

Introduction

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

Revised November 1, 2008

INTRODUCTION

The remarkable place known as Minnesota is situated at the convergence of the Great Lakes, the Great Rivers, and the Great Plains. The citizens of Minnesota cherish and take pride in the abundant and varied natural resources of this place. We also value our quality of life and our standard of living, and desire the same for our children. All of these values and desires are intricately connected: Continued economic prosperity depends on a healthy and sustainable environment, and vice versa. To foster the conditions we value, we must balance long-term plans for conserving and protecting our priceless natural resources with those for ensuring a healthy society and economy. This document, the Minnesota Statewide Conservation and Preservation Plan (SCPP), lays out a deliberate strategy for doing so.

Project Overview

Too often, natural resource policies work at cross purposes by addressing issues in isolation or protecting one value at the expense of another. The impetus for the SCPP arose from the desire to create a comprehensive plan for protecting all of Minnesota's natural resources in a unified, integrated fashion, using an interdisciplinary approach with multiple perspectives and expertise.

The Legislative-Citizen Commission on Minnesota Resources (LCCMR) funded a unique public-private partnership to develop the SCPP. The University of Minnesota (UM)-Twin Cities, the Natural Resources Research Institute (NRRI) at the UM-Duluth, and the UM-Morris joined forces with the consulting firms of Bonestroo and CR Planning to evaluate the state's natural resources, identify key issues affecting those resources, and make recommendations for improving and protecting them. Those recommendations were placed within a strategic

framework to form the backbone of the plan. More than 125 experts, including University scientists and public and private natural resource planners and professionals, participated in this 18-month coordinated effort to design a secure future for Minnesota's natural resources.

Although the recommendations in this plan should be considered those of the project team, the knowledge, information, and perspectives of all the team members and advisors were necessary to bring this plan to fruition. (Appendix II includes a listing of project team members and advisors.)

This plan not only provides a synthesis of the knowledge of the project team and advisors, but also draws upon many complementary efforts. The Governor's Clean Water Council and Climate Change Advisory Group, the Campaign for Conservation, Ducks Unlimited's Shallow Lakes Initiative, the Minnesota Department of Natural Resources (DNR) Commissioner's Advisory Team's Minnesota Forests for the Future report, The Nature Conservancy's (TNC) Portfolio Lakes data, and many other efforts all contributed to the analysis of key issues leading to the recommendations.

The SCPP was developed in two phases: a preliminary plan (completed in July 2007) and a final plan (this document). The objectives of the preliminary plan were to provide a status check on Minnesota's natural resources, describe the drivers that are influencing changes in resources, and identify key issues that, if addressed, would alter the drivers of change to produce a better outcome for our natural resources. The preliminary plan included a series of preliminary recommendations that the LCCMR considered for its 2007 strategic planning. Those recommendations are included in Appendix I to this report and are endorsed by the project team.

Seven key issues were identified in the preliminary plan as possible research topics for the final plan.

The seven key issues were:

- Land and water habitat fragmentation, degradation, loss, and conversion
- Land use practices
- Impacts on resource consumption
- Toxic contaminants
- Transportation
- Energy production and use
- Invasive species

Each of these key issues is more fully described in the preliminary plan. Because of time constraints, a subset of these issues was chosen for investigation in the second phase of the project. The key issues for which recommendations are made in this report are:

- Land and water habitat fragmentation, degradation, loss, and conversion
- Land use practices
- Transportation
- Energy production and use/mercury as a toxic contaminant related to energy production

The other key issues should be investigated in the near future to ensure a comprehensive plan for natural resource protection.

The recommendations in this report are provided to the LCCMR for consideration as it updates its strategic plan. In addition, they offer guidance to a broader Minnesota audience: citizens, administration, legislature, agencies, local units of government, and advocacy organizations. The hope of the project team is that the recommendations will spark change in individuals, organizations, and agencies, and that the SCPP as a whole will provide direction to the state over the next 50 years.

