agenda and action. Will it really be implemented?
- **Staff response:** It is designed to serve as a guide at many different levels.

B. Strengths: In assessing how the plan/recommendations benefit the MN natural resources, what are key strengths?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- **Comment:** Good presentations! Assessment work that has been done would be good to get out to locals for water conservation planning and other local planning efforts. Provide local governments with more support and tools to implement conservation and preservation priorities.
- **Input form comment:** Focus on behavioral change and the barriers to making/realizing those changes. Education and outreach is only as good as the intention behind it – keep the focus on removing barriers to sustainable behavior change. Great start here!
- **Input form comment:** Incentive-driven should be an easy (ier) way to get buy-in vs. the stick” approach.

St. Paul Forum:

Work session comments:

- **Theme:** Systemic approach
 - A systems perspective
 - Addressing the large systemic issues within a longer time frame
 - I like its comprehensive nature in addressing all the issues vs. the “issue of the moment” and the possibility that it will provide a continuity of focus as LCCMR members change overtime.
- **Theme:** Broad and bold goals and recommendations
 - Establishes broad recommendations
 - People can “find themselves” in the recommendations
 - Contains aggressive, bold ideas
 - Clearly stated endpoints
- **Theme:** Diversity of natural resource issues

- It is good to have the diversity of natural resource aspects and threats identified and presented in one place and in one reference.
- The “web” framing of the plan to demonstrate interconnectivity of issues and the interdisciplinary reality of issues. The challenge is re-integrating the recommendations.
- **Theme:** Nothing blatantly wrong
 - It passes the “sniff test” (it doesn’t have anything blatantly wrong with it).

C. Weaknesses: In assessing how the plan/recommendations benefit MN natural resources, what are weaknesses/gaps?

Morris Forum:

- No specific comments at this point of the discussion

Grand Rapids Forum:

- **Input form comment:** There are a lot of recommendations that target assessment and mapping, but I feel like there wasn’t a lot of detail on the next phase: action toward what end are we collecting data? Is there a way to put some target recommendations?
- **Input form comment:** K-12 education. We need to make the investment no in teaching the next generation how to live more lightly in Minnesota.
- **Input form comment:** Highlight need to collaborate efforts on all fronts – 87 counties, SWCBs, BOWSR, MPCA, DNR, EPA, USDA...
- **Input form comment:** Getting all landowners on board and working together

St. Paul Forum:

Work session comments:

- **Theme:** Inter-relationships between elements is missing
 - The inter-relationships among elements are lacking
 - Reintegrating the team’s recommendations in the final phase of the planning
 - The are similar strategies across several recommendations (e.g. supporting local planning). What is the strategy for linking the cross-cutting recommendations?
- **Theme:** Unclear implementation steps and strategies
 - What is missing is the “how to” accomplish these recommendations.
 - What theory of change are we acting under? The plan doesn’t show how these different things will actually be implemented.
 - The plan focuses on the way things are now. The plan needs bolder, more aggressive ways to do these recommendations, instead of simply what needs to be done.
 - The plan needs concrete suggestions.
 - The plan has clearly stated endpoints but needs to identify...
 - ...the key interim steps to get from here to the endpoints and...targeting the pressure point areas that are time-sensitive issues that would be addressed substantively.

- NOW vs. later. This might form basis for priorities.
- **Theme:** Minimal role and understanding by the public
 - ✦ Public participation is very limited in this process, i.e. they have no idea this process is going on.
 - ✦ The plan needs better public education recommendations
- **Theme:** Prioritization needed
 - ✦ How is LCCMR going to prioritize? How will the priorities be narrowed down?
 - There is a danger of spreading LCCMRs attention and interests too thin.
 - Distributing limited funds over too many targets
- **Theme:** Need a way to measure the progress of the plan
 - ✦ There is no obvious “reality check”
 - ✦ How will the progress or success of plan implementation be measured and monitored?
 - What changes would we be monitoring and for what purpose?
 - What indicators and measures are we committing to?
 - How will we utilize and practice adaptive management?
- **Theme:** Groundwater is not well represented
 - ✦ Groundwater is not well represented in recommendations, in particular, groundwater contamination from feedlots, sewage systems, etc. as delayed feedback from land use practices. Was the MPCA plan addressing groundwater degradation used in developing this plan?
- **Theme:** Missing a focus on historic/cultural resources
 - ✦ There is no mention of historic and cultural resources and the influence of land use, energy use and economic impacts on those resources. Include standards for aesthetic values and other new and existing values for conservation and preservation.

D. Implementation Challenges: What are potential challenges to effective implementation of the recommendations or plan?

Morris Forum:

- **Comment:** Challenge will be money. The almighty challenge is the almighty dollar
- **Comment:** Coordinating the efforts of all public/government agencies will be a challenge. How do we coordinate and get willingness? We need to figure out a much better way of coordinating the efforts of all public agencies.
- **Comment:** Lack of local technical support is a problem: The Extension Service lacks funds to provide the needed level of technical support. State agencies are too St. Paul-centric.
 - ✦ **Team response:** Can private sector crop professionals etc. be brought in to help with technical assistance if the Extension Service put together workshops and training for them?
- **Comment:** With energy becoming more expensive, I don't really know how other things will change - nitrogen for fertilizer, distance we transport materials, etc. How will changing economy change things?

Grand Rapids Forum:

- **Input form comment:** I think agency momentum will be a real barrier to implementation. The cross agency coordination is a real challenge as is the funding mechanisms that support them in their current trajectories. I think agency momentum will be a real barrier to implementation. The cross agency coordination is a real challenge as is the funding mechanism that support them in their current trajectories.

St. Paul Forum:**Work session comments:**

- **Theme:** Minimal public role and understanding
 - ✦ Nobody reads the whole plan
- **Theme:** Actions exceed funding capacity to fund them. Prioritization to guide implementation/investment.
 - ✦ How do you identify the most important aspects that much be preserved, such as water or land?
 - ✦ The scope is ambitious scope. You could argue that all recommendations are immediate. Narrowing down the scope would enhance chances for implementation.
 - ✦ Need to prioritize investments and align with other plans and efforts! I counted the number of times the word “invest” and “research: were mentioned – 30 times for invest and 15 for research! Move forward on dimensions that are being addressed by other plans and efforts.
- **Theme:** Need for more overall investment of resources
 - ✦ Where you can, quantify the investment that is required to implement needed conservation and preservation priorities. Adding up the costs of these recommendations would show the need for this fall’s ballot initiative to generate more money. Use this opportunity to communicate the major gap in funds needed to have substantive impact on the resources. Make a compelling case for the need to increase the total amount of money available to make a difference.
- **Theme:** Assuring leadership, coordination and mindset for implementation
 - ✦ The plan requires active management.
 - ✦ “Actors” for recommendations are not identified. It may be difficult to get things changed if the way to get things changed isn’t also recommended.
 - ✦ Political leadership and capacity-building is needed (e.g. from the Legislature and other state agencies); need capacity building. Implementation could be a challenge if agencies stay within their “oh we don’t do that” comfort zones and are not able to work across their traditional boxes and silos.
 - ✦ Making necessary mid-course corrections if these conditions start to change.
 - ✦ These recommendations only work if there is no risk to land owners.
 - ✦ A large paradigm shift will be necessary for the plan to work.
- **Theme:** State boundaries constrain eco-space strategies
 - ✦ Organizing recommendations within state boundaries is a limiting factor to truly addressing eco-spaces and the issue within them.

E. Improvement Advice: What suggestions and advice or do you have for making the plan/recommendations better?

Morris Forum:

- **Comment:** Education is critical; Education and increased recreation will help people value the changes being made.
- **Comment:** When carbon gets monetized, all the rules will change.
- **Comment:** Provide generous county-based local technical assistance and demonstration projects! There is a good example of demonstration project showing how you can make money from grass and water. Advertise existing ones and fund new ones for landowners seeking change. Keep the quality aspect in mind in all production (e.g. local examples); need to think of new ways to do it (i.e. cattails for wetlands benefits and biofuels).
- **Comment:** Incorporate real scenarios about how we will become if we implement various strategies.
- **Comment:** Track change over time as these recommendations are put into place. Incorporate “evaluation” into implementation.
 - **Team reflection (post-session):** Fear that recommendation for coordination looks like it is top down and will be resisted for that reason.

Grand Rapids Forum:

- **Comment:** Need more application details in the recommendations.
- **Comment:** Provide local governments with more support and tools to implement conservation and preservation priorities and efforts such as status information on natural resources assessment, analysis and projections.
- **Input form comment:** Start with small pieces and build on successes. Are priorities built into recommendations in each area? If you could only do one listed thing, which would it be? Start there.
- **Input form comment:** The devil is in the details, yet they are not presented here. Many plans lack the real “how to’s” to implement the plan. Please make this easy to use with details.
- **Input form comment:** In the last legislative session, capital bonding projects were selected one by one in the legislation – no funds were provided for post-session open project selection. This is really problematic for communities who do not participate in session politics for whatever reason.
- **Input form comment:** Include key assumptions in the plan.

St. Paul Forum:

Work session comments:

- **Theme:** Include mechanisms to coordinate, steer and incent implementation
 - A really strong recommendation regarding planning would be helpful.
 - Needs a strong follow-up and support piece to make sure the plan does what it’s supposed to.
 - Need to have a champion for the plan - someone people can see as a very strong supporter.
 - Hard regulations or enforceable standards are needed to drive the plan
 - Need “carrots not sticks” to inspire implementation

- ✦ Make “doing the right thing” the most cost effective
- ✦ Need a “go to” resource to get assistance to local governments and communities who want to implement directions and tackle problems at various levels.
- **Theme:** Incorporate a process for monitoring progress
 - ✦ Include a recommendation to monitor how things are going
- **Theme:** Add tools and models to communicate threats and opportunities
 - ✦ Include models of ecosystems to envision the future
 - ✦ Conduct economic modeling to show what will happen if we do nothing - start with the groundwater scenario.
- **Theme:** Use the plan and project educate the public about real needs for action and investment
 - ✦ The plan is a good opportunity to make the state’s gaps visible.
 - ✦ Make a more readable version of the plan for non-professionals.
 - ✦ Take the plan to Minnesotans. Get feedback about how far they are willing to go to fix MN’s natural environment.
 - ✦ Present the environment as commodity and emphasize tangible benefits using citizen stories, quotes and voices.
- **Theme:** Lead the state’s long-term resource conservation imperatives
 - ✦ LCCMR can do what agencies and the legislatures can’t do - put money towards long-term projects, efforts and initiatives. Take advantage of this. LCCMR has the opportunity to use its unique, overarching role to jump in, innovate and take the lead in advancing statewide resources conservation and preservation.
- **Theme:** Other additions and considerations
 - ✦ Consider what negatives might result from this plan (think E85)
 - ✦ Needs to include eco-industrial complexes
 - ✦ Needs an “ethic of stewardship”
- **Comment:** Make it clear which audience this plan is written for

Recommendations Most Critical in each Region

Participants at each forum were asked to identify the recommendations most critical to their region by placing seven dots on a wall chart showing all the recommendations.

