

**Review of the Availability and Accuracy
of Information about Forests:
Phase I Report**

Prepared by

Minnesota Forest Resources Council
Forest Resource Information Management Committee

In partnership with the
Environmental Indicators Initiative

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Introduction

This report is the culmination of the first phase of a two-phase review of the availability and adequacy of information on the state's forest resources. The report was prepared through a partnership between the Minnesota Forest Resources Council Forest Resources Information Management Committee (IMC) and the Minnesota Department of Natural Resources Environmental Indicators Initiative (EII). The report includes one or more baseline questions for each of the eleven MFRC goals developed in conjunction with the vision statement (see Common Vision and Major Goals section below). Indicators are identified for each baseline question. Together the baseline questions and indicators presented in this report represent a major step forward in identifying the information needs for achieving the common vision for Minnesota's forest resources.

Background

In fall of 1998, the MFRC created the Forest Resources Information Management Committee (IMC). The origins of the IMC date back to the MFRC's development of a vision statement in late 1997 and early 1998. Eleven goals for achieving the vision and twenty-one major forest resource topics – topics that have considerable influence over the state's ability to realize the vision – were identified by the MFRC along with the vision statement. The topic *availability and accuracy of information about forests* was judged important enough by the MFRC to warrant immediate study. The IMC was constituted shortly thereafter and charged with studying the availability and adequacy of the state's forest resources information. The IMC has adopted a two-phase review process (described below), of which this report marks completion of the first phase.

Phase I Review Process

The phase I review process entailed three major steps. First, questions by which progress toward achieving the goals can be measured were developed. These questions were called *baseline questions* in order to signify their importance. They were derived from interpretation of goals by EII staff; consultations among EII staff, the IMC, IMC staff, and MFRC staff; and EII staff's collective experience in the field of environmental monitoring.

Second, the EII undertook a review of several regional, national, and international Criteria and Indicator (C&I) projects underway or recently completed. A total of five C&I projects were reviewed (see Sources). The review 1) provided the means to compare and contrast the goals with C&I developed by international, national, and regional forestry groups addressing sustainability, and 2) suggested additional information that might make the information review more comprehensive.

Finally, indicators – quantitative or qualitative measures that provide information – were developed for each baseline question. Indicators reported are a select set of all possible indicators – those judged to be most effective at answering the question. Several questions, particularly those related to process type goals, were such that quantifiable indicators were not readily discerned.

Proposed Phase II Review Process

The second phase will build on the first phase through the examination of the state's ability to provide the information necessary to answer the baseline questions and indicators. A sampling of questions that may be addressed in the second phase include:

Are programs in place to collect the information needed?
Where are the gaps between information needed and that which is available?

Is the information accurate?

Is the information collected at frequent enough intervals and at appropriate scales?

Is the information collected in a manner that allows the identification of trend?

Is the information comparable to historical data sources?

Is the information available to the policy makers, planners, managers, and citizens who may need the information?

The IMC plans to initiate the second phase in February 2000 and complete it by August 2000. A final report that highlights major findings of the information review along with IMC recommendations for programmatic responses will be submitted to the MFRC by November 2000.

Common Vision and Major Goals

Common Vision

Minnesota's forests are managed with primary consideration given to maintaining long-term ecosystem integrity and sustaining healthy economies and human communities. Forest resource policy and management decisions are based on credible science, community values, and broad-based citizen involvement. The public understands and appreciates Minnesota's forest resources and is involved in and supports decisions regarding their use, management, and protection

Major Goals for Achieving a Common Vision

1. **Minnesota's Forest Land Base is Enlarged and Protected.** No net loss of forest land occurs and some previously forested areas are returned to forest cover. The forest land base is protected from decreases and fragmentation caused by land-use changes.
2. **Forest Ecosystems are Healthy, Resilient, and Functioning.** Forests are composed of appropriate mixes of cover types and age classes required to maintain wildlife and biological diversity.
3. **Forests are Sustainably Managed.** Forests are managed to ensure economic, social, and ecological sustainability. Forest management activities enhance the diversity of the state's forests and support the long-term sustainability and growth of the many sectors that depend on them.
4. **Forest-Based Economic and Recreational Opportunities are Large.** The role and contribution of forests to the state's economic and social well-being are acknowledged. Economic opportunities for Minnesota's forest-based industries, including tourism and wood-based businesses, are large, sustainable, and diverse.
5. **Forest Practices are Implemented in Effective and Efficient Ways.** Forest practices are implemented in ways that maximize their effectiveness while minimizing the costs of their administration. Guidelines suggesting appropriate practices are scientifically based, practical, easy to understand, their rationale clearly stated, and their application consistent where possible and appropriate.
6. **Forest Landscape-Level Planning is Coordinated and Involves Collaboration.** Landscape-level planning is based on ecological landscapes and involves collaboration among landowners, users, stakeholders, and the public.
7. **Public and Private Rights and Responsibilities are Recognized.** Forest practices that achieve certain public benefits recognize and respect the inherent rights, responsibilities, interests, and financial limitations of public and private forest landowners.
8. **Forest Research Programs are Effective and Adaptive.** Information is provided by effective and coordinated basic and applied research programs. Forest practices and landscape planning/coordination activities are based on the best available information and technology and can be readily adapted to new information or changing resource conditions.

9. **Multi-Resource Information Systems are Compatible and Comprehensive.** Landowners, managers, and stakeholders have access to information systems that are capable of providing comprehensive information about forest resources.
10. **Forest Policy Development is Effective and Supportable.** Policies and programs focused on forest resources are developed and supported by processes that collaboratively move forward to resolve issues and accommodate a wide-range of constituencies.
11. **Program Funding is Committed and Sustained.** Sustainable, adequate, and long-term funding is available to accomplish the vision and the goals for the state's forests.