Structure of the Plan

The SCPP presents recommendations from research teams charged with investigating the four key issues addressed in the second phase. While each individual recommendation is important, the recommendations are also designed to work in concert. To this end, the plan provides an integrated strategic framework for the recommendations in Section 3.

Section 4 includes reports from the research teams. Each team report includes:

- A description of the team's key issue, research question, and general context for the recommendations
- The relationship of the recommendations to the drivers of change identified in the preliminary plan
- The expected outcome for our natural resources (altering the drivers of change) if the recommendations are implemented
- Full text of each recommendation, including descriptions of the:
 - ✦ Recommended action
 - ✦ Impact on natural resources
 - ✦ Relationship to existing programs, laws, or regulations
 - ✦ Time frame for implementation
 - ✦ Geographical area that will be affected
 - ✦ Political, institutional, financial, or other challenges that exist for implementation
 - ✦ Categories of costs associated with the recommendation

Short descriptions of the recommendations are included in Appendix IX.

Public Outreach

In order to reach beyond our team members and advisors and tap additional experience and expertise, project team members made nearly 50 presentations reaching more than 2,000 people. Three public outreach forums were held around the state during May and June to present and gather comments on a set of draft recommendations. The discussion following the presentations and at the outreach forums influenced the final recommendations in this report. Appendix VII details our outreach efforts and includes a summary of comments made during the forums and through the project Web site.

Drivers of Change

The preliminary plan identified and analyzed key drivers of change affecting six natural resource categories: air, land, wildlife, water, fish, and outdoor recreation. The drivers of change are compelling factors that are causing significant changes in Minnesota's natural resources—changes that are occurring now and changes that are projected into the future. For example, for surface water the most important drivers of change identified were solids loading, nutrient loading, aquatic habitat loss, contaminants, and hydrologic modification. Some of the drivers affect multiple resource areas. This is significant because it means that addressing these drivers of change would positively impact multiple resources.

The project team has assessed how the recommendations in this plan would affect multiple drivers of change, and ultimately multiple natural resources. The chart on the following pages lists the recommendation number and the potential the recommendation has for reducing the effect of the drivers listed across the top. The symbols H, M, and L stand for high, medium, and low potential for reducing the effect of the environmental driver (stressor).

Drivers of Change

Recommendation	Soil Erosion	Soil Structure	Solids Loading	Nutrient Loading	Toxics Loading/ For Habitat Recs - Contaminants	CO ₂ Emission	Hydrological Modification/ For Habitat Recs - Man-made Structures	Consumptive Use
Habitat 1	H	H	H	H	L	L	L	L
Habitat 2	H	M	H	H	L	L	M	L
Habitat 3	M	M	M	M	L	L	L	H
Habitat 4	H	M	M	M	M	L	H	H
Habitat 5	H	M	H	H	L	L	M	L
Habitat 6	H	M	M	M	M	L	M	H
Habitat 7	H	H	H	H	M	M	M	M
Habitat 8	M	H	H	H	L	L	H	M
Habitat 9	M	H	H	H	M	H	L	L
Habitat 10	H	M	H	H	L	L	M	L
Habitat 11	L	H	M	H	M	L	L	H
Habitat 12	H	L	H	H	L	L	M	M
Habitat 13	H	L	H	H	M	H	M	H
Land Use 1	M	L	M	M	M	H	H	H
Land Use 2	H	L	H	H	M	H	M	L
Land Use 3	M	L	H	H	M	L	H	L
Land Use 4	H	H	H	H	M	M	M	L
Land Use 5	H	L	H	M	L	L	H	L
Land Use 6	H	H	H	M	M	L	M	L
Land Use 7	H	M	H	M	L	L	H	L
Land Use 8	M	M	M	M	L	M	M	L
Land Use 9	L	L	L	L	L	L	L	L
Land Use 10	M	M	M	M	L	M	M	L
Trans 1	L	L	M	L	M	H	H	L
Trans 2	L	L	M	L	M	H	H	L
Trans 3	H	M	H	M	H	H	H	L
Energy 1	M	L	M	M	M	M	M	M
Energy 2	L	L	L	L	L	M	L	L
Energy 3	H	M	H	H	L	M	M	L
Energy 4	M	M	M	M	L	L	L	L
Energy 5	M	L	M	M	M	L	M	M
Energy 6	H	M	H	H	L	L	L	L
Energy 7	L	L	L	L	H	H	L	M
Energy 8	L	L	L	L	L	L	L	H
Energy 9	L	L	L	L	M	M	L	M
Energy 10	L	L	L	L	M	M	L	L
Energy 11	L	L	L	L	L	L	L	L
Energy 12	M	L	M	M	L	M	L	L
Energy 13	H	M	H	H	L	L	M	L
Energy 14	L	L	L	L	M	M	L	M
Energy 15	L	L	L	L	M	M	L	L
Energy 16	L	L	L	L	H	H	L	M
Energy 17	L	L	L	L	H	H	L	L
Energy 18	L	L	L	L	M	M	L	L
Energy 19	L	L	L	L	M	M	L	L
Energy 20	L	L	L	L	M	M	L	L
Energy 21	L	L	L	L	M	L	L	L
Energy 22	L	L	L	L	H	H	L	M
Energy 23	L	L	L	L	H	M	L	L
Energy 24	L	L	L	L	M	L	L	L
Energy 25	L	L	L	L	M	L	L	L