Land and Aquatic Habitat Recommendations

MN SCPP Recommendation	Morris Forum	Grand Rapids Forum	St. Paul Forum
A Maintain or restore critical habitat	0	1	0
A1 Research on fish, wildlife, bio- diversity, stressors etc.	0	5	1
A2 Acquisition – protection of land habitats	3	1	6
B Maintain/restore critical habitat vulnerability	0	4	1
B3 Research near-shore habitat vulnerability	1	4	0
B4 Acquisition of critical shore land habitat	0	2	4
B5 Acquisition to protect shallow lake shorelines	2	0	6
B6 Consolidate, adapt, and develop educational materials on watershed principles	0	6	1
B7 Keep water on the landscape	0	0	13
B8 Restore and rehabilitate shallow lakes	4	0	3
B9 Restore and rehabilitate wetlands	6	0	7
C Maintain or restore critical in-water habitat	0	1	1
C10 Research and assess groundwater/surface water information and connections	1	0	6
C11 Policy to remove barriers/facilitate wetland restoration	5	0	4
C12 Restore and rehabilitate shallow lake habitats in priority watershed and restore natural features of lake shores	3	1	2
C13 Build capacity of resource managers to understand and manage water resources factors	0	1	0
D Outdoor recreation recommendations	0	1	3
D14 Improve connectivity of/access to outdoor recreation areas	2	18	11

Energy Production and Use Recommendations

MN SCPP	Morris Forum	Grand Rapids Forum	St. Paul Forum
A Promote alternative energy production strategies	0	0	0
A15 Invest in research/demonstration projects on a landscape scale	2	1	5
A16 Develop policies/incentives to grow perennial crops for bio-fuels	1	1	4
A17 Develop coordinated laws, policies, procedures for government entities	0	0	0
A18 Invest in data collection to support assessment process	0	0	0
A19 Invest in research for sustainable corn stover removal rates/establish incentives for BMP's	2	0	0
A20 Invest in research to review MN thermal flow	1	1	0
A21 Invest in applied research to reduce energy and water consumption and emissions in ethanol plants	0	0	1
A22 Invest in research to determine the life cycle impacts of renewable energy production systems	0	0	1
A23 Invest in research and demonstration projects to develop, and incentives to promote, combined wind power/biomass, wind power/natural gas, and biomass/coal co-firing electricity projects	3	3	0
A24 Invest in farm and forest preservation efforts to prevent fragmentation due to development guided by productivity and environmental vulnerability research	0	5	2
A25 Invest in research and enact policies to protect existing native prairies from genetic contamination by buffering them with neighboring plantings of perennial energy crops	0	0	1
A26 Invest in efforts to develop sufficient seed or seedling stocks for large-scale plantings of native prairie grasses/other perennial crops	0	0	0
A. Promote a healthy rural economy	0	0	1
B27 Invest in research and policies regarding "green payments"	2	0	2
B28 Investigate opportunities to provide tax incentives for renewable energy investors	2	0	2
B29 Provide incentives and invest in research to determine the costs and opportunities of electricity production for transportation	0	0	2

B30 Invest in efforts to develop/research to support, community-based, locally owned energy platforms for producing electricity, transportation fuels, fertilizer, etc	2	1	2
C Promote energy conservation efforts	0	0	7
C31 Promote policies and incentives that encourage carbon-neutral businesses, homes, communities and other institutions	0	4	3
C32 Invest in public education focusing on benefits and strategies for energy conservation	2	1	4
C33 Develop standards and incentives for energy capture from municipal sanitary and solid waste, and minimize landfill options	0	2	1
C34 Implement policies and incentives to lower energy use of housing stock while monitoring the performance of improvements	0	0	2
C35 Promote policies and strategies to implement smart meter and smart grid technologies emissions	0	1	1
C36 Develop incentives to encourage the widespread adoption of passive solar and shallow geothermal heat pump systems in new residential and commercial building construction	0	6	1
D Promote reductions in mercury deposition	0	0	6
D37 Develop mercury reduction strategies and assessment tools for the state to meet federal Clean Air and Clean Water Act standards	0	1	1
D38 Develop a strong public education and outreach focusing on mercury health risks and techniques for reducing mercury loads	0	0	1
D39 Provide adequate resources to continue to enforce/support existing mercury regulations and programs for reduced mercury	0	0	0

Land Use Practices Recommendations

MN SCPP Recommendations	Morris Forum	Grand Rapids Forum	St. Paul Forum
A. Agricultural land use practice recommendations	0	0	2
A40 As much as possible, transition renewable fuel feed stocks to perennial crops.	0	0	6
A40 a) Research to assist producers select site-specific perennial species for cellulosic feedstocks.	4	0	2
A40 b) Policy to incentivize a shift to perennial plant feedstock sources	4	0	2
A41 Reduce streambank erosion through reductions in peak flows	0	5	0
A41 a) Research quantitative relationship among precipitation, artificial drainage systems, stream hydrology trends.	5	0	1
A41 b) Policy for peak flow reductions and mitigation of peak flows from artificial drainage systems.	3	0	2
A41 c) Protection investment to strategically target programs for reduction of peak flows	1	0	1
A42. Reduce upland and gully erosion through soil conservation practices	2	0	0
A42 a) Policy to phase in outcome-driven, practice-flexible soil and water conservation plans for all farms	0	0	6
A42 b) Protection investment in education/incentive programs for land owners in critical sediment source areas	0	0	0
A43 Improve design/targeting of conservation through improved/timely data collection & distribution	0	2	0
A44 Increase protection of important agricultural lands in local land use planning	0	5	3
A44 a) Policy to encourage land use suitability modeling and mapping and programs	0	0	0
A44 b) Investment in technical assistance and outreach materials and tools for ongoing support to local governments	4	0	0
B Urban land use practice recommendations	0	0	6
B45 Ensure protection of water resources in urban areas by valuating/improving current programs	0	1	3
B45 a) Establish a credit system for storm water and Low-Impact Development (LID) BMPs	0	1	1
B45 b) Simplify modeling for Total Maximum Daily Load (TMDL) compliance	0	0	0

B45 c) Monitor TMDL BMP implementation	0	0	1
B46 Establish a more effective and coordinated land planning process	0	9	4
B46 a) Conservation-based planning	0	0	5
B46 b) Land use, development and investment guide	0	2	5
B46 c) Invest in a pilot planning project along a MN corridor that focuses on integrating "gray infrastructure" with existing "green infrastructure"	0	1	2
B47 Establish funding sources and tools for community conservation-based comprehensive plans	0	2	0
B47 a) Fund the creation of a user-friendly carbon calculator for communities	0	0	5
B47 b) Invest in a Conservation Catalyst Fund	0	0	0
B47 c) Provide communities with the tools necessary for developing and implementing conservation-based comprehensive plans	0	1	1
B47 d) Provide communities with support and technical assistance through a Minnesota Community Enterprise Partnership	0	0	3
B47 e) Establish a statewide grant program to build capacity to conserve water quality, natural lands and parks	0	2	6
B47 f) Support state agencies to provide conservation and development assistance to growth communities	0	0	1
B48 Invest in generating base data and information necessary to support decisions or tools	0	0	2
B48 a) Update land cover databases and remote sensing capabilities	0	1	0
B48 b) Develop data in areas vulnerable to development or conversion of land cover	0	0	1
B48c) Develop statewide Light Detection and Ranging (LiDAR) database	0	0	2
C. Transportation practice recommendations	0	0	0
C49 Integrate streamlined environmental transportation project review	0	0	2
C50 Reduce per capita vehicle miles of travel	0	0	0
C51 Align transportation planning across agencies and across projects	1	2	5
C52. Develop research programs on habitat fragmentation	0	0	2
C53 Reduce nonpoint source pollution to surface and ground waters	0	1	0
D. Forestry land practice recommendations	0	2	1

D54 Provide incentives for sustainable forestry	0	1	1
D55 Assess tools for forest land protection	0	1	1
D56 Protect large blocks of forest land	0	2	1
D57 Establish state leadership on natural resources and land use	0	6	0
D58 Connect best management practices to biomass harvesting	0	0	1
D59 Assess and improve sustainable forestry best management practices	0	1	0
D60 Fulfill the Scientific and Natural Areas (SNAs) mandate	0	1	4
D61 Expand the supply of, and demand for, sustainably harvested wood	0	2	1
D62 Promote collective/cooperative management of forestlands at a landscape level	0	2	0
D63 Increase our understanding of invasive species	0	2	1
D64 Create deer exclusion pilot projects in every ecological subsection	0	1	0
D65 Support the use of fire to increase forest health and biodiversity	0	6	0

Public Comments

The following compiled comments were submitted to the project team before and after the outreach forums from 28 sources, including two of which were state agency comments that were a compilation of multiple personnel in each agency. All comments are listed under the question or category designated by their authors.

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A. Reactions: What aspects of the plan or specific recommendations caught your attention?

Energy issues

Energy related issues appear to be much more prominent than in previous LCMR or LCCMR issue documents. While many of the energy related issues are related to natural resource conservation and preservation, some are more distantly related. To some extent the prominence of energy recommendations dilutes the importance of the “traditional” natural resource issues. Perhaps energy issues deserve a separate report.

Many financial recommendations

Nearly every recommendation includes a financial recommendation. The recommendations may be best received if there is a clear demarcation between the technical, science based recommendation first.

High number of Energy recommendations

There is a very high number of recommendations that are focused on Energy Production and Use – surprising.

Good holistic approach

The plan seems to take a holistic, comprehensive, systems approach from a landscape point of view to the issues and opportunities. Thank you to all for the hard work. We are pleased because an approach based on Best Management Practices (best management practices) is too limited because many BMPs are intended as a simple substitution or reduction of usage within a dominant system that is unchanged. Research, as least

in agriculture, is clear that while best management practices are needed, the landscape must be diversified in some areas to achieve water quality and water storage improvements needed to achieve major landscape goals.

Areas where land use changes may limit future opportunities

Many references are made in the “Brief summaries of DRAFT Recommendations” document about the preservation and protection of forest lands including: Implementing a long-term habitat acquisition and protection plan as soon as possible. The State should focus on shore land large contiguous land areas; threatened habitat areas; rapidly growing areas; and areas where land use changes may limit future opportunities.

The project team recommends that the State develop firm policies that would incentivize the growth of energy crops on conservation lands and marginal farmlands...Strategies and policies are needed to protect farms and forests, and prevent fragmentation....achieving carbon neutrality.....a statewide land use, development and investment guide is vital given the intense competition for land and resources and the scarcity of funds.... Develop research programs on habitat fragmentation....payments for conservation easements,...Protect large blocks of forest land. Expand the supply of, and demand for, sustainably harvested wood.

The strategic report entitled “Minnesota Forests for the Future” for the DNR Commissioner is targeted at “Conserving Minnesota’s working forestlands to meet the state’s future recreation, economic, and ecological needs”, I would ask that the recommendations found in that document be included in the Minnesota Conservation Plan. I think that you will find valuable, concrete recommendations that will make your task much simpler especially in regard to Forest Legacy and Fee Acquisition initiatives for keeping working forests working. Nothing reduces carbon like a forest full of vibrant, young, growing trees and nothing prevents land fragmentation better or less expensively than a well designed Conservation Easement.

Cold water streams

Minnesota is a state with awesome lakes, but it also has one of the highest concentrations of coldwater streams in the nation. These coldwater streams have great recreation potential as well as potential for restoration. I felt after reviewing the plan that not enough information was presented on coldwater streams.

B. Strengths: In assessing how the plan/recommendations benefit the MN natural resources, what are key strengths?

Acquisition of critical land and habitat

Recommendations for acquisition of critical land and habitat would result in the most benefit, assuming this acquisition is completed in a relatively short time frame.

