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NATURAL RESOURCES REGULATORY AND POLICY FRAMEWORK

The previous section described the physical status of Minnesota's forest resource base. This companion section discusses the regulatory and policy-making framework that impacts management of the state's natural resources base. Together, these two sections establish a framework for evaluating the extent to which impacts are likely to occur, given the current level of harvesting activity:

existing resources + existing management = likely results and impacts

4.1

Framework Overview

The following section describes this decision-making environment, discussing the state's regulatory and management framework; the state, county, and federal (USDA Forest Service) systems; the state's research and extension programs; the policies and programs to encourage management on NIPF lands; and background information on the management of Native American forest lands.

4.1.1

Policy Principles and Guidelines

The Minnesota Forest Resources Management Act (MFRMA) of 1982 defines *forest resources* as meaning:

"...those natural assets of forest lands, including timber and other forest crops, recreation, fish, wildlife habitat, wilderness, rare and distinctive flora and fauna, air, water, soil and educational, aesthetic and historic values."

Given this definition, the following describes fundamental policy principles and related developments.

Although policies of each public ownership class may differ in specific details, they are generally based on three fundamental principles or concepts. Except where directed differently by laws and regulations, lands should be managed under a *multiple use* philosophy, the amount of each product produced should not exceed the *sustained yield*, and production activities should be designed and carried out so the resource base is preserved, called *nondegradation*. The following principles guide land management policies and regulations, including those that impact private lands. These principles are often embodied in Minnesota and federal law and policies that exist in a wide range from formal to defacto:

- *Multiple Use.*—Lands should be managed to provide a wide variety of products and services. This does not mean providing for every use on every acre, but rather providing for the variety of products and uses desired by the public over the entire land area. In fact, certain uses can dominate in some areas. Neither county nor private owners have a legislative mandate to manage for multiple use, and in some or many cases, these owners' management is directed primarily towards timber production (e.g., many county lands, most forest industry lands, and some NIPF lands). On the other hand, some NIPF owners are concerned exclusively with amenity values and conduct no forest management or harvesting activities.
- *Sustained Yield.*—The level of products and services produced should not exceed the biological productivity of the land or its ability to accommodate the desired services. For timber production, this most commonly takes the form of calculation of an allowable cut. For recreation production, this most commonly means allowing recreation activities up to the capacity of the land to provide the desired experience. For wildlife production, sustained yield can mean adjusting hunting and fishing regulations to keep species within the carrying capacity or at viable population levels. Habitat management is also used as a way of increasing the carrying capacity of land for various wildlife species. In practice, however, allowable cut levels and carrying capacity are dynamic and depend on a variety of factors, including the level and intensity of management.
- *Nondegradation.*—Production activities should not result in long-term degradation of the land base upon which those activities depend. Maintaining soil productivity and water quality are the most frequent goals of management regulations and policies designed to adhere to this principle.

Two recent policy developments in Minnesota that embody these three principles apply to all ownership classes—increased interest in the application of BMPs and a proposed forest practices act. A review of these developments and other relevant background will help illustrate how fundamental policy principles can be embodied in the state's natural resources decisionmaking framework.

BMPs

In 1990, Minnesota established voluntary guidelines called Best Management Practices (BMPs) to protect and maintain water quality for activities related to timber harvesting, mechanical site preparation, pesticide use, forest roads, prescribed burning, and fire lane construction on all ownerships. These voluntary guidelines are similar to those established in other states and are the primary vehicle for prescribing preferred harvesting and associated practices.

The driving force behind the establishment of these guidelines was the 1972 amendments to the Federal Water Pollution Control Act which, for the first time, dealt seriously with the control of nonpoint sources of pollution. As

stated in the guidelines, Section 208 of the act required each state to develop plans and procedures for controlling nonpoint source pollution to the *extent feasible*. In 1987, Congress passed amendments to the Clean Water Act requiring the development of a specific nonpoint source control program. Section 319 of the act mandates the development of BMPs to reduce nonpoint source pollution to the *maximum extent practicable*.

Water quality protection is the primary goal of most BMPs guidelines. Minnesota's guidelines cover recommended practices with respect to road construction and maintenance, timber harvest planning and layout, mechanical site preparation, pesticide use, and prescribed burning—all oriented toward protecting water quality.

An important mechanism used by most public and some private landowners to ensure compliance with BMPs is the specific language included in logging contracts. Specific contractual obligations frequently go beyond BMPs guidelines to include a range of cutting and cultural practices, such as methods of slash disposal or retention of certain species of trees. Although many of the conditions included in logging contracts are not specified by statute, these contractual conditions are enforceable under contract law. As such, logging contract conditions can serve as a powerful tool in influencing how harvesting is carried out.

Additional regulations exist in Minnesota to control water pollution and to preserve scenic vistas along waterways, and some of these apply to private lands. Regulations are contained in local water plans, upper Mississippi Headwaters Board ordinances, local zoning controls or ordinances, shoreland management ordinances, Wild, Scenic and Recreation River Rules, the National Environmental Policy Act (NEPA), MNDNR Division of Water permits as required by law where construction activities impact public waters, the National Forest Management Act (NFMA), the Minnesota Pesticide Control Law, and the Minnesota Groundwater Protection Act of 1989.

Proposed Forest Practices Act

As previously stated, Minnesota's BMPs guidelines are currently voluntary. In a step toward making them (or similar guidelines) mandatory and uniformly applied statewide, a Minnesota Forest Practices Act was introduced in the legislature in 1991. This bill promoted timber growth and reforestation and adopted a policy of no-net-loss of commercial forest land. NIPF lands consisting of less than 40 acres, Native American lands, or growers of decorative trees would not be affected. The bill addressed many of the activities covered under the BMPs guidelines, as well as the establishment of a board for rule and policymaking. Although never enacted, the bill did attract widespread attention across Minnesota's forestry community and as such is indicative of existing intentions by some to move beyond the current BMPs system.

4.1.2

Planning and Coordination Role

With the exception of some counties, all public landowners in Minnesota do natural resources planning that cover collectively a wide range of forest resource planned for, acreages, and ownerships. On the county level, this often results in formal county plans or annual activity reports. State planning is three-tiered and involves completion of a comprehensive statewide forest plan, which provides resource assessment and program direction as well as regional and unit plans for the state forest system. Although similar to state-level forest planning initiatives in terms of product output, the USDA Forest Service has the most detailed and analytically complex system of planning.

Coordination among public landowners is achieved in various ways, such as with financial resources or shared technical expertise. Historically, the federal level took most of the responsibility for coordination among the various landownership categories, but this has changed as state and county agencies expanded and acquired more professional resources management expertise. However, of importance is that coordination at the forest resource management level is much less than optimal, which in turn does interfere with effective landscape management concepts, programs, and actions.

The Minnesota Forestry Coordinating Committee (MFCC) also plays a role in program coordination in Minnesota. The director of the MNDNR Division of Forestry serves as chair of the MFCC. The committee is composed of representatives of many public landowners and natural resources research organizations in the state as well as representatives of various Minnesota natural resources associations, industries, councils, and committees. The coordinating committee's mission is to enhance through coordination the effectiveness of forestry programs to increase benefits for the people of Minnesota and the nation. Objectives include:

- identifying major issues affecting the forestry community;
- improving coordination among members of the forestry community;
- proposing initiatives/projects to the forestry community; and
- strengthening the voice of the forestry community with the executive and legislative branches of government and with the public.

Coordination (or more accurately, cooperation) also takes the form of provision of federal monies for various programs operated by state agencies or through which money is passed on to local governments or private individuals. Such coordination is most often with respect to activities undertaken by programs, not on the objectives of programs.

Minnesota agencies are also involved in many regional or multistate cooperative efforts. These efforts often involve federal, state, and county

interests and promote both inter- and intrastate coordination that extends beyond state lines. Examples of such coordination include the:

- *Lake States Forest Fire Compact.*—This compact includes Minnesota, Wisconsin, and Michigan and the province of Ontario. It provides for cooperative efforts in fire training, research, and during emergency fire situations.
- *Lake States Forestry Alliance.*—This alliance of Minnesota, Wisconsin, and Michigan serves as a regional body whereby the three states can cooperatively address forestry problems and issues of mutual interest. Primary responsibilities of the alliance are:
 - identification of the Lake States as an important forestry entity;
 - encouragement of interstate cooperation for agencies;
 - issuing Congress joint representation on important regional matters;
 - analyzing regional forest resource trends and opportunities jointly; and
 - developing a major regional resources assessment, which is currently underway.
- *Upper Great Lakes Biodiversity Committee.*—This committee is a joint effort of federal and state agencies, university faculty, Native Americans, environmental groups, and the forest industry to encourage appropriate consideration of biological diversity in management of forest resources in the Lake States region.
- *Research cooperatives (based at the UofM, College of Natural Resources).*—These cooperatives typically involve a dozen or more supporting members from industry and government agencies (federal, state, and county). The objective is to support and encourage highly focused applied research and technology transfer that addresses important common problems in forest management. Minnesota-based regional cooperatives include the:
 - Minnesota Tree Improvement Cooperative;
 - Forest Vegetation Management Cooperative;
 - Great Lakes Forest Growth and Yield Cooperative; and
 - UofM/Institute of Paper Science and Technology Aspen/Larch Genetics Cooperative.