	FRC Goals	Baseline Questions	Indicators
Forest base	Minnesota's Forest Land Base is Enlarged and Protected	How much forest land is there?	Area of forest land, timberland, and total land area.
		How extensive are areas of continuous forest cover?	Extent, location, and spatial pattern of areas of continuous forest cover. Changes in ownership within areas of continuous forest cover.
		What laws, rules, administrative policies, land use plans, and local ordinances exist to protect the extent of existing forest?	Extent, location, and spatial pattern of forest land by landowner and administration category. Extent, location, and spatial pattern of forest land protected from conversion to non-forest uses by laws, rules, administrative policies, land use plans, and local ordinances.
		To what degree does land taxation influence the amount of forest land?	Listing of land taxes and the degree to which they impact the amount of forest land.
Ecosystem Health	Forest Ecosystems Are Healthy, Resilient and Functioning	What is the condition of the terrestrial habitat in forested areas?	Extent, location, and spatial pattern of natural plant communities. Extent, location, and spatial pattern of forest types, age classes, size classes, site index, basal area, and productivity classes. Status of state and federal endangered/threatened/special concern species. Listing of sensitive species that are monitored by agencies, institutions, and programs.
		What is the condition of the aquatic resources in forested areas?	Index of Biological Integrity. Status of state and federal endangered/threatened/special concern species. Listing of sensitive species that are monitored by agencies, institutions, and programs.
		How extensive are disturbances in forested areas?	The extent, location, and spatial pattern of disturbance by type and severity class.
		How are disturbed forests recovering?	Land use and cover class of disturbed areas. Composition and stocking of forest regeneration.
		How does tree growth compare to mortality and removals?	Growth, mortality, and removals by species.
		To what degree are forest land productivity levels in-line with potential productivity?	The extent of forest land with productivity levels below potential productivity.

	FRC Goals	Baseline Questions	Indicators
Economies and communities	Forest-Based Economic and Recreational Opportunities Are Large.	What is the status and economic value of manufacturing of fiber and raw materials from Minnesota's forests?	Location, capacity, and products produced by facilities of Minnesota's wood-based industry. Economic value, number of employees, and wages paid in the primary manufacturing of Minnesota fiber and raw material. Economic value, number of employees, and wages paid in the secondary manufacturing of Minnesota fiber and raw material. Import and export levels of raw materials and products.
		What is the availability of recreational opportunities and their economic value?	Amount of forest land available for public use. Number and type of facilities available for recreation and tourism. Expenditures of individuals participating in forest recreation and tourism.
		What is the status and economic value of special products (non-timber) from Minnesota's forests?	List of special products produced. Gross sales of special products produced from Minnesota's forest resources.
Management	Forests Are Sustainably Managed.	Please see questions for (1) Forest Ecosystems are Healthy, Resilient, and Functioning, and (2) Forest-Based Economic and Recreational Opportunities are Large.	
	Forest Practices are Implemented in Effective and Efficient Ways.	Are guidelines (e.g. Best Management Practices, silviculture guides) that suggest appropriate practices to promote sustainability in place?	List of sources that provide guidance.
		To what extent are existing guidelines that promote sustainability implemented?	Forest area managed in accordance with guidelines. Number of loggers and forest managers who participate in guideline education programs. Compliance monitoring results.
		How effective are existing guidelines that promote sustainability?	Effectiveness monitoring results.
		How efficient are guidelines that promote sustainability?	Compliance monitoring results.
		What costs are borne by loggers, managing agencies, and landowners for implementing guidelines?	Cost of guidelines for loggers, managing agencies, and landowner groups.

	FRC Goals	Baseline Questions	Indicators
Management	Forest Landscape-Level Planning Is Coordinated and Involves Collaboration.	What groups are dealing with forest resource issues that affect large areas and multiple landowners?	List of groups, their purpose and geographic extent.
		To what extent are landowners coordinating forest planning and management activities?	Area of forest land where planning and management activities are influenced by landscape-level planning and coordination activities.
		To what extent is strategic planning occurring?	Area of forest land that is part of strategic planning effort (assessment, issue identification, goals, and strategies).
	Public and Private Rights and Responsibilities are Recognized.	Do existing laws, rules, administrative policies, local ordinances, land use plans, direction documents, and guidelines recognize public and private rights and responsibilities?	<p>List of laws, rules, administrative policies, local ordinances, land use plans, and guidelines that affect private landowner's rights and responsibilities.</p> <p>List of laws, rules, administrative policies, local ordinances, land use plans, and direction documents that define public rights and responsibilities.</p>
Forest Policy Development is Effective and Supportable.	Are processes in place to provide collaboration in forest policy development?	List of processes, their purpose and geographic extent.	

	FRC Goals	Baseline Questions	Indicators
Enabling conditions	Forest Research Programs Are Effective and Adaptive.	Are research programs responsive to the need of practitioners?	Researchers and practitioners perceptions as to the adequacy and applicability of research?
		Are mechanisms in place so researchers know what's needed?	Researchers and practitioners perceptions as to the transfer of information and needs between the communities.
	Multi-Resource Information Systems Are Compatible and Comprehensive.	How comprehensive are the existing information resources in the state?	Periodic review of the availability and accuracy of information on forests in Minnesota.
		To what extent are information from multiple landowners compatible?	List of efforts and accomplishments to coordinate common data standards and information reporting.
	Program Funding Is Committed and Sustained.	What activities are missing or are performing inadequately?	List of programs and their purpose.

Sources

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