Strong connections between land use and conservation

There is a strong connection between land use and conservation that is made. In general, this is the first ‘wholistic’ approach to land and water management that has been done to date.

Energy Use and Production

Energy Use and Production section C is foundational. If we do not take conservation seriously all the other efforts will essentially fail.

Restoring coldwater streams

Spring creeks are extremely vulnerable to degradation. Early European settlement and agricultural practices from 1850's to 1930's led to wide scale erosion, flooding, and the altering of the region's streams and valleys. As a result, hundreds of miles of clean coldwater spring creeks were inundated with tons of fine sediment. As much as 12 to 15 feet was deposited in the valley floors. Although land use practices, erosion control, and stream health have improved tremendously since the 1930s, the legacy of the past continues to haunt Southeast Minnesota coldwater streams. Many of the streams today still have steep eroding banks, incised channels, and poor in-stream habitat. Annual sedimentation coming off streambank ranges from 250 to 1000 tons per mile and is responsible for as much as 85% of the total sediment load that enters the stream. Minnesota's coldwater streams have a potentially bright future, though. The rivers and fishery have responded strongly and quickly to straightforward techniques to control erosion by stabilizing the banks with limestone rock covered with soil and seeded to native vegetation; reconnect stream to the floodplain; and improve in-stream habitat for both game and nongame species.

C. Weaknesses: In assessing how the plan/recommendations benefit MN natural resources, what are weaknesses or gaps?

Weak Urban Land Use recommendations

Recommendations in land use urban development are weak. It is no longer a matter or lack of tools/knowledge in metro areas, but lack of political will! E.g. high density development, mass transit, eco-industrial complexes.

Underdeveloped surface water recommendations

The recommendations on surface waters seem underdeveloped. I would expect that the 'land of 10,000 lakes' would have more emphasis on water management. WE ARE AT THE HEAD OF 3 MAJOR WATERSHEDS HERE IN MINNESOTA. We of all states should recognize that a huge percentage of water quality problems in the state are due to us, and no one else (aside from Aeolian transported pollutants).

Lack of farmer input

I noticed in the draft report that there has been very little involvement from agriculture on the team who wrote this draft or provided "expert" testimony. Tonight's forum was going to be the first one were several farmers were planning to participate. Since there are many recommendations related to agriculture and biofuels, we would like to have a more active role in this process, beyond simply submitting written comments. Is it possible for the Ag groups to sit down with the leadership of the team who put this draft plan together? How can we be more involved as the process moves forward?

Lack of forests/forest resources in the plan

The recommendation that we would offer is to enhance the inclusion of forests and forest resources in the plan. Specifically, we were surprised that the recommendations on alternative energy (#'s 15-26 had scant mention of forests, woody biomass, tree plantations, etc. but other energy sources were specifically mentioned (#19 corn stover, #'s 25 & 26 native prairies, as examples). This seemed like a major omission.

Although the last set of recommendations in the plan specifically address forests including forest biomass harvesting (#58), it doesn't seem necessary to keep most forest-related recommendations in only this section. It would be appropriate to include the term "woody biomass" somewhere in the alternative energy section.

Minnesota has approximately 16 million acres of forestland, and it is important that this land base, the products and resources it offers, and the benefits it provides to our citizens is robustly included in the Statewide Conservation and Preservation Plan.

Too many research recommendations

While some of the research related recommendations might result in future benefits, much of the research may be useless if the resource base is allowed to be developed, converted to other uses, degraded, etc. Research is important, but seems to represent a much greater proportion of the recommendations than warranted. I assume this is due to the fact that the University is the major research institution of the state.

Uneven levels of detail and emphasis

The document is uneven between sections in the level of detail and emphasis. Specifically, the "Land and Aquatic Habitat Conservation" section is incomplete, and the "Land Use Practices" section is at a different level of depth in the strategies, providing comparatively (overly) detailed strategy statements. Non-forest native terrestrial habitats (e.g., native prairie and savanna) are under-represented in the strategies, as are other unique and rare native plant communities (e.g. fens and rock-outcrop plant communities), whose protection and restoration is important. I am surprised over the relative absence of restoration as a strategy (versus just having the word in the title) despite your own findings that habitat fragmentation, degradation, loss, and conversion is a concern for land and water.

Narrow scope of people involved

I received the preliminary state conservation plan and thought I would provide initial comments before I dig further into the details. With a document as potentially valuable as this could be for our state and region, it is unfortunate that the scope of those involved was quite narrow. It will be difficult for this document to gain social, political or industry support under this circumstance. The drivers listed seem to be one removed from the actual driver, or the definition of a driver should be evaluated. As a farmer, my primary driver is the demand for products which is driven by consumers. My secondary driver is federal farm policy (this has just recently flip-flopped). The impact I have on the natural resource is driven by these two forces. Soil erosion is not driving anything, although it is impacting both production and natural resources. It may seem redundant to continually refer to consumers as the driver of our resource consumption and impact, but it seems more relevant than not addressing this. The boat wake impacts the resource, but the driver is the consumer demand for recreation opportunities on clean water. I would change the entire document perspective and call it:

Preserving and Expanding Minnesota's Bio-Economy and its vital Production and Natural Resources. I guess a defining question becomes if we are willing to include our billion dollar fishing industry as a component of a bio-economy. I can debate the merits of that. I know my farm is part of the bio-economy whether my production is used for food, fuel, or fiber. Forests are also part of the bio-economy whether it is hiking, logging, or carbon sequestration. We have many natural 'recreation opportunities' in Minnesota. Basically, consumers spending their money to access and enjoy. It may sound more Thoreau than a bio-economy, but it isn't. I think this document holds up our state's resources to a level that is not viewed by

society, or one that is even able to be integrated into society. Consumers need to understand that they and the related policies are the drivers of the condition of resources of the bio-economy whether that is soil, lakes, rivers forest or open space. And while policies can greatly influence how the resources are managed, they can not trump consumers' wants and needs. With all that aside, we do need to accomplish many and most of the outcomes as identified in the document. My opinion is that the road to get there needs to be based upon how the production and natural resources in our state are consumed, used and valued by consumers, society (policy) and industry.

No consideration of beavers

The Statewide Conservation and Preservation Plan would be much more useful for local water resource managers if it were to consider in at least some small way the keystone role of beaver in Minnesota streams and on the historical landscape. John Nieber may have some suggestions for how that might be done.

We don't have any specific beaver restoration projects in this region but we likely will have a beaver removal project on the Cedar River in the Austin area. The Mower County SWCD staff is proposing to remove the dams to alleviate localized flooding and increase stream conveyance. If that occurs, Joe Magner from the UM/MPCA will likely have a graduate student study the hydrologic impacts and Neal Mundahl from WSU will have his undergraduate students study the biological changes – particularly the changes in macroinvertebrates. The Cedar River survey is attached.

Lack of ground water emphasis

Ground water is not given much emphasis in the proposed plan. It is mentioned only with respect to ground-water's connection to surface water and ecosystem management. We believe that ground water's role should be fundamental in each of the major recommendation groupings. We also believe that the it needs to address the interaction between surface and ground water and the need to protect ground-water resources with stronger statements than are currently in the Plan. There is one solid recommendation under the "land and aquatic habitat" section of the draft statewide conservation strategy but we feel that ground water needs to appear more systematically throughout the document. We understand that the series of recommendations reviewed at the meeting on May 29 were summaries only. The summary with respect to ground water may have understated the depth of the full recommendation.

We believe that ground-water quantity and quality have not received the attention they deserve. The challenge is to identify solutions in the form of research, policy changes, education, or other action that can be taken. The recent 2008 Clean Water Act Section 305(b) Report by MPCA states that a panel of nine experts representing five state agencies identified these five activities as the major sources of ground-water contamination in Minnesota:

- animal feedlots
- fertilizer applications
- pesticide applications
- storage tanks (underground)
- septic systems

These land use practices that would logically be addressed under LAND USE PRACTICES A. Agricultural and B. Urban. Many people continue to use their faucet as an indicator that “everything is OK” with ground water and ignore the fact that wells are constructed specifically to avoid contamination. Monitoring programs that sample water that is hundreds or thousands of years old and have little to do with land use practices are another source of false feedback. Maybe a good recommendation is that monitoring be conducted in the unsaturated zone, or at the water table, to determine how much of the fertilizer and pesticides are passing through crops or turf. Gyles Randall’s work in this area was very revealing. We might also suggest that ground water monitoring results always include some indication of the age of the water being tested. You wouldn’t need a date for every test, but a date or other indication of age for each monitoring well would give context to the results related to samples from that well. The paragraphs below contain some ideas about work that could be done to address these problems.

The quality of ground water (and related surface water in Minnesota) continues to degrade due to the inadvertent loss of waste products and the loss of fertilizer and pesticide compounds we intentionally apply. Monitoring of the long term effects of these losses is ill-served by monitoring that focuses on water-supply aquifers. These aquifers generally are deep in ground water flow systems and when the contaminants are detected in them the damage is not easily corrected. Monitoring nearer the point of application (the land surface) is needed to determine the contaminant load being introduced. Additional monitoring along the flow path would address the ability of the system to reduce or delay the contaminant load to aquifers as well as understanding the fate of contaminants. Subsoil drainage systems are an example of convenient and direct access to ground water that has passed through crop systems or turf and into soils. Sampling techniques for areas without drainage are available. The quality of this subsoil water that will either recharge aquifers or discharge to surface water bodies is the key to understanding and managing the long term quality of our water.

Two goals are important to managing the impact of septic systems on ground water. One is to ensure that all systems in use are constructed and maintained in a manner that allows them to function properly. This goal could be achieved by regular and ongoing assessment of existing systems. The second goal should be a re-examination of the technology of individual sewage treatment systems with respect to the waste stream they receive. If the current technology is not able to reduce nutrient loads, or is not able to break down the pharmaceutical compounds or household cleaning and personal hygiene products commonly in use, then the technology must be improved, or the waste stream must be controlled. This goal will be achieved by research and demonstration projects.

The quantity of water available is already a factor in lifestyles and economic development in some parts of Minnesota. It will become a factor in other areas as population grows. Managing the availability of ground water will require more data than is currently available and it will take a steady and long term commitment to gather those data. Withdrawal of ground water from an aquifer can result in one of three reactions. One is that the rate of recharge will increase. This means water will enter the ground and this aquifer faster than it did before. This may affect the availability of water somewhere else-- such as a stream or lake. Secondly, the rate of discharge may decrease. An example is that the base flow of a river would decrease because less ground water is discharged to the river from the affected aquifer. This has implications for habitat, and for human populations that rely on surface water. The third reaction is a reduction in the amount of water remaining in the aquifer. Over time water levels fall. This is not yet a common problem in Minnesota, but it is in adjacent

states. It is unsustainable. The acquisition of geologic mapping, hydrologic properties, and aquifers and stream level data will facilitate better monitoring and recognition of aquifer reactions, and better simulations of proposed water uses or predicted future demands.

We also have attached the detailed recommendations on ground water that was prepared for this plan. We believe they should be considered again in preparation of the abbreviated recommendations in the Plan.

D. Implementation Challenges: What might be potential challenges to effective implementation of the recommendations or plan?

Getting people to act

How do we get the public and our political systems to act?

Dispersed land use authority

Dispersed land use authority. Small LGUs (who may have good intentions) may not have the technical capacity to evaluate the short or long term effects of land use on natural resources.