4.1.3 Overview of Programs

State and federal forest landowners operate programs directed toward the major biological components and uses of the forested environment, such as timber, water, fisheries, wildlife, and recreation. These programs are most administratively distinct in the state forest system and least administratively distinct on the national forests. The emphasis placed on each program varies by ownership. Counties are oriented toward programs of timber production and on-the-ground management. Considerations in overall resources management vary widely from county to county. Additionally, separate programs organized

along functional lines (e.g., for fisheries, wildlife, etc., separately) are not common.

Conversely, national forests' timber programs are a much smaller percentage of the total USDA Forest Service program. In the National Forest System, programs involving planning and noncommodity uses of resources appear to be the major thrust. In addition, the Research and State and Private Forestry branches of the USDA Forest Service operate the largest programs directed at research (including academic institutional support) and cooperative assistance of any public land management agency based in Minnesota. Note that the MNDNR is the delivery agent for Minnesota's State and Private Forestry program. The net effect is that the state forest management programs stimulated by the USDA Forest Service have elements of both commodity and noncommodity orientations.

Many programs also exist to assist NIPF landowners. These programs often differ in their objectives. The most emphasized objective shared among them is to improve the standard of land management on NIPF-owned forests, irrespective of the primary management objectives.

4.1.4

Public Participation Needs

Public participation undertaken by public land management agencies is generally concentrated around their major planning activities. There are two types of public participation, informal and formal. Informal public participation is usually one on one between resource professionals and citizens and is not required or governed by law or policy. In contrast, formal public participation is required by law or policy. Informal public participation occurs almost continuously as state residents interact with state, county, and federal agency personnel. Because of their grassroots orientation, counties use informal public participation almost exclusively. Formal processes are pervasive in the public participation activities of the national forests, and to a lesser extent, the state forests. These formal processes are legally specified and often detailed and complex.

4.2 State Management System

The organizational history of the state forest system began in 1895 with the legislative appointment of the state auditor as the forest commissioner. The primary responsibility of the forest commissioner was the appointment of fire wardens to enforce recently passed laws regarding fire suppression and prevention. Four years later, a Forestry Board was created to manage state lands obtained through grant or gift. This led to the establishment of the first state forest, Pillsbury State Forest, the following year on land donated to the state by John S. Pillsbury.

Over the years, several organizational and charter changes have taken place. By 1948, the Department of Conservation consisted of five divisions in addition to the commissioner's office: Forestry, Game and Fish, Lands and Minerals, State Parks, and Water Resources. Several divisions and bureaus have since been added, and the Department of Natural Resources (the name change occurred in 1971) consists of 14 divisions or bureaus in addition to the commissioner's office.

Just as the structure of MNDNR has evolved and grown to encompass many resource issues over the years, so have the agency's policy and program directions.

Policies generally expanded from an almost exclusive early 1890s focus on fire prevention to encompass planting, forest management, and timber sales. The era of multiple use ushered in a variety of policies that focused on the production of goods and services other than timber. An example of this and a major policy event in Minnesota's forest history was passage of the MFRMA of 1982. Many provisions of the act grew out of the recommendations of a large study of forest management in Minnesota conducted for the Legislative Commission on Minnesota Resources (LCMR) by the Banzhaff Company (Banzhaff 1980). Key provisions and required actions of the MFRMA include:

- an inventory and map of all existing state forest roads and classification by use standard and condition. This state forest road plan was produced by the Division of Forestry in the early 1980s;
- a report on current and anticipated reforestation needs. The significant backlog of state lands needing planting in 1982 has since been eliminated;
- the direction for forestry research and extension and direction for continuing education;
- a statewide forest resource assessment every ten years. The first assessment was completed by the Division of Forestry in 1983;

- a program document every four years. The first program document was completed by the Division of Forestry in 1983. Two more were completed in 1987 and 1991;
- a requirement to follow a multiple use/sustained yield policy in managing state forest lands. Within this context, forest resources were broadly defined. This was the first time the MNDNR was legally directed to follow this policy; and
- the creation of a forest management fund—dedicated receipts from certain forestry activities. This was lost in 1989 as a result of fund consolidation in state government.

The trend toward a broadening of policy to encompass production of goods and services other than timber is continuing. State policymakers today are becoming more focused on issues such as protection of old growth (draft guidelines not yet finalized and approved were first established in 1990), global warming, loss of timberland, and the sustainability of projected future timber harvest levels.

4.2.1

MNDNR Policy Focus

The Division of Forestry of the MNDNR is the primary agency charged with management of state owned forest resources and programs to assist in the management of county and NIPF lands. As noted in the previous section, the general management philosophy is guided by the MFRMA, which directs the commissioner of natural resources to manage state forest resources based on the principles of multiple use and sustained yield management. The following current management policy directions were summarized from the Minnesota Forest Resources Plan (MFRP), Program Direction: Fiscal Years 1991–95:

- increase the health and productivity of forest lands for higher balanced levels of commodities and amenities aimed at strengthening Minnesota's forest products and tourism economies;
- improve the ability to protect from wildfire damage;
- enhance coordination of public/private forestry programs for shared goals;
- maintain communications with forest user groups to improve sensitivity to the broad range of public needs and expectations;
- improve state forest land biological diversity;
- encourage wood products industries to use available raw materials, promote value added expansion and new development of secondary wood products manufacturing, and ensure a sustainable supply of wood products industry raw materials;
- intensify efforts to manage for nontimber goods and values;

- improve forest management practices to acceptable levels to enhance forest resources and reduce resource losses such as those from insects, diseases, and soil erosion;
- manage trust fund lands in a consistent manner based on sound natural resources management principles to maximize long-term economic returns;
- employ the regional planning process to promote interdisciplinary planning. Promote biological diversity and integrated resources management by adopting an ecological classification system and landscape management techniques;
- support a policy of no net loss of timberland and no net loss of total forest land on all ownerships as outlined in the report of the Governor's Blue-Ribbon Commission on Forestry and Forest Products; and
- develop a forestry/wildlife coordination policy (completed in 1980).

Intra-agency Coordination Policy Relationships

As a result of the last policy listed above, Forestry/Wildlife Guidelines for habitat management for all state owned lands were written and approved. These Guidelines for Habitat Management may affect *how much* land is available for timber harvesting and forest management, and *what kind* of harvesting and management activities are practiced on MNDNR lands. These guidelines are used by wildlife and forestry field personnel throughout the state for MNDNR lands on both forestry- and wildlife-administered lands. Modified harvesting and management practices to accommodate wildlife needs are used extensively on state lands.

These guidelines are one example of how the policies of other MNDNR divisions impact management of Division of Forestry administered lands. The MNDNR has major fisheries, wildlife, recreation, minerals, and waters programs that directly affect forest land management and timber harvesting policies, and to effectively implement these requires sound intra-agency coordination. In particular, the agency is considering various ways to achieve greater integration of its efforts at natural resources management. These issues are addressed in more detail in the materials that follow.

Other State Policies

The state has a myriad of other policies that help create the current resources management framework. For example, they include coverage of the following:

- land exchanges;
- mineral exploration opportunities;
- land reclamation;
- herbicide use;

- wetlands; and
- timber sales.

In addition, the MNDNR is developing policies on the following:

- old growth;
- ERF; and
- old forest.

Overall, the state has many policies and related regulations and laws that collectively create a broad and sometimes complex range of implications for resources management.

4.2.2 State Planning

The Division of Forestry of the MNDNR is responsible for statewide forest resources planning. The statewide forest resources plan considers all ownerships and serves as the base for long-range program and budget development for the state agency. This plan has often been required for states cooperating in federally sponsored forestry planning programs.

Widespread state forest resources planning began in earnest in 1978, when the Cooperative Forestry Assistance Act (P.L. 95-313) was passed. This act authorized financial and technical assistance for states engaged in planning efforts. State authorization is based on directives in Minnesota Statutes, Sections 89.011 and 89.012; which respectively:

- direct the MNDNR to prepare and maintain a *statewide* forest resources management plan with an assessment and a program; and
- development of *unit* forest resources management plans which set out specific goals and objectives for management, protection, development, and production of forest resources.

The second level of state planning is more geographically specific. The MFRMA requires preparation of plans for each geographic administrative unit identified as an appropriate unit for planning purposes by the Division of Forestry. The Division of Forestry initially used the area administrative level as the unit for these forest plans. Currently, plans are developed at the regional level. These plans reflect the general policy and program direction as specified in the MFRP as well as specific objectives, program, and budget targets. The primary focus of the program portion of these plans is on Division of Forestry programs and lands, and ensures that operational activities of the division reflect existing policy. Other portions of these plans address forest land management on all lands—especially, those in the southern third of Minnesota.

The Division of Forestry has always done some type of statewide forest planning. Historically, this revolved around fire control, planting, and timber management. Minnesota's first statewide plan was completed in 1977. A second, more comprehensive plan was completed in 1983, based on legislation enacted in 1982. An update of the program direction section of the 1983 plan was completed in 1987 and July 1991. As with all planning efforts undertaken by public agencies, the process is a continuing one as modifications are made in response to changing forest and state conditions. The 1993 statewide assessment will be the basis for developing a 1995 program plan, which is intended to be broad and strategic and address *all forestry programs in the state, not just MNDNR programs*. The purpose of the assessment and program plan is to describe Minnesota forest resources, project forest-related goods and services, supply and demand, and provide management policies and programs for the benefit of all interests and ownerships.

