



Strategic Framework for Recommendations

*Statewide Conservation And Preservation Plan
Final Plan • • June 30, 2008*

Revised November 1, 2008

STRATEGIC FRAMEWORK FOR RECOMMENDATIONS

This document presents an integrated strategic framework (Figure 5) for a Minnesota Statewide Conservation and Preservation Plan (SCPP), which consists of a series of recommendations for the state to consider in holistic fashion. The recommendations are designed to conserve and protect Minnesota's natural resources in a comprehensive approach, while being mindful of demographic change, public health, the state's economy, and climate change. The final plan was constructed by identifying **drivers of change** affecting natural resources, assessing the **impacts** of these drivers, and mapping the impacts to **key issues**. The seven key issues identified in the preliminary plan are those that, when addressed, would have the largest and most beneficial impacts on multiple resources. The preliminary plan contains the details of the drivers of change, the assessment of impacts, and the key issues. The **recommendations** in this final plan were developed to address a selection of these key issues, which were then further assessed for their **integrated impact** across all natural resource values. This allowed us to place the recommendations in a framework having **five main strategic areas**, with **recommendations for action or policy change** being placed within these areas. We also have identified recommendations for expanding our **knowledge infrastructure**. By this we mean actions or activities, including research, monitoring, data collection, and education, that will enhance our knowledge and support the recommendations for action or policy change.

Figure 6 shows the **action or policy change recommendations** for each of the final plan key issues, arranged according to the degree of integrated benefits across all the natural resource values. This gives an overall snapshot of how much integrated value a given recommendation provides. For example, the first recommendation under the key issue of Habitat

Loss has significant impact across the majority of the resource values, and has little impact on air quality and human health. This figure also identifies which recommendations benefit a given resource value the most. For example, the Habitat recommendations have the most impact on biodiversity.

The strategic framework is shown in Figure 5. The five strategic areas are identified at the top of the five boxes, and the recommendations are listed within the boxes. The action or policy change recommendations are at the top, with the recommendations having the broadest impact across multiple resources listed first, followed by those that are more targeted or specific in their scope. Recommendations for building the knowledge infrastructure for that strategic area are at the bottom of the box. These are ordered according to the key issue they address.

This framework is a comprehensive and integrated environmental strategic plan. The recommendations taken together provide a holistic look, and are not meant to be viewed in isolation or to be acted on in a piecemeal fashion. Each of the strategic areas is discussed below.

Integrated Planning

Natural resource management is interwoven within a larger fabric of economic health, complex regulatory frameworks, human health, and changing demographics and climate. No one agency can address this comprehensively, nor can it be done in individual agency stovepipes. In addition, there are multijurisdictional responsibilities on the geographic scale, from communities, to small units of government, to soil and watershed districts, to statewide agencies.

Planning, whether for transportation, energy, community development, water resources, agriculture, or forestry, should be integrated across all agencies and across the multijurisdictional scale. Doing so can make planning more efficient by removing redundancies. Our strongest, most effective federal environmental laws require cross-agency review or partnership, and this approach should be embraced on the state level for holistic natural resource protection.

Critical Land Protection

Be it farmland, wetlands, greenways in urban areas, or forestland, a clear and comprehensive strategy must be developed that establishes long-term and short-term acquisition priorities. An array of perspectives should inform this strategy, integrating needs for biodiversity protection, critical agricultural land protection, ecological services, recreational opportunities, and opportunities for climate change adaptation and/or mitigation.

This strategy should build on the excellent work already accomplished by state agencies, local governments, and the work of nonprofit land conservation organizations, among others.

Land and Water Restoration and Protection

This strategic area addresses both the restoration of critical land and water habitat and the protection of strategic land and water habitat that has not yet been degraded. It not only addresses the inherent and intrinsic direct benefits of habitat restoration and protection, but also emphasizes the benefits of such strategy for strengthening biodiversity and enhancing resilience to climate change. The recommendations in this area reinforce and strengthen Minnesota's cultural values, ethics, appreciation of outdoor recreation, and economic health.

Sustainable Practices

A healthy environment requires a healthy economy, and a sustainable economy requires a sustainable environment. To reach both goals, we must promote, facilitate, encourage, and regulate appropriate practices that will lead to a sustainable environment and economy. These sustainable practices must cross multiple fronts—sustainable agriculture, sustainable land use planning, sustainable forestry, sustainable water resources, and sustainable economy and standard of living—all in the context of energy production, shifting demographics, and climate change.