High commodity prices

In agriculture, high commodity prices always prove a challenge. This is because the paradigm in farming, research, marketing and policy is typically based on maximizing yield and gross profits. When prices are high, too many are encouraged to and decide to rip out conservation to achieve maximum production.

A stewardship ethic is not widely embedded in agriculture

Therefore decisions about conservation come second to production, even though those decisions may harm future production potential or the long-term sustainability of the resource or profit for small and mid-sized family farms.

Climate warming with more high intensity storms requires conservation systems and landscape diversity at least in key areas. Research has shown that single best management practices will not be adequate in the face of significantly increased amounts and intensity of precipitation (SWCS 2003, Digiacomio et al 2001).

Narrowing down number of recommendations

I think it will be difficult to narrow down the numerous recommendations to a smaller number that the LCCMR can actually use as a focus for funding decisions. The funding needed to adequately address even a small portion of these recommendations far exceeds the resources available through the LCCMR process. This is an issue that should be highlighted in the report.

Funding and lack of expertise

Funding and lack of technical expertise are two of the primary challenges to effectively restoring SE Minn streams. Currently participation by landowners using Farm Bill dollars for streambank stabilization is limited because of low cost-share rates placed on rock rip-rap/bank stabilization. By piggy backing the Environmental and Natural Resources trust fund dollars with federal dollars, streambank stabilization projects will once again be affordable.

Outcomes:

- Increase the effectiveness of stream restoration efforts by coordinating them with upland soil conservation and land protection efforts.
- Improve water quality by reducing sediment inputs from eroding stream banks and other contributing sources.
- Benefit fish populations by expanding aquatic habitat through channel and riparian vegetation restoration.
- Increase community support and awareness by engaging volunteers in restoration and monitoring activities.
- Build capacity of Soil and Water Conservation Districts, NRCS, local TU chapters and their agency partners to implement stream restoration projects.
- Raise public awareness of the unique resources Southeast Minnesota's Driftless region and support their restoration and protection.
- Create an economic benefit to local communities.

E. Implementation Advice: What suggestions and advice or do you have for implementing the recommendations effectively?

Focus on a smaller number of recommendations

I think the LCCMR should try to focus on a fairly small number of recommendations and try to have a real impact in those few areas. There should be an effort to provide these recommendations to other committees of the legislature that deal with natural resource issues. The University should pursue many of the research recommendations regardless of whether they may be funded through the LCCMR process.

Multiple benefit recommendation evaluation

Each recommendation could be evaluated based upon the multiple benefits that are realized when the recommendation is implemented. E.g. If habitat corridors are established, infiltration may be improved, reducing the impact of increased stormwater volumes to waterways and improving the water quality (not a great example, but you get the idea). Recommendations that have the greatest effect on other recommendations should be implemented first.

Identify public values

It would be very beneficial to identify the PUBLIC VALUES of natural resources. Example: encroachment of homes on WMAs and other natural landscapes. Due to the very nature of homes ringing a WMA, the wildlife is negatively effected, the use of the public land for wildlife is reduced. What was gained by individuals around the WMA (open space out their back door, great viewsheds) comes at a cost to the public.

Natural resource information

Additionally, the plan would be well served by characterizing the role of the State in providing a foundation for natural resource information. Investments in durable, baseline, cost effective natural resources information that is common to all parts of the state (not just the Metro, as in TMDL identification) will yield dividends in the form of better decisions by those who have been given the power to guide the use of the state's resources.

Education programs

Education programs need to help create a stewardship ethic by providing more background on ecosystem dynamics, tours on farms that have adopted high levels of stewardship and are profitable over time with high prices and low prices and droughts and high rains.

Three useful concepts to help the plan address conservation and preservation in a more holistic manner

1. There is an opportunity in the Minnesota Statewide Conservation and Preservation Plan to incorporate broader system-wide approaches to Minnesota's environmental challenges. Three useful concepts that could be incorporated into the plan to help it to address conservation and preservation in a more holistic manner are:

- LEED-ND
- Eco-Industrial Development
- Community Sustainability

Community Sustainability integrates the natural, built and social environment and is a useful lens for viewing environmental issues and preparing for the future. It encourages efforts that will simultaneously work to preserve biodiversity, local economies, and clean energy - and it's ultimate goal is to conserve human and natural capital. The Minnesota Statewide Conservation and Preservation Plan should reference the concept of sustainability and seek to promote assistance to communities to become more sustainable. Many assistance providers, in and outside of Minnesota state government, have been providing sustainable communities assistance for a number of years. Communities throughout the state, as diverse as Minneapolis, Steele County, Duluth, Winona County, and Dakota County have demonstrated the usefulness of a sustainability-related approach.

Where possible, the plan should not prescribe specific tools that are needed to accomplish goals (i.e., carbon calculator, land use development guide, scenario planning tools) but should instead focus on the ultimate broader goals. As the needs that are addressed in this plan will evolve over the next years, it will remain a more useful document if it does not lock in the need for certain specific tools which may or may not be necessary over this time period. Also, it is often more effective to survey communities to help assess their assistance needs first and then to follow up with the specific tools and approaches needed, rather than to develop pre-selected tools first.

Specifically for recommendation #47, the language could be broadened to something like "Establish an assistance program that will provide funding and tools for Minnesota communities seeking to implement conservation and sustainability-related activities." The recommendation would focus less on specific tools and planning in the bullets below, and more in providing resources, funding and assistance to communities.

- Instead of focusing on a specific tool, the language for #47. A. could be broadened to "Provide assistance to communities to measure their carbon impact. This could include training of communities to use carbon calculators, development of Minnesota-specific tools as needed, and development of a statewide database on community carbon impacts. This recommendation also links to #18.
- #47 C. could be broadened to "Provide communities with assistance necessary for developing and implementing conservation activities, including planning."

Recommendation # 32 could be expanded from a focus just on energy conservation education to other activities related to conservation and preservation. It would be helpful to increase the degree of public education in

the plan. This would help to assure public involvement in activities implemented under this plan as well as encourage actions by individuals to meet plan goals.

Change some language

A change in some language:

Urban/Community land use practice recommendations include: 47. Establish funding sources and tools for Minnesota communities seeking to prepare and implement conservation-based comprehensive plans. Support state agencies to provide conservation and development assistance to growth communities. Projected increases in population pose imminent threats to Minnesota's unprotected natural habitats and serious land availability issues for developing communities. The project team recommends providing incentives AND TOOLS for communities to develop in ways that conserve natural resources. Incentives AND TOOLS could include natural resources information, data and analysis; technical assistance IN USING TOOLS SUCH AS THE NATIONAL LEED-ND RATING SYSTEM AND A MINNESOTA-SPECIFIC CONSERVATION DESIGN SCORECARD; training workshops; site and community design; and mentoring opportunities.

F. Other Feedback: What are other comments or suggestions ?

Need more emphasis on aesthetics

There should be more recognition and discussion of the aesthetic and scenic benefits of natural resource conservation and preservation. While perhaps more difficult to describe or quantify than benefits such as conserving water quality, preventing soil erosion, habitat and species protection, carbon sequestration, etc, these aesthetic benefits are real and important from both a social and economic perspective. Much of the attraction of the North Shore area, for example, is due to the scenic nature of the land and lake shore. People simply enjoy beautiful scenery and may well be more easily persuaded to protect natural areas based on their scenic values than on the basis of species protection or sound principles of ecosystem management. These aesthetic benefits are clearly reflected in the writings of Aldo Leopold and Sigurd Olsen but too often seem to be neglected by natural resource specialists and professionals today. We need to recognize the importance of scenic vistas, inspiring panoramas, lack of man-made noises, natural displays of color, etc. These are important natural resource experiences worthy of protection and conservation.

Feedback on specific recommendations

Land and Aquatic Habitat

- B. Please add language about upland impacts in steeply sloped areas that drain into tributaries, rivers and lakes.
- B.7 Add keeping water in the landscape in agricultural areas. The way to do that with the most multiple benefits is by increasing organic matter in the soil. That means not only reducing tillage but also high levels of nitrogen fertilizer. It means adding cover crops in row crops, more areas with diverse (including organic) rotations, more grass for animals and cellulose in environmentally sensitive areas and beyond, as well as wetland restoration covered in B.9.

Energy Production and Use

- The idea of growing row crops for energy in steep areas or near water bodies should be directly challenged. It does not make ecological or energy sense. In general in this section more should be said about protecting diverse lands, whether or not it is in the farm bill (observing sodbuster, swampbuster, converting CRP to Conservation Stewardship Program working lands using grass for animals or energy), etc. I appreciated the discussion about community scale described more in section B. Please be sure section A references or is clearly linked to B, if that is your intention.
- A. 25 is key
- B. 27 Use RIM-CE and Conservation Security Program as models for how to do this. Both are based on a tiered system with highest payments for the most multiple benefits such as wildlife habitat, watershed protection, soil erosion reduction, biodiversity, water storage, etc.
- Section C. Add energy conservation in agriculture, including more regionalized and sustainable food production systems.

Land Use Practices

- 40. Add a transition to animal production as well as renewable fuel stocks to perennial crops. Talk about the value of mixed stands of forbs and grasses that have built in N fixing potential.
- 42. The intent is good, need to mention the value of restoring perennial grasses for animals and energy on steeply sloped lands —look at choosing slopes greater than 6% or another justifiable slope for example) as well as proximity to water bodies.
- A. 44 Add soil quality - This needs protection as well as agricultural lands per se.

Specific comments on recommendations

Land and Aquatic Habitat

- (B) Maintain/restore critical habitat at the land/water interface - Recommendations include:
 - Keeping water on the landscape - Assist LGUs by identifying land areas where stormwater infiltration can be best achieved (soils with high rates of transmissivity and available capacity to absorb). Make recommendations to preserve these areas for future use as local / regional infiltration. **Also, although peak flows are important, the duration of high water events is equally as important – this will grow in importance as global climate change has been changing the distribution of precipitation – more intense bursts.
 - Livestock producers are highly regulated on their use of manure as fertilizer by the MPCA under the banner of water quality protection from Phosphorus (and to a lesser extent nitrogen and pathogens). Trainloads of commercial fertilizer is imported into the state and applied to the landscape UNREGULATED. The loading of Phosphorus in the soil and the subsequent loss of topsoil to surface waters in these intense rain events causes phosphorus loading in our rivers and lakes.
- (C) Maintain or restore critical in-water habitat - Recommendations include:
 - Policy - The Legislature should consider enacting statewide, mandatory shoreland ordinances that are responsive to cumulative impacts, viewsheds, and shoreland impact areas.
 - Evaluation and understanding *** - The State should **complete a rapid water quality / habitat assessment of all streams in the state**, based upon the abundance and diversity of invertebrates (Hilsenhoff Biotic Index, or HBI).

Energy Production and Use

- (A) Promote alternative energy production strategies - Recommendations include:
 - ✦ 24. Invest in farm and forest preservation efforts to prevent fragmentation due to development guided by productivity and environmental vulnerability research - Valuation of property based upon a future highest and best use fosters the actualization of those future uses. Property valuation should be 'stepped up' only after the land use has changed to that future, higher value use (development), and not before. The Green Acres model is good.
- (B) Promote a healthy rural economy - Recommendations include:
 - ✦ 27. Invest in research and policies regarding "green payments." - Learn from the USDA's Conservation Security Program, which mirrors the intent of this item. The CSP is data hungry, burdensome to administer and monitor. It pays ag. Producers for doing the right thing, which is good. ** By the way, the RIM program has been only effective in the focus areas of the Minnesota River Valley and in areas where it was combined with USDA in the Conservation Reserve Enhancement Program. The RIM is largely invisible in the rest of the state due to low funding levels and 'siphoning' of resources to select landscapes.