The steps in state forest resources planning are similar to those in the USDA Forest Service planning process, as specified in the Resources Planning Act (RPA). Both begin with identification of issues and goals and require a broad master plan with more specific subordinate units' plans. The 1983 MFRP (the broad master plan) consisted of seven volumes:

1. Planning Concept;
2. Issues Document;
3. Assessment;
4. Goals and Strategies;
5. Objectives and Recommendations;
6. Program and Budget; and
7. Annual Budget Implementation.

Each of these are updated as needed on an approximately five- or ten-year cycle. The 1983 documents will be superseded by the 1993 assessment and 1995 program updates.

4.2.3 State Coordination

In planning, coordination is often the responsibility of many groups. This holds true for forest resources planning. For example, the State and Private Forestry Branch of the USDA Forest Service is responsible for coordinating planning efforts undertaken by the state and federal levels of government. Planning coordination also occurs directly between the MNDNR and the two national forests, especially for forestry, fish, and wildlife. Within the MNDNR, the Office of Planning is responsible for integrating the MFRP with the department's comprehensive plans.

A great deal of informal *coordination* occurs among the state and county land

management agencies. Formal *cooperation* also occurs within a number of programs. State/county coordination and cooperation often centers around transfers or pass-through monies which flow from the state level to the county level. Aside from this type of financial transfer, no specific mechanisms exist to coordinate decisions regarding the spending of this money.

Coordination among the departments' planning efforts, and review and input by the legislature is undertaken through various legislative committees and the LCMR. In the past, the Minnesota State Planning Agency was responsible for coordination with other state agencies and local units of government in ongoing state natural resources planning efforts. This agency was abolished in 1991, and this responsibility was shifted to the newly created Office of Strategic and Long-range Planning.

Coordination of environmental policy is dealt with by the Minnesota EQB. The EQB was established by the Minnesota Legislature in 1973 to serve as an interdepartmental forum for addressing and resolving environmental problems and issues. Primary responsibilities of the EQB are to: (1) initiate interdepartmental investigations into state environmental problems; (2) review and coordinate the environmental programs of state agencies to ensure compliance with state environmental policy; (3) review the rules and criteria of state agencies for granting and denying environmental permits; and (4) coordinate the development of legislative proposals submitted by state agencies.

4.2.4 State Programs

Major forestry programs and activities are conducted through the Division of Forestry of the MNDNR. This division has management responsibility for approximately 4.4 million acres, or 85 percent of all state owned land in Minnesota. The Division of Forestry has 21 different programs grouped into six general categories. These categories are listed below with a brief description of their programs and functions.

1 State Forest Land Management Program

Land Administration.—Administers state land leasing, sales, acquisition, and exchanges.

State Forest Recreation.—Administers 46 campgrounds, 44 day use areas, 1,200 miles of trail, 142 water accesses, and 17 canoe and boating route campsites. Conducts recreation planning, develops and maintains recreational facilities, enforces rules and regulations, distributes maps and other interpretive materials, and produces brochures on state forest recreation areas and state trail systems.

State Forest Roads.—Inventories, maintains, reconstructs, and manages the forest transportation system. Plan for the construction of new roads as needed.

Timber Management.—Manages state-owned forest lands primarily through timber stand regeneration, timber stand improvement, and regulation of harvest following standard silvicultural principals.

Timber Sales.—Appraises, sells, and supervises the harvest of timber on state lands.

Fish and Wildlife Habitat Management.—Implements old growth guidelines and Forestry/Wildlife Coordination Policy and Guidelines in all areas of the state. This often takes the form of modification of reforestation, timber stand improvement or timber harvest, or separate wildlife enhancing projects.

2 Cooperative Forest Management Program

Private Forest Management.—Promotes forest management on NIPF lands by developing multiple use management plans for landowners and providing landowner education, technical assistance, and marketing assistance. This is the lead program which coordinates state and federal assistance monies for NIPF owners.

Urban and Community Forestry.—Provides training and technical assistance to managers of Minnesota's urban and community forests. Increases interagency coordination of programs operated by these managers and public awareness of the values of urban and community forests.

Cooperative County Forest Management.—Provides technical and financial support to county land departments; channeling technical services and finances through ongoing division programs rather than with direct staff support. Continues the historic role in providing tree seedling production, pest protection, and forest inventory information. De-emphasizes statutory oversight and regulatory responsibilities in favor of an advisory approach for ensuring sound resources management.

Forest Pest Management.—Develops effective control programs for Minnesota pests with emphasis on nonchemical management approaches. Provides technical assistance and education services to private forestry-based industries and all managers of forest land in the state on insect and disease prevention and control.

Forest Soils.—Maintains site productivity and enhances forest resources management through the use of landform, soil, and vegetation technical information.

3 Nursery and Tree Improvement Program

Nursery and Tree Improvement.—Produces forest regeneration material of the highest genetic and biological quality in the quantities needed for use by state agencies and sale to other forest landowners.

4 Resource Protection Program

Wildfire Protection and Management.—Conducts activities to aid in the

prevention, presuppression, and suppression of wildfires on 45.5 million acres of public and private lands in Minnesota.

Law Enforcement.—Provides compliance with state statutes for preventing wildfires, protecting the public's interest in state land and its assets, and ensuring the division's recreational facilities can be enjoyed safely by the public.

5 Forest Resource Information and Planning Program

Forest Resource Assessment and Analysis.—Collects and processes forest resource information utilizing forest inventory, remote sensing, and biometrics techniques and technology.

Forest Products Utilization and Marketing.—Increases the economic benefits from production of forest products within the state; increases wood-using efficiency of the state's forest products industry; and provides forest resource and forest products information for the forest products community and general public.

Forest Information Systems.—Coordinates, develops, and maintains the division's computer information system.

Forest Resource Planning.—Provides the Division of Forestry with strategic and land management planning services. This includes updating of the MFRP.

Public Affairs.—Provides information and education to the public on division programs, products, and services.

6 Administration and Technical Support Services

Human Resources Development.—Oversees division recruitment, selection, orientation, training, education, and development of all division personnel.

Maintenance and Administration.—Administers fiscal matters, property and equipment maintenance, and overall supervision of the division.

4.2.5

Public Participation in State-level Forest Resource Planning

Informal public participation is used frequently at the state level. For example, for the state's planning process, the public is involved with the MNDNR Division of Forestry on specific issues via various types of informal roundtables or committees. Examples include the recently held Old Growth Roundtable and Forest Practices Regulation forum. In addition, from time to time, the governor or MNDNR commissioner create special committees or commissions on forestry that include public representatives. The MNDNR also pursues other formal and informal public participation processes initiated at the department level that directly involve the Division of Forestry. Examples include the forest roads committee and annual logger/timber sale meetings. Importantly, legally mandated state public participation activities are centered in the planning process, just as they are in the federal management system.

When possible, the planning team within the Division of Forestry utilizes existing communications channels to solicit public participation in planning activities. Draft planning documents are distributed to interested parties for review directly by the planning team through established MNDNR communications channels, through other state planning agencies communications channels, and through various commissions and councils.

Important here is the new state planning process being employed by the MNDNR administrative regions 1, 4, and 5. This new process is based on landscape planning, utilizes interdisciplinary teams to set desired future conditions, has developed innovative public participation processes, and is a departure from past MNDNR planning efforts.

As with the USDA Forest Service planning process, public involvement in state forest resource planning activities is most concentrated at the beginning and end of the process. Comments and suggestions are solicited in the initial scoping process when issues are selected. Following completion of draft documents, meetings are held throughout the state to explain the documents and to compile oral comments on their content. Submission of written comments is also encouraged.

At the unit planning level, public participation consists of information meetings held before plan development, so comments received can be used to help prepare the plan. More informal meetings are also held with various interest groups during the plan development stage to solicit comments or suggestions. Public information meetings are also held on the draft unit plan.

Similar to rights of appeal on the federal level, participants who are not satisfied with the resulting state forest plans can file suit in the state court system. This right exists in Minnesota but not in every state.

4.2.6 State System Overall Assessment

Although not specifically identified as a FSD-scoped issue, this brief overall assessment is provided to address some considerations that may help focus future decisions.

The statewide system for natural resources decisionmaking is diverse and wide ranging, both geographically and topically. Although it primarily involves the MNDNR, numerous other agencies, departments, boards,

committees, and citizen interest groups have significant roles. The following points are important considerations:

- the state has a comprehensive array of laws, regulations, guidelines, etc., intended to help ensure wise management of natural resources;
- within this comprehensive array, however, there is *the potential* for overlapping interests and authority, shared decisionmaking, and lack of clear responsibility (for example, are the roles of the LCMR, MNDNR, and EQB, with respect to resources management, clear and noncompetitive?);
- with careful coordination, consistency, and a sound awareness of the mix of tools available to decisionmakers, the current system can work effectively;
- the difficulty can arise when these needs are not met, and *the potential* for that to occur seems high;
- the quality of the state's natural resources decisionmaking can suffer without streamlining and application of clear policies with straightforward responsibilities and corresponding authority; and
- this *potential* has been compounded by the state's budget situation and the MNDNR's loss of staffing since 1985.