Economic Incentives for Sustainability

Moving toward sustainable practice requires specific incentives to move the state and its citizens and stakeholders in a transformative direction. Broad-scale ideas exist for achieving a sustainable economy through natural resource policy: Specific natural resource policy, energy policy, agricultural policy, forestry policy, and transportation policy can be used to grow and nurture Minnesota's economic future.

Section 4 contains detailed descriptions of the recommendations assessed and placed in the strategic framework.

Knowledge Infrastructure



Additional research, monitoring, data collection, and education will be necessary to support the action and policy recommendations for integrated planning, critical land protection, land and water restoration and protection, sustainable practices and economic incentives for sustainability. With continual improvement in our knowledge infrastructure, action and policy will become more effective and precise over time.

Strategic Framework For Integrated Resource

INTEGRATED PLANNING IP		CRITICAL LAND PROTECTION LP		LAND AND WATER RESTORATION AND PROTECTION RP	
Rec. No.	Broad Policy and Action Recommendations	Rec. No.	Broad Policy and Action Recommendations	Rec. No.	Broad Policy and Action Recommendations
E1	Develop coordinated laws, policies and procedures across state agencies	H2	Protect critical shorelands of streams and lakes	H4	Restore and protect shallow lakes
LU1	Fund and implement a state Land Use Development and Investment Guide	H1	Protect priority land habitats	H5	Restore land, wetlands, and wetland-associated watersheds
LU2	Support local and regional conservation-based community planning	LU8	Protect large blocks of forest land	H6	Protect and restore critical in-water habitat of lakes and streams
T1	Align transportation planning across all agencies; streamline and integrate environmental transportation project review				
E23	Develop mercury reduction strategies for out-of-state sources				
Rec. No.	Targeted Policy and Action Recommendations	Rec. No.	Targeted Policy and Action Recommendations	Rec. No.	Targeted Policy and Action Recommendations
LU3	Ensure protection of water resources in urban areas	E2	Invest in farm and forest preservation to prevent fragmentation due to development	LU5	Reduce streambank erosion through reduction in peak flows
T3	Develop and implement transportation polices that minimize impacts on natural resources	H3	Improve connectivity and access to recreation	LU6	Reduce upland and gully erosion through soil conservation practices
Rec. No.	Knowledge Infrastructure Recommendations	Rec. No.	Knowledge Infrastructure Recommendations	Rec. No.	Knowledge Infrastructure Recommendations
LU2C	Provide communities with the tools and technical assistance for conservation-based planning	H9	Invest in overall research on land and aquatic habitats	H10	Invest in research on near-shore aquatic habitat vulnerability
E24	Continue state enforcement programs to reduce mercury contamination of the environment	T3A	Develop research programs in habitat fragmentation	H11	Improve understanding of groundwater resources
LU3B	Simplify modeling for TMDLs	LU9	Assess tools for forest land protection	LU5A	Invest in research that quantifies the relationship between artificial drainage and stream flows
LU3C	Monitor TMDL BMP implementation			H12	Improve understanding of watershed responses to multiple drivers of change
LU2D	Invest in databases and tools needed to support land use and conservation decisions			E11	Invest in research and enact policies to protect existing prairies from genetic contamination
LU2A	Fund demonstration projects for conservation-based community planning			LU10E	Develop and test new management policies to test ecosystem resilience
				H13	Encourage conservation education and training programs for all MN citizens
				E12	Invest in efforts to develop sufficient seed stocks for large scale plantings of perennial crops
				LU3D	Expand water quality media campaign

Figure 5. Strategic framework for integrated resource conservation and preservation