Land Use Practices

- (A) Agricultural land use practice recommendations include:
 - ✦ 41. Reduce streambank erosion through reductions in peak flows. Not only peak flows, but sustained high flows. This is a very important area of consideration in general.
- Urban/Community land use practice recommendations include:
 - ✦ 45. Monitor TMDL BMP implementation - There are many data sets out there – paired watershed studies, USDA's RUSLE. Gather existing data first.
 - ✦ 46. Establish a more effective and coordinated land planning process - Yes, indeed. The present organization of land use authority is unwieldy at best with multiple, independent jurisdictions permitting individual projects with little recognition of cumulative impacts. Solution? I don't know.
 - B. Land use, development and investment guide - Interesting and a GREAT use of state resources.
 - C. Invest in a pilot planning project along a Minnesota corridor that focuses on integrating "gray infrastructure" with existing "green infrastructure." WHAT A GREAT IDEA!!! I will add another wrinkle to that and suggest that a new WAY of making land use decisions – the collaborative model.
 - ✦ 47. Establish funding sources and tools for Minnesota communities seeking to prepare and implement conservation-based comprehensive plans.
 - Conservation-based planning - Recommendation: 1. Develop statewide green infrastructure, 2. Entice cities / twps. to adopt, 3. Provide significant resources to buy interest OR PROTECT THROUGH LAND USE TOOLS. Especially for smaller jurisdictions, the State should require and enforce a conflict of interest requirement of all LGUs so that
 - ✦ (E) Establish a statewide grant program to build capacity to conserve water quality, natural lands and parks. Coordinate public acquisition thorough comprehensive open space planning and Statewide GI planning.
 - ✦ 48. Invest in generating base data and information necessary to support decisions or tools.
 - B. Develop data in areas vulnerable to development or conversion of land cover. May I suggest the Statewide Green Infrastructure as one geographical area to concentrate?

Big 10 list of conservation challenges (From a presentations by Mike Dombeck, June 29, 2003 at the Society for Conservation Biology Annual Meeting in Duluth, Minnesota)

- Fresh Water
- Land fragmentation and sprawl
- Wildland Fire
- Loss of biodiversity
- Exotic species
- Old growth forests
- Off-road vehicles
- 1872 Mining Law
- Private land conservation
- Ecological Literacy

Are we taking the right course of action?

Close look at ethanol-water- what are the impacts? Are we locating plants in the right place?

- Are we putting all of our eggs in the biomass basket?
- Will the grid be receptive? i.e. will Co. buy excess energy from private parties.
- What about eco-industrial complexes? This is an interesting approach and reassess energy needs in production and life cycles.
- What about selling energy as a service – Would it drive conservation at the company level?
- We have the tools in the Metro area (through Met. Council) to consolidate planning and address transportation. We lack the political will to do what is necessary i.e. high density development, reduce development on urban fringe, mass transit. You need some bolder recommendations here!

Detailed recommendation suggestions

Land and Aquatic Habitat Conservation

- Part A. - Add a third strategy in this section on “Restoration and rehabilitation—land habitat” to address critical terrestrial habitat and its management, restoration, reconstruction, and rehabilitation. Among the priorities that need to be explicitly addressed are restoration and management of public and private lands for rare species and species of greatest conservation need; restoration and management of buffer areas and other sites achieving landscape level connectivity of high quality habitat; invasives species, and in prairie and savanna habitats, also woody encroachment control, etc.
- Part A. Strategy 2. - Given that less than 1% of the state’s native prairie remains and even less of its savanna communities, these types of habitats should be explicitly listed for protection and restoration.

Energy Production and Use

- Part A. - References throughout this section (and the agricultural land use section) on “perennial biomass crops” should be modified to be those with “native species diversity.”
- Part A. Strategy 16. - Add: Develop policies and incentives to encourage “Low Input, High Native Diversity” crops.

- Part A. Strategy 26. - Add: Retention of native genetic diversity is needed to provide species resiliency in the face of climate change.

Land Use Practices

- Part A. - Same as above on native species diversity substituting for perennial crops.
- Part A. Strategy 40A. - Add: The Ecological Classification System should be used to guide selection of species (with emphasis on native species diversity) and the locations for biomass crop plantings in order to maximize ecosystem services.
- Part D. Strategy 57. - The natural resource-based land use plan referenced in this strategy should explicitly say that the goal also is to improve native biological diversity.

Rationale for comments. The loss of biodiversity and healthy ecosystems in our state has progressed to the point that protection of natural areas is no longer an adequate response. To halt or reverse the decline in biodiversity we need to actively restore areas so they regain their former ecological trajectories, and to provide effective habitats for valued species. As your own research states, our habitats face serious threats to their sustainability from a variety of stresses and pressures, including climate change, larger and more frequent catastrophic wildfires, widespread insect and invasive species infestation, pollution and human use, and also disease. Also, restoration is a strategy in meeting water quality goals, in particular within in the framework of a TMDL process. In short, in coming decades, restoration as a tool, community builder, and philosophy will only grow rather than lessen in importance.

Ways to include historic and cultural resources in the plan

Looking to the draft Statewide Conservation and Preservation Plan, the following are areas into which historic and cultural resources should be woven. It is important to note that while historic and cultural resources are often categorized within “other resources” or “outdoor recreation,” the existence and treatment of these resources have wider applicability across the natural resource spectrum, and, specifically, in each of the groupings of the draft conservation and preservation plan, as described below. Some suggestions relating to historic and cultural resources would fit neatly into the existing recommendations, others not so precisely.

Land And Aquatic Habitat Conservation

- Note: The Land and Aquatic Habitat Conservation section contains a number of Research and Acquisition recommendations that would also apply to historic and cultural resources, as noted below:
- A. 1 Research - Just as other types of natural resources would benefit from a greater level of research, so would cultural and historic resources, to better understand how these resources are impacted by and interact with larger changes in settlement patterns, human behaviors, etc.
- A. 2. Acquisition - When various types of habitats are acquired for preservation, care should be given that cultural resources are considered and preserved as well. For example, when water-related properties are acquired, careful consideration of potential impacts on archaeological resources should be considered.
- B. 3 Research - See A. 1. As Above
- B. 4. Acquisition - See A. 2. As Above
- B. 5. Acquisition - See A. 2. As Above

Energy Production and Use

- Overall, use of existing resources, including cultural resources should be given specific consideration within this section. For example, in C. 34. the recommendation states that the “state [should] develop specific policies and incentives to improve construction practices for new residential homes.” [Emphasis added]. In the historic preservation field, we have a saying: “The greenest building is the one that is already built.” The thinking should move towards preserving existing resources. Similarly, in recommendation C. 32, the Society could play a role in assisting with public education.
- Also, arrayed throughout this section are recommendations for financial incentives for alternative energy sources and approaches. Similarly, financial incentives are needed, particularly at the state level, to assist with preservation of historic resources. Thirty other states provide a state level financial incentive for private owners of historic resources to improve their properties, and Minnesota should join this group.
- Recommendation cluster B suggests, “Promote a healthy rural economy.” Preservation and promotion of cultural and historic resources can help to achieve this goal through:
 - ✦ stimulation of the construction economy through a sustainable renewal of historic structures on Main Streets of small and large towns across the state.
 - ✦ Promotion of sustainable tourism, close to home, through preservation and promotion of existing cultural features.

Land Use Practices

- This area contains a number of current practices in which cultural resources are currently part of the land use planning process. However, greater awareness is needed in the areas of the importance and value of cultural resources.
- Specifically some of the recommendations that relate or could relate to cultural resources include:
 - ✦ Agricultural land use practices - efforts should be made to identify and protect historic resources including, but not limited to historic agricultural structures, such as barns and other structures; historic agricultural districts, or concentrations of historic resources retaining historic and scenic characteristics; and scenic areas.
 - ✦ Cultural and historic resources should be specifically woven into the following recommendations:
 - 46. - Establish a more effective and coordinated land planning process
 - 47. - Establish funding sources and tools for Minnesota communities seeking to prepare and implement conservation-based comprehensive plans.
 - 48. - Invest in generating base data and information necessary to support decisions or tools.
 - 49. - Integrate streamlined environmental transportation project review and
 - 51. - Align transportation planning across agencies and projects. (Cultural resources are part of state and federally-mandate transportation reviews, and should be included in any reforms of these processes.)
- Suggested Language in Specific DRAFT Recommendations:
 - ✦ 32. - The MN Historical Society could play a role in public education. Add a sentence to the end-- “Form partnerships with public education organizations like the Minnesota Historical Society to take the message to the public in innovative ways.”
 - ✦ 34. - The MN Historical Society can promote historic preservation thereby lowering . “Implement policies and incentives for reuse of existing structures, thus sustaining the existing materials.”

- 46. - considers urban planning and could integrate historic preservation into the larger planning framework. In part A, add, "Reuse of existing structures helps to limit urban expansion and should be encouraged."
- 47. D. - Add: "One such activity is historic preservation which reuses existing structures and contributes significantly to the quality of life."
- 47. E. - Revise title sentence to read "Establish a statewide grant program to build capacity to conserve water quality, natural lands, parks and historic resources." In sentence three insert "...to protect natural **and historic** resources." And in the last sentence repeat the phrasing of the first with "...natural lands, parks **and historic resources**."
- Other Specific Recommendations to incorporate into the Statewide Conservation Plan:
 - Support and fund research efforts to identify important historic and cultural resources, as well as emerging issues in the cultural resource management field.
 - Support efforts to preserve important historic sites and cultural resources by providing funding for preventative maintenance and preservation.
 - Protect important archival documents that yield or may yield important natural resource information.

Historical and cultural observations relating to the plan

In its original form, the Legislative Commission on Minnesota Resources was a significant source of funding for projects related to the identification and protection of Minnesota's historic and cultural resources. Among the projects funded by LCMR was the Minnesota Statewide Archaeological Survey, which lasted from 1978 to 1981. Other projects aided in the protection of important archaeological properties and the interpretation of significant historic sites that contribute to educational and recreational opportunities throughout the state.

- Historic or cultural resources are the cultural counterpart to the ecological resources that have shaped the experiences of Minnesotans for thousands of years. Their protection and interpretation contribute to the state's quality of life and are consistent with a conservation ethic.
- During review of the draft "Minnesota Statewide Conservation and Preservation Plan", several areas were identified where there are intersections between the Commission's proposed priorities and the protection of historic and cultural resources.
- A number of identified priorities involve acquisition of critical habitat lands. In Minnesota, there is a strong correlation between the presence of ecologically important features and the presence of archaeological sites reflecting human occupations reaching back almost 10,000 years. Protection of cultural resources could be included as a consideration when setting priorities for acquisition of sensitive habitats.
- This is a particularly important point when considering acquisition of land for improving outdoor recreation opportunities. Historic and cultural sites are significant components in outdoor recreation networks, and heritage tourism is a growing segment of the overall tourism market. Investing in acquisition of lands that contain features of both natural and cultural significance would increase the overall value of the investment to the citizens of the state.
- Another proposed priority is support for local communities developing conservation-based comprehensive plans. Those plans should take into account the presence of cultural resources in areas that may be subject to future development. This is particularly important in the case of resources such as burial mounds, for which protection is mandated by State law. Similarly, grants and other forms of support for locally-based conservation efforts can encourage communities to incorporate consideration of cultural resources into their planning efforts.