4.3

County Management System

Minnesota is one of only two states in the U.S. with an extensive county managed land base (technically, these lands are owned by the state, see section 3.2.2). Each county's land base is managed by a land commissioner, county auditor, or the MNDNR (for counties with small amounts of forest land). Counties with extensive county-administered forest land holdings have land commissioners who administer lands through a county land department. These land commissioners are appointed by their respective county boards and function as the administrators of the county land system. As of 1990, fourteen counties had land commissioners.

All land commissioners are members of the Minnesota Association of County Land Commissioners (MACLC). The MACLC became a formal nonprofit organization in 1984 in order to better coordinate county activities; and to facilitate the sharing of problems, solutions, and opportunities at a grassroots level. The MACLC also became involved in the legislative process and public education programs. This increased the visibility of the county land system in the policy community and established it as a major public landowner on a par with the older, more visible state and federal systems.

State law, MN Stat. 282.01, requires county boards to classify county managed land as either conservation or nonconservation. Legislation requiring this classification and authorizing the appointment of county land commissioners was first passed in 1935. In general, conservation lands are more suitable for

public ownership and management while nonconservation lands are more suitable for private ownership and use.

Conservation lands can be reclassified by county boards in several ways. They can be transferred to the state for management, designated as nonconservation, transferred to other parties (public or private) or designated as memorial forests. Since 1945 when legislation authorized establishment of memorial forests, designation of conservation lands as memorial forests has been common, indicating the increasing forestry expertise of the county land departments.

Memorial forests are actively managed by county land departments, primarily for timber production. In fact, to be designated as memorial forest, the land must be "...more suitable for forest purposes than for any other purpose..." (MN Stat. 459.06 [2]). Proceeds from timber sales or any other revenue generating activity in memorial forests may be, and nearly always is, placed into a separate permanent fund within the trust to be used for the management and development of that forest. After the expenses of the managing land department are paid and an elective set-aside distribution of funds is made to special accounts, such as Memorial Forest Account, Timber Development Fund, Recreation Account, or others provided in statute, the remaining funds must be distributed by statutory formula to school districts, the general revenue fund, and townships or municipalities in which they were generated. Income from the sale of products on other types of county owned land *not* classified as memorial forest is distributed in a similar manner.

What this means is that unlike the MNDNR current policy focus on multiple use concepts, the counties' are more heavily oriented toward generating revenues for public services (e.g., emphasize timber production and harvesting).

4.3.1 County Policy Focus

Counties in Minnesota have very similar policies due to their self-supporting funding structure, local constituencies, and similar resource bases and timber and recreation markets. All counties have policies heavily oriented toward forest management for the production of wood products.

In addition to providing direct revenue to the county, it is clear to county managers that additional benefits in the form of employment are generated as the wood is harvested and processed by local wood products firms. Both direct and indirect economic benefits contribute to the focus on wood production as the major management objective.

Yet counties also have become more active and sophisticated in taking a broader view of the forest resources beyond timber. Eight counties are currently developing a biophysical land classification and mapping system.

Information regarding climate, geology, land forms, landscape positions, soils, and vegetation are being organized into a hierarchical arrangement of the biological and physical resources that characterize the forest environment. This will provide resources managers with an ecological framework for strengthening prescriptive forest management through more comprehensive resource evaluations. However, caution is important. Some of the county inventory/mapping systems being developed are not fully compatible with each other or with existing state and federal systems. This lack of coordination could lead to future planning constraints and coordination problems.

Some counties also cooperate with state and federal land managers regarding fish and wildlife habitat management. Policies regarding fish and wildlife habitat management involve modification of management and silvicultural practices as a means of taking wildlife considerations into account. Such modification varies by species and focuses primarily on habitat improvement for game species, which is viewed as important for much of the county lands statewide. Some county timber harvest and forest management plans are done in an integrated manner with site-specific policies directed toward deer yards and grouse habitat.

Federal and state law govern county actions regarding endangered species. Less commonly, a county will have specific policies regarding endangered and nongame species. Hubbard County, for instance, has site-specific policies regarding management of habitat for endangered, threatened, and special concern species.

Other County Policies

Like the state, individual counties also have a wide variety of other policies that affect resources management. Such policies cover the following:

- recreation and aesthetics;
- special use lands (for public and environmental education);
- roads;
- land acquisition and disposal; and
- timber sales.

Overall, the county resources management policy framework is broad, but differs from state management policy in two basic ways:

1. it is more oriented toward commercial timber production, and
2. it is not as complex.

4.3.2 County Planning

County forest management planning is very autonomous compared to state (and

federal) efforts and systems. Each county land department represents the policy and management focus under the control of each county board. Counties are not required by law to prepare formal land management plans. Consequently, county efforts exhibit differing patterns of planning. Nine of the 14 counties with land commissioners have specially developed written plans. Four of these were completed in the 1990s, three in the 1980s, and two in the 1970s. Several are in the process of being updated.

Other counties use different planning methods or are in the process of conducting some type of planning effort. One county is developing a new planning approach that incorporates many of the elements of traditional planning with state-of-the-art data processing and GIS capability, which will permit extensive modeling and frequent updates when fully operational.

Many existing county plans are comprehensive and cover such categories as an overview of the land base, fish and wildlife policies, fire policies, outdoor recreation policies, the economic importance of roads, and current timber sale and pricing procedures. They are also very similar to state level regional resources management plans in a gross sense. This consistency is in part the result of state technical and financial assistance provided to certain counties, specifically for planning activities.

4.3.3 County Coordination

Counties, especially the 15 with land commissioners, coordinate with federal, state, regional, and local agencies and landowners in many ways. The MACLC plays a key role in many cooperative efforts with members assigned to coordinate various activities such as developing standards, as in BMPs, and participating in working groups or policy task forces. Counties participate in and help fund various formal cooperatives such as the Forest Vegetation Management Cooperative, the Great Lakes Forest Growth and Yield Cooperative, the Minnesota Tree Improvement Cooperative, and the Aspen/Larch Genetics Cooperative. Counties also coordinate activities through participation in the Minnesota Forestry Coordinating Committee, forest inventory efforts, sharing data and information, and occasionally by sharing costs and contributing lands for special projects. Additional coordination takes place through special County Road Committees to deal with multi-agency road and access issues.

Considering all of these activities, perhaps the most important is the coordination and cooperation that occurs among counties. By creating a forum that encourages periodic dialogue among county land commissioners, the MACLC provides a vehicle for cooperation and support among counties as well as with state, industry, and private landowner or user organizations.

4.3.4 County Programs

Unlike the MNDNR, county land departments are not arranged into separate programs based on function. Furthermore, there is great disparity across county land departments in terms of funding and personnel support, and this affects the array of what can be offered (e.g., Carlton versus St. Louis counties). However, overall resources management decisions take into account a variety of resource values. Some of the management activities undertaken by the counties in this way are:

- road construction, reconstruction, and maintenance;
- reforestation;
- timber stand improvement;
- forest inventory;
- remonumentation (land surveys, etc.);
- wildlife;
- recreation;
- timber management;
- land management; and
- forfeited tax sales apportionment.

4.3.5 Public Participation in County-level Forest Resource Planning

Public participation on the county level is largely informal. Where planning efforts include public participation, counties may employ processes similar to those used by the MNDNR and the USDA Forest Service. They are not, however, legally required to do so. Many counties also have advisory committees, composed of county residents and elected officials. These advise the land commissioner and the county board on the direction the forestry programs should take.

4.3.6 County System Overall Assessment

Again, though not specifically addressed as an FSD-scoped issue, comments here are intended to help focus on key future considerations. The county system for natural resources decisionmaking is narrowly focused relative to counterpart state and federal processes. Its goals are straightforward, for the most part, which allows for this less complex approach. Difficulties probably lie in the number of separate county jurisdictions, the variety of interests, and the increased likelihood of intercounty conflicts. However, the MACLC has done much to minimize potential difficulties. The following points are important considerations:

- those counties with highly fragmented land bases will likely have more problems with natural resources decisionmaking, especially that aimed at multiple use management and landscape-level objectives;
- the counties are not under the auspices of the MFRMA, which can lead to less legal accountability for multiple-use management;
- the county land departments are not sufficiently staffed or funded for adequate multiple resources-based forest policy and program decisionmaking;
- an emphasis on optimizing revenues from public land holdings can create public perception problems in the present environmentally oriented climate;
- the counties have historically relied, to a certain degree, on state resources and technical expertise regarding county forest planning matters, and this reliance *can* lead to strong influence from the MNDNR; and
- given their basic charter and available resources, the counties appear to have a system that is well tailored and scoped to their own needs, but as indicated, the county management of state lands is conducted without formal multiple use management guidelines, and without the formality in planning, public input, or coordination with other public landowners that is evident for the MNDNR and the USDA Forest Service.