Figure 4. Assessment of recommendations' effect on drivers of change

Drivers of Change

Recommendation	Habitat Degradation/ Fragmentation	Habitat Loss	Invasive Species	Recreational Pressure/ For Habitat Recs - Wildlife Overexploitation	Dissolved Oxygen	Temperature	Fish Stocking	Disease
Habitat 1	H	H	M	M	L	L	L	M
Habitat 2	M	H	M	L	M	M	L	L
Habitat 3	H	H	M	L	L	L	L	L
Habitat 4	H	H	H	L	H	H	M	M
Habitat 5	H	H	M	M	M	M	L	L
Habitat 6	M	H	M	L	H	H	H	M
Habitat 7	H	H	M	L	M	M	M	L
Habitat 8	M	L	M	L	L	H	L	L
Habitat 9	M	M	H	L	M	M	M	H
Habitat 10	L	M	L	L	M	M	L	L
Habitat 11	M	L	L	L	L	M	L	L
Habitat 12	H	H	M	L	L	M	L	M
Habitat 13	H	H	H	H	M	M	M	M
Land Use 1	H	H	M	M				
Land Use 2	H	M	L	M				
Land Use 3	M	L	L	L				
Land Use 4	M	M	n/a	n/a				
Land Use 5	L	M	n/a	n/a				
Land Use 6	L	M	n/a	n/a				
Land Use 7	L	L	n/a	n/a				
Land Use 8	H	H	H	H				
Land Use 9	M	H	M	M				
Land Use 10	M	H	H	M				
Trans 1	M	M	M	M				
Trans 2	M	M	L	L				
Trans 3	H	H	L	L				
Energy 1	M	M	M	M				
Energy 2	H	H	M	L				
Energy 3	H	H	L	L				
Energy 4	M	M	L	L				
Energy 5	M	M	M	M				
Energy 6	L	L	L	L				
Energy 7	L	L	L	L				
Energy 8	L	L	L	L				
Energy 9	L	L	L	L				
Energy 10	L	L	L	L				
Energy 11	L	M	M	L				
Energy 12	M	M	M	L				
Energy 13	M	M	L	L				
Energy 14	L	L	L	L				
Energy 15	L	L	L	L				
Energy 16	L	L	L	L				
Energy 17	L	L	L	L				
Energy 18	L	L	L	L				
Energy 19	L	L	L	L				
Energy 20	L	L	L	L				
Energy 21	L	L	L	L				
Energy 22	L	L	L	L				
Energy 23	L	L	L	L				
Energy 24	L	L	L	L				
Energy 25	L	L	L	L				

H = High effect

M = Medium effect

L = Low effect

Figure 4. Assessment of recommendations' effect on drivers of change