- Recommendations for sustainable forestry land practices can also provide opportunities for protection of cultural resources in forested landscapes through the use of landowner incentives and conservation easements. Targeting areas that are of both natural and cultural sensitivity will contribute to long-term protection for a range of important resources.

Cold water streams

I would suggest additional information about Minnesota's cold water streams be added to the plan, with language encouraging LCCMR to partner with other organizations. Just last month Trout Unlimited did a survey - *The Economic Impact of Recreational Trout Angling in the Driftless Area* (attached to this e-mail). **Recreational Angling** in the Driftless Area of southeast Minnesota, southwest Wisconsin, northeast Iowa, and northwest Illinois generates an impressive \$1.1 billion annual economic benefit to the local economy.

Feedback on specific recommendations

B. Urban/Community land use practice recommendations include:

- ***45. Ensure protection of water resources in urban areas by evaluating and improving current programs.***
 - ✦ ***A. Establish a credit system for stormwater and Low-Impact Development (LID) BMPs.*** Various stormwater regulatory programs have the potential to significantly improve water quality in a large number of water bodies throughout Minnesota. However, their implementation is inhibited by the absence of a meaningful credit system for stormwater and LID BMPs. The project team recommends the development of a credit system that would address and provide incentive toward a wide range of BMPs.
 - **Comment:** The issue of credits has been a common theme that has merit but requires better definition. This recommendation could be strengthened by referencing Conservation Design as well as LID practices.
 - **Comment:** There are a wide range of factors influencing performance BMPs, of which the details of proper design, installation and operation/maintenance are critical. For example, substantial areas of the state have heavy soils that will need additional design and construction considerations.
 - **Comment:** From a TMDL and basin management standpoint, primary emphasis is upon mass balance assessments of stormwater flow networks and hence, credits will need to be related to reasonable estimation of water and pollutant loads.
 - **Comment:** This recommendation seeks a credit system to provide incentives for construction of BMPs. The credit system could also specifically include incentives to ensure success of long term operation and maintenance of the BMPs. This might include requirements for design of BMPs in the first stage of development, education/certification of those constructing BMPs, post-construction inspections for plan conformance, and operation and maintenance plans for new owners or management companies as examples.
 - ✦ ***B. Simplify modeling for Total Maximum Daily Load (TMDL) compliance.*** Cities need a relatively simple stormwater modeling system to provide reasonably accurate estimations of runoff and a range of pollutant loading and the changes to their loading if various BMPs are implemented on portions of the land in their jurisdiction. The project team recommends the development of a model that could be used by all cities and other landowners with low technical knowledge and manageable input requirements.

- Comment: There is an increasing need for planning tools. Stormwater surface water monitoring and assessment is complex and BMPs cover a range of structural and nonstructural practices. However, simplified tools are needed with clearly defined expectations as to appropriate usage and limitations. Modify language as underlined
- 47. **Establish funding sources and tools for Minnesota communities seeking to prepare and implement conservation-based comprehensive plans.**
 - **F. Support state agencies to provide conservation and development assistance to growth communities.** Projected increases in population pose imminent threats to Minnesota's unprotected natural habitats and quality of lakes, rivers and streams and serious land availability issues for developing communities. The project team recommends providing incentives for communities to develop in ways that conserve natural resources and protect water quality. Incentives could include natural resources information, data and analysis; technical assistance; training workshops; site and community design; and mentoring opportunities.
 - Comment: Modify language as underlined

A. Promote Alternative Energy Production Strategies. Recommendations include:

- 15. **Invest in research and demonstration projects on a landscape scale.** Energy crops are expected to play a major role in development of biomass resources for next-generation biofuels or carbon-neutral electricity. The project team recommends coordinated research and policy experimentation to develop and refine renewable energy production systems. The efforts should focus on biomass farming that emphasizes perennial biomass crops. A workable quantitatively-based definition of 'carbon-neutrality' should be developed that will be useful for purposes of long-term state energy and environmental policymaking. This initiative has potential to improve environmental quality and support economic revitalization in rural Minnesota.
 - Comment: Modify language as underlined
 - Comment: Consider research and demonstration projects on a landscape scale. Perennial biomass crops, unless native, may not be able to efficiently provide the desirable qualities of less water and management (e.g. less energy input for cultivation). This recommendation could also incorporate learning from low impact development regarding natural water flows of a region.
- 16. **Develop policies and incentives to encourage perennial crop production for biofuels.** Currently, there is little economic incentive for farmers to grow energy crops in Minnesota. This contrasts with subsidies for other crops that are provided from federal sources today. The project team recommends that the state develop firm policies that would incentivize the growth of energy crops on conservation lands and marginal farmlands, while also reflecting environmental and ecological needs for animal habitat and water resource conservation.
 - Comment: Consider policies and incentives to encourage perennial crop production for biofuels. Reference preservation of habitat as a balance within this recommendation.
- 21. **Invest in applied research to reduce energy and water consumption and emissions in ethanol plants.** A criticism of Minnesota corn-based ethanol plants is the small net gain of energy output from the energy expended to produce ethanol. Criticism has also focused on the high water resource needs that accompany current production techniques. Current production methods also lead to significant co-product generation of carbon dioxide. The project team recommends funding for applied research and demonstration of ways to reduce water consumption and energy use and reduce carbon dioxide emissions at corn-based ethanol plants.

- Comment: Consider applied research to reduce energy and water consumption and emissions in ethanol plants. This recommendation could include biodiesel production as well and could reflect that use of a “lifecycle” approach that mimics natural systems may be the desired approach for production of biofuels.
- **22. Invest in research to determine the life cycle impacts of renewable energy production systems.** This recommendation aims to inform Minnesota’s renewable energy development through data collection and analysis. The project team recommends that energy policy and incentives at the state level take a “systems view,” accounting for the resource benefits and impacts associated with each stage of energy production, transport, consumption and associated waste processing to facilitate this work a workable quantitatively-based definition of ‘carbon-neutrality’ should be developed that is consistent with analytical frameworks within which GHG emissions are generally treated and that would enable emission credit trading.
 - Comment: Modify language as underlined

C. Promote energy conservation efforts. Recommendations include:

- **31. Promote policies and incentives that encourage carbon-neutral businesses, homes, communities and other institutions.** Much more could be done to encourage Minnesotans to reduce their carbon footprints, through energy conservation and low-carbon fuel use. Most likely, achieving carbon neutrality will require a portfolio of energy technologies and lowered energy consumption, as seen at the University of Minnesota, Morris (wind, biomass, etc.). Policies and incentives should be targeted to assist individuals, businesses, communities and institutions in developing renewable energy portfolios to facilitate this work, a workable quantitatively-based definition of ‘carbon-neutrality’ should be developed that is consistent with analytical frameworks within which GHG emissions are generally treated and that would enable emission credit trading.
 - Comment: Modify language as underlined
- **33. Develop standards and incentives for energy capture from municipal sanitary and solid waste, and minimize landfill options.** An underutilized energy source exists in most communities that could reduce the need for new energy production—namely, municipal solid waste (MSW) products that remain after recycling and reuse options are exhausted. A state mandate should be established that requires the capture of energy units from MSW. Statutory actions should be taken to establish targets for MSW use and minimization of landfill options.
 - Comment: Assumption needs further analysis and does not necessarily represent a win in terms of carbon emissions. The combustion of presently landfilled MMSW would add about 1.8 million tons of fossil CO₂ to the atmosphere (from plastics), annually.
- **34. Implement policies and incentives to lower energy use of housing stock while monitoring the performance of improvements.** Housing improvements should consist of locally-manufactured building material resources, especially those that use industry byproducts as their primary production feedstock. The project team recommends that the state develop specific policies and incentives to improve construction practices for new residential homes. The University of Minnesota has developed new technologies that present alternative means and methods for achieving vastly improved energy code compliance; these technologies should be further investigated to overcome implementation barriers.
 - Comment: Consider polices and incentive to lower energy use of housing stock while monitoring the performance improvements. This recommendation could note that locally-manufactured building materials are preferable or desired, the need is to ensure the capacity is developed to support this recommendation. At this time, it is not practical for locally-manufactured products to be the only products used for home improvements.

- **36. Develop incentives to encourage the widespread adoption of passive solar and shallow geothermal heat pump systems in new residential and commercial building construction.** The use of alternative heating technologies will allow significant reduction in natural gas, heating oil and electrical energy requirements for the state. In addition, the greenhouse gas impact associated with water and structure heating will be reduced. The project team recommends that policies be established to promote the widespread adoption of passive solar and shallow geothermal heat pump systems in new residential and commercial building construction.
 - ✦ Comment: Review a recent report commissioned by the Department of Commerce Office of Energy Security that addresses geothermal systems (Janet Streff, Office of Energy Security).

B. Maintain/restore critical habitat at the land/water interface. Recommendations include:

- **6. Education.** In order to provide a better understanding of the factors surrounding land and water resources, the state must invest in the consolidation, adaptation and development of educational materials on watershed science principles. In addition, significant efforts are needed to communicate this information to the public. Potential approaches include the development of a “master watershed practitioner,” recognition certificates and awards, and college credits for people interested in watershed management work.
 - ✦ Comment: The recommendation could reference that state investment in educational materials meet the environmental education goals of the state contained in 115A.073, and in particular development of educational materials that meet the objective of reaching environmental literacy for all Minnesotans (see GreenPrint—Minnesota’s state plan for environmental education at <http://www.seek.state.mn.us/eemn.cfm>) People who are environmentally literate:
 - Understand the complexity of natural and social systems and their inter-relationships
 - Demonstrate the knowledge skills, attitudes, motivation and commitment to working individually and collectively toward sustaining a healthy natural and social environment
 - Have the capacity to perceive and interpret the health of environmental and social systems.

B. Urban/Community land use practice recommendations include:

- **45. Ensure protection of water resources in urban areas by evaluating and improving current programs.** Establish a credit system for stormwater and Low-Impact Development (LID) BMPs. Various stormwater regulatory programs have the potential to significantly improve water quality in a large number of water bodies throughout Minnesota. However, their implementation is inhibited by the absence of a meaningful credit system for stormwater and LID BMPs. The project team recommends the development of a credit system that would address and provide incentive toward a wide range of BMPs.
 - ✦ Comment: Credit system could include incentives to ensure success of long term operation and maintenance of the BMPs and might include requirements for design of BMPs in the first stage of development, education/certification of those constructing BMPs, post-construction inspections for plan conformance, and operation and maintenance plans for new owners or management companies as examples.

*G. Feedback received before draft recommendations were released:***Solar Collectors**

Our proposition to reduce the CO₂ emissions and reduce the fuel consumptions is the installation of solar collectors. The solar collectors are installed on the side of a barn, industry or building. Its pre heat the air before entering the ventilation system. We have a wide experience on Canada. We should present the advantages, the statistics values of this technology, how we evaluate its performance, etc. The industry and agricultural sector need to improve their efficiency by reducing their fixed costs, and being more competitive. They also need the support of grant programs to implement these technologies. On Canada, the federal government funds 25% of project total cost.

The companies of fuel fund between 0.30\$ to 1\$ by m³ of natural gas saved. They also fund the feasibility study. The Ontario's government also fund 25% of project total cost. This is only to mention few politics applied for the federal and state government. We are planning to install the solar collectors on a Minnesota's poultry farm as a demonstration, but we are waiting to be granted by anyway.