4.4

Federal Management System

The USDA Forest Service is the largest agency of the U.S. Department of Agriculture and is headed by the chief of the USDA Forest Service. Six deputy chiefs are assigned to oversee each of the six distinct branches. These branches are the first level in the administrative structure. The six branches are:

- Programs and Legislation;
- Administration;
- Research;
- State and Private Forestry;
- National Forests; and
- International Forestry.

In addition to these branches, an Office of Information is located in Washington, D.C., to assist in public information and public involvement activities.

The Programs and Legislation Branch handles budgeting, policy analysis, and legislative affairs. The Administration Branch handles personnel, procurement and property, and information systems. The International Forestry Branch was recently added to the agency's structure and is oriented toward international forest management and assistance. The Research Branch conducts natural resources research at seven regional experiment stations and at the Forest Products Laboratory in Wisconsin. The State and Private Forestry Branch

provides and coordinates technical and financial assistance to state forestry agencies for use in various programs (generally cooperative forestry, fire management, forest pest management, and private forest landowner assistance). The National Forest Branch of the USDA Forest Service is the only branch with land management responsibilities. It is also the largest branch, both in terms of budget and personnel, and the most visible to the public. There are eleven program areas that national forests are responsible for: engineering; lands; land management planning; minerals and geology management; range management; recreation management; timber management; watershed and air management; wildlife and fisheries; public affairs; and administrative resources.

Each of the two national forests in Minnesota is headed by a forest supervisor who reports to the regional forester located in Milwaukee, Wisconsin. The forest headquarters of the Chippewa is located in Cass Lake and the forest headquarters of the Superior is located in Duluth. Forest supervisors have the following responsibilities:

- to provide leadership and supervision to forest staff;
- to participate in the formulation of regional and forest level policies, programs, and objectives;
- to work toward the accomplishment of State and Private Forestry program objectives and the dissemination of research information; and
- to meet regionally allocated production targets for goods and services produced on the forest and planning objectives.

Of all public owners of forest land in Minnesota, the federal government was the first to adopt policies emphasizing management for both commodity and noncommodity production. The national forests, in fact, were the first public landowner to adopt the concept of multiple use management and to undertake extensive resources management planning.

4.4.1 Federal Policy

The federal agency primarily responsible for forest resources and programs in Minnesota is the USDA Forest Service. The general management philosophy is guided heavily by the NFMA and its associated range of regulations and guidelines. This philosophy creates a far more complex and wide reaching resources policymaking framework than exists for either the state or the county systems. The USDA Forest Service Manual, a key component of the policymaking framework, provides guidelines that illustrate this concept of breadth and diversity:

- *Human and Community Development.*
Help individuals and local communities enhance their self-sufficiency and maintain community stability by identifying supportive forest and

range related opportunities;

- *Environmental Management, Subsection—Pesticide and Herbicide Use.* Use pesticides only after analysis demonstrates that pesticide use is essential and use only Environmental Protection Agency (EPA) registered pesticides. Herbicides will not be applied directly into water or wetlands. All lakes, streams, ponds, and ditches which contain water at the time of treatment will have untreated buffer zones.
- *Recreation Management, Subsection—Recreation Opportunities.* The five ROS classes will be used to guide management within each management area and to ensure road management and development conform to ROS needs.
- *Timber Management, Subsections—Rotation Ages and Culmination of Mean Annual Increment, Management Intensity and Utilization, and Silvicultural Practices.*

An individual timber sale will usually be designed to harvest a number of stands in an area of about 1,000 acres, which is served by a common transportation network. Such areas are called compartments. A stand of timber, at rotation age, may be offered for sale if it has operable timber, meets market conditions, is accessible, and its sale would be consistent with other resource objectives. The stand should be harvested at culmination of mean annual increment (MAI) to yield the most growth (rotation age). Harvesting of timber prior to MAI culmination is prohibited by NFMA.

Although not stated separately as a distinct policy, land and timber management are clearly influenced by the issues of retention of old growth and maintenance of biodiversity. Each management area is assigned a biodiversity index with management guided by habitat requirements of various wildlife indicator species. Management plans also contain standards for retention of old growth. For example, the Chippewa National Forest Plan calls for 90,000 acres of ERF designated over the 150-year planning horizon. There will not be 90,000 acres designated at any one time; acres will move in and out of old growth status. As of 1992, 24,700 acres were designated as old growth.

- *Timber Management, Subsection—Soils Productivity, Wetland and Riparian Areas, and Timber Stocking Levels.*
Silvicultural practices are to be conducted in a manner so as not to adversely affect soil productivity. Various activities associated with logging such as log landings or yarding areas, disposal of residual logging debris, soil disturbance, and felling of trees are prohibited in specified types of wetlands and restricted to certain times of the year in others. Riparian resource values will be optimized by establishing an area at least 100 feet wide along the shores of perennial streams and lakes.
- *Wildlife Management, Subsections—Threatened and Endangered Species, Sensitive Species, Other Species of Concern, Viability Indicator Species, Management Indicator Species, Moose and Deer Population Guides, and Fisheries.*
Endangered and threatened species and their habitats conservation or recovery receive special priority in national forest management (FSM 2670.3). The gray wolf, American Peregrine Falcon, and the Bald Eagle are the threatened and endangered species occurring on Minnesota's national forests. Each species is governed by detailed management standards.
- *Forest Pest Management.*
A system of integrated pest management (IPM) method is used on the national forests. These methods emphasize techniques such as selection of rotation ages, species mix, stand densities, suitable sites, and stand acreages that are least conducive to pest outbreaks.

Other Federal Policies

Several other forestwide policies are found in manuals, guidelines, and miscellaneous USDA Forest Service regulations. These policies address such resource issues as:

- visual quality;
- air quality;
- range management;
- cultural resources;
- minerals;
- fire management;
- pollution control; and
- land ownership adjustments.

Generally speaking, the federal system is based on a comprehensive and quite complex mix of policy directions that are collectively aimed at a very broad-based philosophy of resources management. In a sense, the USDA Forest Service resources management framework has evolved to where timber management directives are utilized to foster development and enhancement

of all the other forest-based resources. This conceptual framework is significantly different than those that exist for the state and county systems.

4.4.2 Federal Planning

In brief, forest management planning on the federal level is:

- legally specified;
- multilayered, complex, and time consuming; and
- driven by detailed economic and demand analyses.

It is the most complex and detailed type of natural resources planning done by public agency landowners in Minnesota. USDA Forest Service planning (and planning conducted by all federal land management agencies) is governed by a number of statutes and regulations. Planning, as conducted today, was mandated for the USDA Forest Service with the passage of the RPA in 1974. As noted in the preface of the Final EIS of the Land and Resource Management Plan for the Superior National Forest:

The 1974 RPA, as amended by the 1976 NFMA, requires the preparation of a forest plan for each national forest. The forest plan must be prepared following federal regulations in National Forest System Land and Resource Management Planning. Also required is an EIS for each forest plan.

This EIS follows procedures established by the USDA Forest Service regulations for implementing the NEPA and others by the Council on Environmental Quality (CEQ). The forest plan is a companion document to the EIS. For purposes of NEPA disclosures, the EIS and the forest plan are treated as combined documents. A Record of Decision approving the forest plan needs to be available for public review.

The RPA and NFMA formally specify the planning process, but in fact a great deal of planning was carried out before these laws were established. The Chippewa National Forest first adopted a *multiple use* forest management plan in 1938, followed soon after by the Superior National Forest. Prior to that, planning was less comprehensive and individual planning efforts concentrated on single resource issues. For instance, there might have been a timber plan, a planting plan, etc., each of which were separate stand alone planning exercises.

The RPA requires an assessment every ten years and programs every five years. NFMA requires forest plans at least every 15 years. Consequently, the USDA Forest Service planning process occurs in three stages at 5- to 15-year intervals. Key components of this process are:

- An RPA *assessment* of the natural resources situation is prepared. From this assessment, a national direction is formulated which encompasses all forest resources and all demands on those resources. This is summarized in a document called the *program*. The first assessment and program documents were completed in 1975 and 1976, respectively, the most recent in 1989 and 1990, respectively. These documents establish long-term planning policies.
- Planning then proceeds to the area or regional level. A region or subregion is one in which the national forests are similar. The Lake States Area Guide (the physical product of this level) establishes management policy for the national forests in Minnesota, Wisconsin, and Michigan.
- Each national forest prepares its own forest plan at least every 15 years which details management direction, goals, alternatives, and costs and benefits of each alternative. Each plan also includes an environmental impact statement for each alternative. The forest plan needs to provide for goods and services in an environmentally sound manner to provide the public the greatest long-term net benefits. The Superior's and Chippewa's most recent forest plans were completed in 1986.
- Detailed plans are completed for the various units within each national forest.
- A key product is the establishment of *standards and guidelines* and *desired future conditions*, which together have major impacts on plan implementation and field level practices.

4.4.3 Federal Coordination

The USDA Forest Service coordinates planning for the national forests with other public agencies largely on an informal basis. For example, other federal, state, and county agencies are sent draft planning documents for comment as a regular part of the public participation phase of the planning process. In this way, personnel from other agencies function in a role similar to any other individual or group who makes comments about and suggested revisions to the forest plan.