Conservation And Preservation

SUSTAINABLE PRACTICES 		ECONOMIC INCENTIVES FOR SUSTAINABILITY 			
Rec. No.	Broad Policy and Action Recommendations				
LU10	Support and expand sustainable practices on working forested lands				
H7	Keep water on the landscape				
H8	Review and analyze drainage policy (ditch laws)				
T2	Reduce per capita vehicle miles of travel				
Rec. No.	Targeted Policy and Action Recommendations	Rec. No.	Targeted Policy and Action Recommendations	Rec. No.	Targeted Policy and Action Recommendations
E13	Invest in research and policies for "green payment" program	E19	Promote policies and strategies to implement smart meter and smart grid technologies	E16	Provide incentives to transition a portion of Minnesota's vehicle fleet to electrical power and renewable electricity production
E17	Promote policies and incentives that encourage C-neutral businesses, homes, communities, and other institutions	E20	Develop incentives to encourage widespread adoption of passive solar and shallow geothermal heat pumps in new construction	E21	Develop standards and incentives for energy capture from municipal sanitary and solid waste, and minimize landfill options
LU4/E4	Transition renewable fuel feedstocks to perennial crops	E15	Invest in efforts to develop community-based energy platforms	E14	Investigate opportunities to provide tax incentives for individual renewable energy investors
E18	Implement policies and incentives to lower energy use of housing stock				
Rec. No.	Knowledge Infrastructure Recommendations	Rec. No.	Knowledge Infrastructure Recommendations	Rec. No.	Knowledge Infrastructure Recommendations
E3	Invest in perennial biofuel crop research and demonstration projects on a landscape scale	E22	Invest in public education focusing on benefits and strategies for energy conservation		
E6	Invest in research to determine removal rates of corn stover and to establish incentives and BMPs	E25	Develop public education on actions that individuals and communities can take to reduce mercury contamination of the environment		
E7	Invest in research to review thermal flow maps	LU7	Invest in statewide high resolution digital elevation data, watershed delineation, maps of artificial drainage network, and other data to support decision making		
E8	Invest in applied research to reduce energy and water consumption and emissions in ethanol plants	LU10B	Educate landowners and forest managers on BMPs to protect working forests		
E9	Invest in research to determine the life cycle impacts of renewable energy production systems				
E10	Invest in research and demonstration projects to develop, and incentives to promote, combination electricity production projects				
T3B	Reduce non-point source pollution to surface and ground waters from transportation infrastructure				
LU4A	Invest in research on parameters that control successful perennial feedstocks				
E5	Invest in data collection to support energy production assessment				

Note: Recommendations having the broadest impact across multiple resources are listed first in each column followed by those having more targeted impact, and supported by knowledge infrastructure recommendations.

Figure 6. Natural resource values assessment of recommendations

Natural Resource Values Assessment of Recommendations

		Air Quality	Water Quality/Quantity	Habitat Quality	Terrestrial Land Quality	Soil/Land Quality	Human Health	Biodiversity	Community Health	Aquatic Health	Economic Health	Spiritual/Cultural/Aesthetic Value	Recreational/Cultural	Climate Change Mitigation/Adaptation
HABITAT	Number													
	Recommendation													
	H2	○	○	●	●	●	●	○	●	●	●	●	●	●
	H1	○	○	●	●	●	●	○	●	●	●	●	●	●
	H4	○	○	●	●	●	●	○	●	●	●	●	●	●
	H5	○	○	●	●	●	●	○	●	●	●	●	●	●
	H6	○	○	●	●	●	●	○	●	●	●	●	●	●
	H7	○	○	●	●	●	●	○	●	●	●	●	●	●
H8	○	○	●	●	●	●	○	●	●	●	●	●	●	
H3	○	○	○	○	○	○	○	○	○	○	○	○	○	
LAND USE	LU1	○	○	○	○	○	○	○	○	○	○	○	○	○
	LU2	○	○	○	○	○	○	○	○	○	○	○	○	○
	LU3	○	○	○	○	○	○	○	○	○	○	○	○	○
	LU4/E4	○	○	○	○	○	○	○	○	○	○	○	○	○
	LU5	○	○	○	○	○	○	○	○	○	○	○	○	○
	LU6	○	○	○	○	○	○	○	○	○	○	○	○	○
	LU8	○	○	○	○	○	○	○	○	○	○	○	○	○
LU10	○	○	○	○	○	○	○	○	○	○	○	○	○	
TRANSPORTATION	T1	●	●	○	○	○	○	○	○	○	○	○	○	○
	T2	○	○	○	○	○	○	○	○	○	○	○	○	○
	T3	○	○	○	○	○	○	○	○	○	○	○	○	○
ENERGY	E1	○	○	○	○	○	○	○	○	○	○	○	○	○
	E13	○	○	○	○	○	○	○	○	○	○	○	○	○
	E17	○	○	○	○	○	○	○	○	○	○	○	○	○
	E2	○	○	○	○	○	○	○	○	○	○	○	○	○
	E18	○	○	○	○	○	○	○	○	○	○	○	○	○
E16	○	○	○	○	○	○	○	○	○	○	○	○	○	
E21	○	○	○	○	○	○	○	○	○	○	○	○	○	
E19	○	○	○	○	○	○	○	○	○	○	○	○	○	
E14	○	○	○	○	○	○	○	○	○	○	○	○	○	
E20	○	○	○	○	○	○	○	○	○	○	○	○	○	
E15	○	○	○	○	○	○	○	○	○	○	○	○	○	

Note: Policy and action recommendations are grouped by topic (Habitat, Land Use, etc.) and then ordered starting with those recommendation having the broadest impact across multiple resource values followed by those having more targeted impact.