Need a roadmap to evolve from un-sustainable to sustainable

The problem with this framework is that it does not provide a road map or even the language on how to evolve from un-sustainable to sustainable society. The realistic conservation plan to forge sustainable society should include system approach of three sectors: natural, social and economic capitals. One cannot find reliable statistics in Minnesota on economic analysis health to the health of the environment that support the economy.

I realize that the plan is to address only the natural capital, but even within the natural capital many components for sustainable society are missing. For example, ecosystem services, biodiversity, watershed services, sustainable forestry, ecological infrastructure, etc. The key role of this plan should be the values in policy making and public opinion. The purpose of this plan should be to bring a concept of sustainable society to the attention of the general, usually uninformed and forgetful public. But how this could be done when the evolving language of sustainability is rarely mentioned in the plan?

It appears that this conservation plan is trying to develop new framework from existing outdated conservation framework which is based on "non-sustainable society" principals. This old framework should be completely discarded. We should start from the scratch because none of the policy philosophies dominant today embraces the values essential to sustainable society.

Statewide look at protecting water quality regarding ethanol/cellulosic plants

I'd like to see a watershed by watershed plan to improve and protect water quality and river ecological integrity with a statewide perspective. I want to make sure resources are protected as ethanol and cellulosic plants are developed. If there isn't enough water in a particular area to allow ethanol production and the river ecosystem then the plant won't get built. If there isn't enough energy to go around then we need to promote smaller human population size.

H. Comments from stakeholders not involved in developing the Plan:

No mention of tribes in plan

The 1854 Treaty Authority is an inter-tribal natural resource management agency governed by the Bois Forte Band and Grand Portage Band of Lake Superior Chippewa. The organization is charged to preserve, protect, and enhance treaty rights and related resources within the 1854 Ceded Territory of northeastern Minnesota. We would like to offer comments on the Statewide Conservation and Preservation Plan.

It doesn't appear that tribes have been consulted with in the development of the plan. Tribes are sovereign nations, and key stakeholders within the state. We see no mention of tribes or treaty rights within the document. This oversight should be corrected. Furthermore, along with general concerns over environmental and natural resource health, some specific issues may arise with tribes. The 1854 Treaty Authority is concerned over specific resources such as fish, moose and other game species, and wild rice. Wild rice is of extreme importance to the bands, and should be referenced in the document. Other issues include public land ownership and available access for the exercise of treaty rights, and protection of cultural resources (which include natural resources).

It is our understanding that the plan was developed primarily by those from the academic profession, with some natural resource managers providing consultation. While both views are important, we question if resource managers had enough input in the process. Communication must flow effectively in both directions between researchers and managers. If the plan is utilized to guide planning, policy, and funding investment, it is important that resource managers (including tribes) be actively involved. The plan contains a considerable amount of good information. However, specific recommendations and implementation of those recommendations is the most important part of the process.

Spirit Lake storm water pipes

Spirit Lake is a beautiful 115 acre lake that has been condemned to die. It is surrounded on three sides by state highways 71 and 87. Over the years area DNR hydrologists have permitted two storm water pipes to enter the lake, one two feet in diameter. We, the (Spirit Lake Association, SLA) have fought hard to reverse these decisions, but to no avail. I'm going to keep this letter short. We are a modest community with a beautiful asset and fearful of losing it. We no longer know where to turn in order to reverse the damage. To be include as part of the Minnesota Conservation Plan at least puts our problem on the map and hopefully includes us in future funding.

Legislative-Citizen Commission on Minnesota Resources:

MN Statewide Conservation and Preservation Plan

Public Input Forum



Forum Report

July 14, 2008,

Mankato, Minnesota

A public outreach forum was scheduled in Mankato to receive comments on the draft recommendations. This outreach forum was cancelled due to weather. It was rescheduled and held after the recommendations became final. Comments at this forum were on the final recommendations so the structure of the forum was adjusted and the recommendation reference numbers are different than those referenced previously in this Appendix.

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Minnesota Statewide Conservation and Preservation Plan

Public Forum

Mankato, Minnesota, July 14, 2008

Purpose

The forum is an opportunity to overview the MN Statewide Conservation and Preservation Plan (MSCPP) and provide input regarding its use and implementation. Specific objectives include:

- 1) Explain the purpose of the plan how it was developed
- 2) Overview the plan and recommendations
- 3) Seek stakeholders’ questions and advice for implementing the recommendations

Agenda

5:00 pm - Forum Introduction

- Welcome and opening remarks
- Introductions and expectations
- Agenda overview

5:10 pm - Overview of the LCCMR and the MN Statewide Conservation and Preservation Plan

- Plan description
 - ✦ What is the LCCMR and its purpose for commissioning the MSCPP?
 - ✦ What were the guidelines for the plan and role of project teams in developing the plan?
 - ✦ What the plan is meant to do, not meant to do?
 - ✦ What process, timeline and roles were involved in developing the plan?

- Public forum
 - + What is the goal of the forum?
 - + How will the public feedback be used by the LCCMR?

5:30 pm - Briefing of the Plan and Recommendations

- Presentations by each team
- Q&A and critical issue selection following team presentations:
 - + What are questions of clarity?
 - + Which recommendations are most critical for your region?

6:40 pm - Break - Opportunity to view maps/displays and identify critical recommendations for the region

7:10 pm - Public Feedback Session

- Plan feedback
 - + In assessing how the plan benefits the natural resources of Minnesota...
 - ... what are key strengths of the plan and/or recommendations?
 - ... what are main weaknesses or gaps of the plan and recommendations?
 - + Implementation advice:
 - What might be potential challenges to effective plan implementation?
 - What advice do you have for using and implementing the plan?
 - + Additional comments:
 - What other feedback or suggestions do you have for the LCCMR and the plan?
- Forum Wrap-Up
 - + Acknowledgements
 - + Review of next steps for the MSCCP

8:00 pm - Adjourn

General Suggestions for the Plan and Recommendations

A. Questions and reactions

What are questions or aspects the caught your attention?

- *Vulnerable Key Habitat by Township* map is very confusing! Should reconsider how it is portrayed or at least provide a better legend that explains it better. Actually representing “risk”.
- **Question:** Who made the decision of what was high stress versus low stress? Was it a small group of people making subjective decisions?
 - **Project Team Response:** Decision was based on data sets. There may be some subjectivity in it, but it is the best data available and there was a lot of cross-checking among teams.
 - The practice listed on page 320, bottom left section could help us reduce the effects of a future “500 Year” floods (*Input Form*)

B. Strengths

In assessing how the plan/recommendations benefit the MN natural resources, what are key strengths?

- Practically everything is listed in a form that shows you (we) listened to well-informed people (*Input Form*)
- It’s focus and attention on energy and conservation.
- Pleased to see all the references to using perennial plants as solution.
- Emphasis on preservation of agricultural land (LU5).
- Recognition that the ethanol industry is going to have negative impacts on water quality and quantity. Emphasis on cellulosic ethanol is a very important part of this plan.
- Happy to see recommendations for acquisition of land, especially of critical habitat. This is particularly important with the loss of CRP.
- Good to see some acknowledgement of the TMDL process and bringing forward an understanding of the cause-effect linkages of water quality. Stakeholder involvement in the Lake Pepin TMDL process has forced to the surface the true cause-effect of sources of impairment to streams – in-stream channel sources.
 - **Response from audience:** I believe that much of what is in stream channel came originally from land.
- A lot of land that went into CRP shouldn’t have gone into it in the first place. Good to see that deciding what should go into it is a recommended priority.
- Good to see the focus on local ownership and tax incentives.
- Pleased to see the plan take a long-term view.
- Glad to see that land use rather than water quality is listed as a core problem. Water quality is a symptom of the problem.
- Glad to see that water ties everything together (either quality or retention), including the regions of the country. The related question is how we pass water resources between regions - e.g., how long will it be before we are sued for what is happening in the lower Mississippi?

- The plan does a good job of identifying what additional understanding regarding water to better understand landscapes. Wisconsin has a “discovery farms” program that helps people discover what needs to happen on the land. It helps them understand what happens on a farm scale.
- The plan integrates a lot of information. Trying to do it all is ambitious but how feasible is the plan?
- Importance of soil quality is acknowledged

C. Weaknesses

In assessing how the plan/recommendations benefit the MN natural resources, what are weaknesses or gaps?

- Soil quality is reflected in the plan, but it needs a better definition of what soil quality actually means. It is ambiguous as currently stated. Need to acknowledge the importance of soil productivity and that factors that affect that as well. The plan doesn't address it at all. Conserving and preserving soil productivity is a critical issue.
- The CRP recommendation emphasizes how we might do it right. However, economics has to drive this effort to conserve lands and I don't see those economic mechanisms/incentives in the plan. Also, the plan should show CRP land that never should have gone into CRP.
- Minimal stakeholder involvement is a big gap in this plan. The effort was primarily driven by an academic and agency perspective. It will be hard to carry forward without strong stakeholder involvement. For example, the sediment-loading analysis missed a lot due to the lack of broader stakeholder involvement and practitioner knowledge.
- The word acquisition is overused. Acquisition should be de-emphasized. Instead, meeting multiple state goals (economic, ecological etc.) and achieving multiple benefits on landscapes should be emphasized more strongly.
 - ✦ **Audience follow-up response:** Maybe we need to broaden the definition of acquisition to include acquisition of ecological services, acquisition of title, acquisition of easement. etc – a package of options.
- Most of what is talked about in this plan is dictated by Federal policy. In order to get real results on landscapes, the state needs to work with the Federal government to see any measurable changes on the land.
- In order to assure sustainable implementation by multiple generations, we need to incorporate economics, market incentives and other mechanisms that incent people to follow the recommendations. We cannot rely on voluntary stewardship alone. into these recommendations. People won't do it if the economics don't make sense.
- I am not hearing much about the reality of our assumed projections in light of the complex interaction of variables that contribute to trends. For example, projections about mileage traveled assumes that gas prices won't impact mileage. Most likely mileage traveled will go down just because gas prices are so high with subsequent spinoff effects to whole system. The plan needs to build in ways to cycle back to refine and re-assess projections.
- The social aspect of conservation is missing in some sections and did not carry through the whole plan. Things should be standard across sections. If one of the teams includes recommendations to fix something and other teams do not, the problem won't get solved in the end.
- Integration in energy and transportation section is strong. But in some other sections it wasn't as strong.

- Recreation and other social needs are not emphasized universally. E.g., In the map showing public lands by subsection, should additional land be set aside in areas where we see very little public lands? Need more integration among disciplines.
- When it comes to prioritizing in the plan, which comes out ahead, restoration of degraded areas or protection of high quality places?
- Need to empower local governments to do better planning.
- Energy section is too crop-focused and there is too much emphasis on fuel. The plan is missing consideration of solar, wind, etc. in looking at the best energy returns for resources invested.

D. Weaknesses: Continued

In assessing how the plan/recommendations benefit the MN natural resources, what are weaknesses or gaps?

- Plan will help LCCMR determine how to channel their funds. The plan attempts to encompass so much information. A comprehensive plan such as this is both a strength and a weakness. It is very hard to prioritize from this massive plan.
- The plan needs a better definition of soil quality. It is very ambiguous and subjective. We need to look at soil productivity more. Soil is key to necessities like food and energy. Productivity of soil needs to be protected and preserved.
- We have known these recommendations (BMP's) for a while and yet have not had the will and/or critical mass of implementation to result in enough change to be sustainable in the long-term. (*Input Form*)

E. Implementation Challenges

What are potential challenges to effective implementation of the recommendations/plan?