The USDA Forest Service is legally obligated to coordinate its planning with other agencies and states. However, it is not legally obligated to coordinate its efforts or the final adopted plans to the statewide forest plan developed by the MNDNR. In fact, other agencies are simply asked to comment during public review where their comments carry no more weight than general citizen inputs. Earlier incorporation of other public agencies' inputs prior to public review would appear to be needed to enhance the end product and stimulate more effective resources management cooperation. There are recent improvements in such coordination at the statewide level, but field level coordination is still minimal in some subject areas.

During the development of forest plans for the Superior and Chippewa national forests, for which updated plans are due in 1994–96, the regional forester delegates authority to coordinate with state agencies directly to the individual forests. The governor also designates a state representative to oversee coordination, but the field level still lacks any formal coordination mechanisms.

At the regional plan level, coordination with state agencies is more formalized. As previously stated, each state is responsible for forest planning on a statewide basis. The USDA Forest Service cooperates in this effort by providing the base data used to formulate the state plan, including Forest Survey, supply and demand projections for various forest outputs, and other information generated by the Research Branch of the USDA Forest Service. The state reciprocates by providing similar data to the USDA Forest Service. State forest resource plans also provide input data for the regional and national RPA plans. The State and Private Forestry Branch of the USDA Forest Service is responsible for coordinating federal and state planning at the federal regional plan level.

The project that generates the greatest cooperation between the USDA Forest Service and other land management agencies is the statewide forest survey. The reasons for this close cooperation are very pragmatic and include efficiency, need for data consistency, and the desire to avoid public conflicts over databases and common needs. Other agencies with vested interests frequently provide additional money or in-kind support for intensification of the survey to increase its accuracy at substate analysis levels.

4.4.4 Federal Programs

The USDA Forest Service operates a broad range of programs at various levels throughout the natural resources community. These can be categorized into three broad areas:

1. national forests;
2. research; and
3. state and private forestry.

Those directly relating to the USDA national forests are discussed here, while the research programs are reviewed in section 4.5 and NIPF assistance programs are outlined in section 4.6.2.

National Forests' Programs

Each national forest is responsible for 11 broad program areas: engineering, lands, land management planning, minerals and geology management, range management, recreation management, timber management, watershed and air management, wildlife and fisheries, public affairs, and administrative resources. The extent of each program on a national forest depends on the characteristics

of the forest. For example, range programs on eastern forests are very small or nonexistent, while those on many western forests are large. Forests near major population centers often have large recreation programs in comparison to more remote forests. The specific programs on each forest may also have different names and include groupings of subprograms under each major program. On the Chippewa and Superior national forests, seven program areas are prominent:

Recreation Program: The recreation program provides and protects facilities and natural resources to accommodate the public's needs for outdoor recreation, emphasizing opportunities for experiencing nature. Recreation management is directed also toward maintaining, repairing, and restoring the existing facilities necessary to meet these demands.

Engineering Program: The engineering program constructs, maintains and improves roads, recreation facilities, utilities, dams, trails, land line locations, buildings, and other physical structures to meet national forest program needs.

Fire Program: The purposes of the fire program are twofold: first, to carry out prescribed burning as needed to meet silvicultural needs; and second, to protect national forest lands and adjacent state and private lands covered by reciprocal agreement from wildfire. The USDA Forest Service fire program is strongly oriented toward fire suppression on national forest system lands despite the existence of reciprocal agreements. State fire forces are more directly concerned with suppression on private lands. Protection from wildfire can include education and training activities, presuppression, fuels management, actual suppression activities, and rehabilitation of burned areas. Firefighting in Minnesota is a strongly cooperative effort between all public land agencies. Activities are coordinated through various committees and the Minnesota Interagency Fire Control Center. The acres burned on the national forests are usually quite small, and predominately caused by humans.

Timber Program: The timber program is intended to produce in perpetuity continuous flows of timber harvests while ensuring protection of environmental values and other land uses. The timber program is very complex and contains several subprograms. Resource inventory is literally an inventory of forest stands—their ages, species composition, productivity, nearness to water, location, importance for wildlife, etc. Timber resource inventory planning and silvicultural examination develop necessary base information for the orderly management of the timber resource. Sales preparation involves the layout and marking of a harvest area, drafting of contracts, auction procedures, etc. Harvest administration assures that timber is cut in accordance with the contract, which includes not only the price of the timber and when it must be paid but also such things as specifications for road construction, cutting methods to be employed, and penalties for adverse environmental impacts caused by negligence. Reforestation and stand improvement is aimed at obtaining adequate forest land stocking and maintaining a timber productivity

level sufficient for sustained yield management.

Wildlife and Fish Program: The wildlife and fish program is intended to maintain self-sustaining healthy populations of desired nonnative and existing native vertebrate species and to improve the habitat productivity for those species highly desired by the public, such as deer, elk, wild turkey, trout, bass, and salmon. In addition, the USDA Forest Service has special responsibilities to identify and adjust management to ensure the perpetuation of threatened and endangered species of plants and animals. Like the fire program, the wildlife and fish program is highly cooperative, especially with the MNDNR, which regulates the harvesting of all game species in Minnesota, regardless of location.

Land Management Program: Supervision and management of a wide range of activities is carried out within the land management program. On the Chippewa and Superior national forests, this program is actually a multitude of relatively small scale activities. Included are such things as rights-of-way management, land exchange and acquisition, special use permits, water monitoring, mineral permits, and grazing permits.

Human Resources Program: The human resources program administers programs in work, training and education for the underemployed, unemployed, elderly, young, and others with special needs. On the national forests of Minnesota, these programs are of two types: employment for target clientele and volunteer programs such as the Youth Conservation Corps, the Senior Community Service Employment Program, and the programs for College Work Study and Cooperative Employment and Training Act (CETA).

4.4.5

Public Participation in Federal-level Forest Resource Planning

Informal public participation in federal forest management and planning is similar to that for other public owners. Organizations and individuals communicate their views to individual land managers or USDA Forest Service offices. They may form coalitions to more effectively influence USDA Forest Service officials to act on their issue of concern. This type of public participation is often local in nature, but can expand and impact management on a state, regional, or national level. The Monongahela and

Bitterroot controversies are the best known examples, but the USDA Forest Service history contains many instances of such expansions from local issues.

Formal federal public participation activities are legally defined and prescribed in detail. They are extremely pervasive, making it very difficult for a federal agency to escape public scrutiny or appeal through administrative process or legal means. As a consequence, the USDA Forest Service planning efforts can become difficult and protracted as the interested members of the public fully exercise their rights to participate in the process.

Of all the public forest management agencies in Minnesota, the USDA Forest Service is probably the most acutely aware of the possible consequences of *not* being responsive. One only has to log the long list of court cases the USDA Forest Service has faced in the past decade as a consequence of both dissatisfaction with outcomes as well as perceived poor public participation inputs. There are many legal remedies available to individuals or organizations who feel their concerns are not being addressed by USDA Forest Service management or planning activities.

The national forests have attempted a process more akin to a representative model on the Lolo and Kootenai national forests in Montana. Initiated in response to numerous appeals to the forest plans, the "Accords" process, which attempts to reach mutual agreement on key issues and assumptions in advance of the actual plan development, has been more successful in resolving (or at least minimizing) conflict.

The Planning Process

The form and level of public participation in planning is clearly outlined in the RPA and therefore it is legally binding. Public participation in the planning process is concentrated in the first step of the process (identification of issues, concerns, and opportunities) and in the period leading up to plan approval. This public participation occurs at all three levels of USDA Forest Service planning (national, regional, and forest). The following describes public participation activities on individual forests.

Public participation on individual forests begins with a *notice of intent to prepare an EIS for the forest plan*, published in the Federal Register. This starts the scoping process which identifies the primary issues and concerns the EIS will address. National forests generally send similar notices to other governmental agencies, organizations, and individuals that have shown an interest in USDA Forest Service operations.

Following notice, the USDA Forest Service asks interested parties to comment on a preliminary list of issues and concerns, which the USDA Forest Service develops internally, and/or to add issues or concerns the public participants would like to see addressed. After reviewing these comments, the USDA

Forest Service establishes the final list of issues and concerns. Justification for the selection of these final issues is carefully documented as it relates to the comments received.

No further public participation occurs until a draft EIS and proposed Forest Plan are developed. Once the drafts are completed, public participation resumes.

Public participation in national forest planning then moves forward with a notice of availability of the Draft EIS and proposed Plan published in the Federal Register. Individuals and groups on the USDA Forest Service mailing list and any other interested parties that request copies are then sent the drafts and solicited for comments. The comment period lasts approximately three months and includes several meetings organized by the USDA Forest Service. These meetings are used to assist people in interpreting the documents and to receive comments orally. The public is also encouraged to submit comments in writing to the USDA Forest Service.

At the close of the comment period, the USDA Forest Service modifies the drafts and publishes a final EIS and proposed Plan. The modifications can be minor or major, technical or general. For example, two changes made to the Chippewa National Forest Plan were the inclusions of intermediate harvests in the younger age classes of long-lived conifers and changes in the significance of some issues and concerns identified during scoping.

These final drafts must then be approved at the regional level. This is done through issuance of a Record of Decision. This decision is subject to appeal by any organization or individual. The appeal notice needs to be in writing and submitted to the regional forester with a statement of reasons to support the appeal and any request for oral presentation, within 45 days from the date of the decision.