- Implementing the CRP lands recommendation will be difficult. How do we fairly and wisely look at what is coming out and going back into cropland? Who will make the decision as to what should come out and what shouldn't? Some should go back into cropland and some should not. How will the value be placed on crop production versus CRP?
- Data collection could be a barrier to implementation. Farmers are pretty private group. There will be discussion of what is private data and what is public data. For example, we thought we had already mapped wetlands and public drainage ditches. Getting farmers to agree to mapping private tile lines will be a challenge.
- Traditionally all these efforts are voluntary rather than regulated. Can they remain voluntary? Will voluntary efforts be enough to get the job done?
- The biggest elephant in the room is the reality that we do not have enough money to do these recommendations. We need to make it a true priority to "clean up our house" and make more money available to really change things.
- Challenge is having enough technical assistance to implement. This should be strengthened in the plan. Need more long-term technical assistance to any players who seeks to do the right thing locally, regionally and statewide. For example, who can deliver assistance for water planning efforts?

- Surprised that water planning wasn't mentioned. Real gap in plan in terms of who is going to deliver.
- A challenge is trying to get the state to work in concert. Agencies in state are often working against each other.
- Money, political support, connecting with even more people in the Minnesota legislature or Federal government. (*Input Form*)
- Societies' increasing emphasis on health care issues and other non-environmental issues in the budget. (*Input Form*)
- Aversion by elected officials to increase costs (taxes) to citizens to reflect the costs of benefits received from the environment. (*Input Form*)
- Not enough people doing the kind of work needed (education and land management) to get where we want to go. (*Input Form*)

F. Implementation Advice

What suggestions and advice or do you have for implementing and using the plan and recommendations effectively?

- Make maps as easy to read and understand as possible. They present multi-layered information that is good but not obvious to all.
- Utilize existing education program as initiatives that are ongoing in schools and communities.
- In implementing the habitat recommendation #13 regarding education, the best way to educate is through your kids. *Project Wet*, *Project Wild*, *Project GLOBE* are few of the many excellent ways to reach kids.
 - **LCCMR member comment:** This plan is not just for LCCMR action. The LCCMR will help channel emphases and funding statewide but all communities, entities and people are welcome to use it as a guide.
- Hopefully the committee will continue to emphasize on-the-ground activities and practices, not just research.
- On-the-ground activities are needed but I would like to emphasize the importance of continued research. I have relied greatly on research over the years to direct my agricultural practices. Research is essential and needs continued investment.
- Evaluating water usage from ethanol plants should only be done if done in correlation to what amount of water other industries use. Ethanol got a lot of attention because it was a new water use, but how bad is it relative to other industries? A cost-benefit analysis should be done comparing to other industries.
- Need to avoid equating ethanol to all renewable energy. Should not confuse the two. Renewable energy is much more than corn ethanol and, in fact, more than just ethanol. And many renewable energy sources could benefit local communities.
- Share the workload among agencies. Particularly in the area of research. The people are out there to do the work.
- In the past, LCCMR has been innovative in terms of what they have funded. It offers the opportunity for doing things that the state normally wouldn't fund. It is very important that the funding process continues to support innovation.

- This document could really help with targeting where dollars might be directed. Local resource manager could use this document to target where to direct efforts. This plan can become a tool, in and of itself.
- Coordinate requests for funding among agencies.
- Make a broad-based group of people, communities and organizations aware of resources and RFP opportunities to submit requests for grants.
- I think we need an offer to connect with stakeholders to urge them to support parts of the plan that may be a part of a political effort in the future (*Input Form*)
- Use local leadership teams to roll out the plan in all areas of the state, provide them with lots more support and funds than what currently exists today (increasing funding to water resources centers, experiment stations, environmental learning centers, citizen monitoring programs, etc.) This needs to be a long-term emphasis – 15-25 years. (*Input Form*)

Recommendations Most Critical to the Region

Participants at the forum were asked to identify the recommendations most critical to their region by placing seven dots (votes) on a wall chart showing all the recommendations. Each participant vote indicates that the topic of the recommendation is critical to their region but may not necessarily reflect complete agreement with the recommendation.

Land and Aquatic Habitat Recommendations

Recommendations	Votes
Land and Aquatic Habitat Recommendations	0
<i>I. Land Protection</i>	0
Habitat Recommendation 1: Protect priority land habitats	9
Habitat Recommendation 2: Protect critical shorelands of streams and lakes	3
Habitat Recommendation 2A: Acquire high-priority shorelands	0
Habitat Recommendation 2B: Protect private shorelands via economic incentives and other tools	0
Habitat Recommendation 3: Improve connectivity and access to outdoor recreation	2
<i>II. Land and Water Restoration</i>	0
Habitat Recommendation 4: Restore and protect shallow lakes	9
Habitat Recommendation 5: Restore land, wetland and wet-land- associated watersheds	18
Habitat Recommendation 6: Protect and restore critical in-water habitat of lakes and streams	3
Habitat Recommendation 6A: Restore habitat structure within lakes	0
Habitat Recommendation 6B: Protect and restore in-stream habitats	0
Habitat Recommendation 6C: Protect deep-water lakes with exceptional water quality	0
<i>III. Sustainable Practice</i>	0
Habitat Recommendation 7: Keep water on the landscape	6
Habitat Recommendation 8: Review and analyze drainage policy	4
<i>IV. Knowledge Infrastructure</i>	0
Habitat Recommendation 9: Overall research on land and aquatic habitats	0
Habitat Recommendation 10: Research on near-shore habitat vulnerability	0
Habitat Recommendation 11: Improve understanding of groundwater resources	7
Habitat Recommendation 12: Improve understanding of watersheds to multiple drivers of change	1
Habitat Recommendation 13: Habitat and landscape conservation education/ training programs for all citizens	3

Energy Production and Use Recommendations

Recommendations	Votes
Energy Production and Use Recommendations	4
Goal A: Promote alternative energy strategies	0
Energy Recommendation 1: Develop coordinated laws, policies, procedures for government entities to assess renewable energy production impacts on the environment	1
Energy Recommendation 2: Invest on farm and forest preservation efforts to prevent fragmentation due to development guided by productivity and environmental vulnerability research	0
Energy Recommendation 3: Invest in perennial biofuel and energy crop research and demonstration projects on a landscape scale	6
Energy Recommendation 4: Develop policies and incentives to encourage perennial crop production for biofuels in critical environmental areas	1
Energy Recommendation 5: Invest in data collection to support the assessment process	1
Energy Recommendation 6: Invest in research to determine sustainable removal rates of corn stover and to establish incentives and Best Management Practices	0
Energy Recommendation 7: Invest in research to review thermal flow maps for Minnesota	0
Energy Recommendation 8: Invest in applied research to reduce energy and water consumption and green house gas emissions in present/future ethanol plants. Enact policies to encourage conservation technology implementation	0
Energy Recommendation 9: Invest in research to determine the life cycle impacts of renewable energy production systems	0
Energy Recommendation 10: Invest in research and demonstration projects to develop, and incentives to promote, combined wind power/biomass, wind power/natural gas, and biomass/. coal firing electricity projects	5
Energy Recommendation 11: Invest in research and enact policies to protect existing native prairies from genetic contamination by buffering them with neighboring plantings of perennial energy crops	4
Energy Recommendation 12: Invest in efforts to develop sufficient seed or seedling stocks for large-scale plantings of native prairie grasses and other perennial crops	1
Goal B: Promote a healthy economy including strategies that promote local ownership of alternative energy	0
Energy Recommendation 13: Invest in research and policies regarding green payments	3
Energy Recommendation 14: Investigate opportunities to provide tax incentives for individual investors in renewable energy (e.g. individuals who wish to install solar panels)	8
Energy Recommendation 15: Invest in efforts to develop/research to support community-based energy platforms for producing electricity, transportation fuels, fertilizer, and other products that are locally/cooperatively owned	0

Goal C: Promote efforts to improve energy conservation and energy efficiency among individuals, businesses, communities and institutions	4
Energy Recommendation 16: Provide incentives to transition a portion of Minnesota's vehicle fleet to electrical power, while simultaneously increasing renewable electricity production for transportation	4
Energy Recommendation 17: Promote policies and incentives that encourages carbon-neutral businesses, homes, communities and other institutions with an emphasis on learning from institutions already working toward this goal	0
Energy Recommendation 18: Implement policies and incentives to lower energy use of housing stock while monitoring the performance of improvements and calling on the utility industry to join the effort	0
Energy Recommendation 19: Promote policies and strategies to implement smart meter and smart grid technologies	0
Energy Recommendation 20: Develop incentives to encourage the widespread adoption of passive solar and shallow geothermal heat pump systems in new residential and commercial building constructions. Invest in research to develop improved technology for storing renewable energy	0
Energy Recommendation 21: Develop standards and incentives for energy capture from municipal sanitary and solid waste and minimize landfill options from MSW	0
Energy Recommendation 22: Invest in public education focusing on benefits and strategies for energy conservation targeted toward individual Minnesota residents and businesses	1
Goal D: Promote regulations, policies, incentives and strategies to achieve significant mercury emission reductions	0
Energy Recommendation 23: Develop mercury reduction strategies for out-of-state sources	0
Energy Recommendation 24: Continue state enforcement programs to reduce mercury loads	
Energy Recommendation 25: Develop public education on actions that individuals and communities can take to reduce mercury loads	0

Land Use Practices Recommendations

Recommendations	Vote
Land Use Practices Recommendations	0
<i>Community Land use</i>	0
Land use Recommendation 1: Fund and implement a State Land Use Development and Investment Guide	0
Land use Recommendation 2: Support local and regional conservation-based community planning including planning for agricultural land	19
Land use Recommendation 3: Ensure protection of water resources in urban areas by evaluating and improving current programs	1
<i>Agriculture Land Use</i>	0
Land Use Recommendation 4: As much as possible, transition renewable fuel feedstocks to perennial crop	2
Land Use Recommendation 4A: Research investment	1
Land Use Recommendation 4B: Policy	0
Land Use Recommendation 5: Reduce streambank erosion through reductions in peak flows	5
Land Use Recommendation 5A: Research investment	7
Land Use Recommendation 5B: Policy	0
Land Use Recommendation 5C: Protection investment	1
Land Use Recommendation 5D: Policy	14
Land Use Recommendation 6: Reduce upland and gully erosion through soil conservation practices	0
Land Use Recommendation 6A: Protection investment	1
Land Use Recommendation 6B: Policy	1
Land Use Recommendation 7: Enable improved design and targeting of conservation through improved and timely data collection and distribution	1
<i>Forestry Land Use</i>	0
Land Use Recommendation 8: Protect large blocks of forested land	1
Land Use Recommendation 9: Assess tools for forest land protection	0
Land Use Recommendation 10: Support and expand sustainable practices on working forest land	1
<i>Transportation</i>	
Transportation Recommendation 1: Align transportation planning across state agencies and integrate transportation project development and review across the state, regional, metropolitan and county/local transportation, land use and conservation programs.	3
Transportation Recommendation 2: Reduce pre capita vehicle miles of travel (VMT), through compact, mixed use development and multi-and intermodal transportation systems	1
Transportation Recommendation 3: Develop and implement sustainable transportation, research, design, planning, construction practices, regulations, and competitive incentive funding that minimizes impacts of natural resources, especially habitat fragmentation and non-point sources water pollution	0