The chief of the USDA Forest Service is responsible for a decision on the appeals. Rather than arbitrarily making a decision, an appeal usually starts another round of informal bargaining and negotiation between the USDA Forest Service and the appellants. This negotiation represents an attempt to settle out of court since the next step in the appeal process for those still dissatisfied with the outcome (the decision of the chief the USDA Forest Service) is to take legal action the USDA Forest Service in federal court.

The appeal process described above occurs on Forest Plan and EIS details. These details are often not site-specific at this stage. Final decisions on site-specific projects are made as the Plan is implemented. The public participation and appeal process as described above also applies to site-specific activities as implementation proceeds. This process can also result in court action. One additional key step before implementation is found in the Opportunity Area Analysis, which is governed by both the Plan and NEPA, which has a major

impact on field level implementation decisions.

The Courts

Following this lengthy public participation process, parties still dissatisfied with USDA Forest Service activities have the option of suing the USDA Forest Service in federal court. The appellants must have *standing to sue* which means: a *case or controversy* exists; they have suffered personal *injury in fact, economic or otherwise*; and the interest sought to be protected or regulated will have court standing. Administrative action is also open to judicial review, as specified in the Administrative Procedures Act of 1967. Standing to sue is broadly and liberally interpreted in the United States, and few cases involving suits against the USDA Forest Service have been dismissed due to lack of standing.

The basis of these suits vary depending on which federal regulation the challenge is being brought under. The most common bases are:

- The USDA Forest Service acted in an arbitrary and capricious manner (i.e., did not properly consider all available information) which is not allowed under the NEPA;
- The USDA Forest Service violated one or more of the detailed procedural requirements in (usually) the NFMA or the RPA; and
- The USDA Forest Service did not act when they should have, as specified in NEPA, in undertaking an environmental assessment or drafting an EIS for some specific project.

A court judgement in favor of the USDA Forest Service can be appealed to higher courts. A judgement against the USDA Forest Service can result in certain parts of planning process being redone, even back to the very beginning in an extreme case. A suit brought concerning a management practice or site-specific project can result in modification or restriction of those practices or projects. Recent court decisions on spotted owl habitat management are examples of this type.

4.4.6

Federal System Overall Assessment

Here again, although not specifically identified as a FSD issue, this brief overall assessment is provided to help focus on key future considerations. The USDA Forest Service system for natural resources decisionmaking is extremely diverse and complex. The system is based on a myriad of federal legislation and numerous federal agencies' regulations and guidelines, as well as the USDA Forest Service's own voluminous standards, regulations, and guidelines. Thus the USDA Forest Service is faced with a very difficult task in natural resources decisionmaking. This has been enormously compounded by the scope of the *open process* since the inception of the NFMA in the 1970s.

With 12 percent of Minnesota's timberland (17 percent of forest land) concentrated into two large blocks (the Superior and Chippewa national forests), the USDA Forest Service can have substantial influence on how Minnesota's forest resources are managed. The following points are important considerations:

- nationally, the USDA Forest Service is well staffed with many technically sound specialists who cover most resources;
- the agency is usually funded to meet its basic goals;
- the agency's complex nationwide organizational nature and processes have at times raised perceptions of slowed and/or confused decisionmaking on both its own lands and those of other landholders; and
- to the degree that the above point is accurate, without improving its processes, resources management decisionmaking in Minnesota may be slowed over the long-term.

Overall, the USDA Forest Service has good resources, quality management, and a broad enough set of responsibilities to truly effect comprehensive multiple use management. The key problems appear to be that:

- *perceived* past focus toward timber production may adversely affect the agencies' credibility with some audiences;
- the agency has at times appeared to vacillate between addressing state and local interests versus federal interests;
- the RPA and NFMA do not appear to have worked as conceived in all their aspects; they are based on good intentions, but the public review and legal processes have sometimes made the agency appear indecisive;
- the USDA Forest Service's resources management decisions have at times been made in courts of law or in public forums; which
- have appeared to limit the agencies' authority to fulfill its responsibilities.

4.5 Research Programs

Although not aimed at any specific ownership class in Minnesota, the long-standing availability of formal research programs have had a material impact on the state's resources management framework and practice. There is a long history of cooperative agreements between the USDA Forest Service North Central Forest Experiment Station (NCFES) and the UofM College of Natural Resources. The Natural Resources Research Institute (NRRI) is the newest of the research organizations and linkages are less well developed. Also important is the research done by the MNDNR Division of Fish and Wildlife. That research addresses various population management questions of an applied nature. Additionally, scientists from all five organizations have professional linkages to the Minnesota Section of the Society of American Foresters, the Wildlife Society, the Upper Mississippi Valley Section of the Forest Products

Research Society, and various technical specialty groups.

4.5.1

College of Natural Resources

The UofM's College of Natural Resources houses the departments of Forest Resources, Forest Products, and Fisheries and Wildlife. The college and these units are in turn part of the UofM Agricultural Experiment Station (MAES). The Department of Forest Resources is primarily concerned with basic and applied research directed at meeting the needs of forest land management. Subject matter encompasses forest biology, ecology, genetics, silviculture, protection, water resources, recreation, management, economics, policy, and resource assessment and analysis. The Department of Forest Products focuses on basic and applied research on utilization from the standpoint of primary and secondary manufacturing. Emphasis is on the areas of structural design with wood, composite products, paper and fiber science and technology, biotechnology, wood preservation, recycling, wood chemistry, energy conservation, and more efficient uses of wood. The Department of Fisheries and Wildlife focuses on basic and applied research central to the management of fisheries and wildlife and their habitats. Emphasis germane to forests is on forest-wildlife interactions, maintenance of wildlife biodiversity, and ecosystem analysis.

These departments also have several faculty members with joint appointments in the UofM's Minnesota Extension Service (MES). These extension faculty members conduct applied research and convey research-based knowledge to the individuals, industry, public agencies, and interest groups in Minnesota through programs and continuing education. These departments also draw on faculty talent from other university units.

Direction for the research program comes from many sources, including priorities established through the USDA Cooperative State Research Service and the MAES. The college also derives a portion of its research and extension direction from the 1982 MFRMA. Funding is provided by state and federal appropriation and a wide variety of grants and contracts.

4.5.2

Natural Resources Research Institute

The NRRI was established in 1983 at the UofM-Duluth to assist in efforts to bolster Minnesota's economy through commercial development of natural resources in an environmentally acceptable manner. Organizationally, NRRI consists of the Center for Applied Research and Technology Development (CARTD), the Center for Economic Development (CED), and the Center for Water and Environment (CWE). NRRI provides technical and business assistance to economic development efforts, emphasizing applied research and

development technology intended to assist informed decisionmaking. In CARTD, a major emphasis is directed towards forest products research, development and technology transfer on value-added composite and solid wood products. In CWE emphasis is placed on ecosystem management and climate change influences on the productivity and diversity of northern ecosystems.

The NRRI is funded by state appropriation and various federal and state granting agencies, Minnesota Technology, Inc., foundations, and industry. Overall direction is provided by the NRRI Advisory Board, and the direction of forestry research is provided by internal committees which seek input from various groups.

4.5.3

USDA Forest Service, North Central Forest Experiment Station

The NCFES conducts research in forestry and related fields through a seven-state area in the north central United States. It is also responsible for FIA in an eleven-state area. This includes the seven-state North Central area and the states of Kansas, Nebraska, South Dakota, and North Dakota. The station has nineteen research projects at nine forestry sciences laboratories throughout the region. Research encompasses forest silviculture and ecology, forest modeling, biotechnology, genetics, forest regeneration processes, landscape ecology, forest economics, resource evaluation, research evaluation, urban and high-use recreation, forest engineering, wood utilization, fire, insects and disease, water quality, and wildlife and fish habitat management.

About 100 of the support staff are located in Minnesota. The station takes its direction from the RPA of 1974, the NFMA of 1976, the Forest and Rangeland Renewable Resources Research Act of 1978, and other federal policies as administered through the USDA. The NCFES has its main offices on the UofM St. Paul Campus. The station also maintains a Forestry Science Laboratory in Grand Rapids, Minnesota, and fourteen experimental forests and watersheds, five of which are located in Minnesota.

4.5.4

Research System Overall Assessment

Though not specifically addressed as a FSD-scoped issue, the material in this section is offered to help focus on key future considerations. The combined efforts of federal and state research programs have provided important scientific understanding and technical information support to forest management in Minnesota. In doing so, it is acknowledged that researchers and extension or technology staff draw extensively on research conducted elsewhere in the U.S. and beyond. The following points are important considerations:

- the above research and extension or technology transfer units have access

to substantial scientific talent and have been responsive to state needs given available personnel and financial resources;

- forestry research funding is not commensurate with the value of Minnesota's forests. Staffing levels to date have resulted in important contributions, but substantial information gaps remain. Further, these efforts will not be adequate to address the complex social and ecological questions the state will face as demand continues to increase for the many benefits the state's forests are capable of providing;
- extension and technology transfer seem to be the weakest links in this system due to very limited staffing. Investments in extension and technology transfer in forestry are considerably below that needed to deliver the products of research to forest landowners, managers, loggers, manufacturers, decisionmakers, special interest groups, and the general public. The result is limited understanding of the issues and opportunities and a large gap between practice and capability;
- forestry research programs in Minnesota appear to suffer from a lack of coordinated program planning and implementation. This can limit the research community's ability to focus limited resources on implementation that recognizes the strengths of the various research agencies. The result can materialize as unnecessary duplication of effort; and
- funding for state-based forestry research and extension programs is not always well articulated in the agency budgets and not necessarily well linked to forest management. Given current research program structures, it is not clear how the research needs articulated by the GEIS will be addressed with commensurate funding.

4.6

NIPF Landowner Considerations

Public policies directed toward NIPF landowners emphasize getting their acres into a managed state. What the landowner chooses to manage for is less important. The propensity of NIPF landowners to manage land and harvest timber is affected by many factors, including owner objectives, the size of the land holding, current and expected return on investments, tax policies, availability of public assistance, and statewide regulation. In fact, numerous state and national studies have documented that nontimber resource values/goals tend to motivate NIPF landowners, not timber production. However, some NIPF landowners are interested in timber production, and when contacted directly by forestry professionals, participate in initial and intermediate management activities, such as the Tree Farm and Forest Stewardship programs.

For the NIPF landowners, only a few public policies affect the framework in which this group approaches resources management. These include compliance with federal wetland regulations and shoreland management regulations in counties where they have been adopted and public tax policies.

4.6.1 Tax Policies

Tax policies which impact NIPF land include property and income tax policies. Property taxes in Minnesota which apply to privately owned timberland are of two types: ad valorem and tree growth.

Under the ad valorem tax system, the property's market value, its property classification, and the local tax rate are the bases for taxation. The county assessor determines an estimated market value and a property classification. Of the various classifications used, timberland is usually placed in one of four categories.

An alternative to the ad valorem tax system is the Minnesota tree growth tax system where property taxes are based on the value of annual timber growth on the property. Individual counties have the option whether or not to adopt this law. To date, approximately 90 percent of land enrolled under the Minnesota Tree Growth Tax Law is in forest products industry ownership.

The requirement that enrolled lands be open for public use appears to be a significant deterrent to NIPF landowners.

Income and inheritance tax policies which impact NIPF owners are much more complicated and can have major impacts on a landowner's attitude toward land management. One anecdote that has merit here is that the average rotation age for NIPF landowners who cut trees is approximately equal to the time period between the reading of two wills—implying that the levying of inheritance taxes can have significant influence on management decisions.

4.6.2 NIPF Assistance Programs

Public programs to assist NIPF owners have existed in Minnesota since the 1940s. The creation of public programs to assist NIPF owners began on the federal level in the USDA Forest Service and the Agricultural Stabilization and Conservation Service (ASCS). Private forest lands were widely acknowledged to be critical components of the forest resource base and also the least likely to be professionally and efficiently managed for timber or other products. Concerns about future timber shortages and loss of productive agricultural land due to wind and water erosion prompted the creation of the earliest programs. In the early 1970s, program expansions occurred as the result of concern for water quality, ecological aspects of the forest environment, and excess farm production.

NIPF assistance programs are of two general and mutually reinforcing types: those providing technical assistance and those providing financial assistance. Many forestry assistance programs have, at one time or another, been quite

controversial, but the financial assistance programs generally draw the most attention. Except for short, select periods of time or specific programs, to increase or even maintain NIPF program funding nationally has been notoriously difficult. This is especially true for programs aimed at increasing timber supply. In Minnesota, state funding for assistance programs has contributed to program consistency when federal program funding has fluctuated.

The following are examples of current NIPF programs available that are aimed at improving the level of management on NIPF lands. These programs often target owners whose objectives are not solely timber production, but recognize other nontimber values such as wildlife production or recreational opportunities. Management, however, is important from a productivity and environmental protection perspective.

Forestry Incentives Program (FIP): The FIP is a cost-share and technical assistance program intended to encourage an increase in future timber harvests from NIPF lands. It was created in 1973 (P.L. 93-86, [4]) and is funded through the State and Private Forestry branch of the USDA Forest Service. The Minnesota FIP utilizes state general fund monies for practices not cost-shared through the federal FIP. The funds are distributed through soil and water conservation districts.

Agricultural Conservation Program (ACP): The ACP is a cost-share program intended to encourage the planting of plantations and the improvement of existing stands on NIPF lands. Established by the Soil Conservation and Domestic Allotment Act of 1936, ACP is the oldest cost-share program for NIPF owners. Funding for this program comes from the ASCS in the U.S. Department of Agriculture.

Conservation Reserve Program (CRP): The CRP is a voluntary land retirement program that assists the agricultural economy by converting farmland to forest land. The program retires marginal farmland for ten years. The program also helps reduce soil erosion, enhance wildlife habitat, improve water quality, and increase timber production. The CRP was created in the Farm Bill of 1985 and is administered through the ASCS. Technical assistance is provided for tree or shrub planting on areas larger than two acres and for the development of conservation plans.

Stewardship Technical Assistance: This component of the stewardship initiative provides technical assistance to NIPF owners. Focus is on working one-on-one with landowners in the development of a woodland stewardship plan for the landowner. These plans blend professional standards for management with landowner objectives and include considerable educational material.

Stewardship Incentives Program (SIP): This component of the stewardship initiative is a cost-share program intended to assist NIPF owners in implementing their woodland stewardship plan. SIP provides funds for activities intended to enhance wildlife habitat, intensify management for timber production, control erosion, etc.

America the Beautiful: This is the most recent NIPF program discussed here, having started in 1989. Program goals include enhancing existing natural and recreational resources and addressing the buildup of atmospheric carbon dioxide by planting trees. Funding for this program is provided by the USDA Forest Service through the SIP and urban cost-share programs. Cost-share assistance is available for tree planting and forest improvement. Funds can also be used to strengthen a variety of activities such as education and technical assistance. This program is unique because it has a community or urban component. Under this component, the program encourages the solicitation of private, public, and corporate funds to assist with the costs of urban tree planting.

Reinvest in Minnesota (RIM): The state sponsored RIM program has many components designed to protect soil and water resources in the state and to improve wildlife habitat. Only part of the money is used to assist NIPF owners. RIM was created in 1986 and receives its funding through the sale of State General Obligation bonds. Funds are for wetland restoration, purchase of easements, land retirement, wildlife habitat improvement, critical habitat, etc. Although improved management for timber is not its primary goal, much of the work done under the program does improve management for other primary purposes. One component of RIM important to NIPF owners is the Forest Wildlife Habitat Improvement Program which funds certain wildlife practices not normally cost-shared by traditional programs such as ACP, FIP, and FIP.

In addition to these public programs, the Minnesota Tree Farm Program and industry-led private forest management programs are also important to NIPF landowners. The Tree Farm Program currently has nearly 2,800 members covering almost a million acres of timberland. The private forest management programs serve 1,500 landowners who manage approximately 150,000 acres statewide.

4.6.3 NIPF Landowners Overall Assessment

In brief, the NIPF resources management framework is directly affected by the availability of a broad array of public assistance programs. These programs are aimed at providing incentives to manage these forest lands in a way that ensures the public interest. The alternative to these programs is to employ zoning and other forms of guidelines (voluntary BMPs) or regulations (mandatory BMPs and/or a forest practices act). The voluntary BMPs mechanism currently exists

in Minnesota, along with various other regulations and guidelines.

The implications of the NIPF landowner group, with nearly 45 percent of Minnesota's timberland (more than twice the MNDNR holdings), being basically unregulated are considerable. For example, as long as they *collectively* follow-up sound, voluntary BMPs, their implied policy direction will be good and constructive for Minnesota. However, should the opposite occur, then the impacts of timber harvesting and forest management to be documented in sections 5 to 7 of this study would be significantly more severe.

In Minnesota, it is ironic that of the three largest landowners, the smallest (USDA Forest Service) is the most legislated and regulated and the largest (NIPF) is the least. This imbalance may not be a problem in the future, but it certainly should be cause for concern and review. However, the generally positive level of compliance with still new BMPs concepts and the very modest extension and other education efforts employed so far suggest a high level of forestry practice can be achieved and maintained at modest cost through various educational programs.

4.7

Native American Forest Lands Background

Forest land on reservations is considered private forest land because it is owned by Native Americans and held in trust by the United States. Forest land on reservations is managed cooperatively by the USDI Bureau of Indian Affairs (BIA) and the Native American owners. Native Americans have exercised an increasing amount of responsibility over the management of their forest land.

The role of the BIA in timber management on Native American lands held in trust has changed during the past several decades. One major force has been a trend toward more self-determination for Native American tribes. Self-determination gained acceptance in matters of federal Native American policy during the late 1960s and early 1970s. The objective of the policy was to increase and strengthen the Native Americans' morale, individualism, and tribal government by supporting tribal assumption of reservation services and programs, including forestry-related programs. The concept of self-determination was written into federal policy in the Indian Self-Determination and Education Act of 1975 wherein Congress made important policy statements regarding Native Americans. These statements laid a strong foundation for the successful implementation of the concept of *self-determination*.

The Indian Self-Determination and Education Act of 1975 contains provisions important to forest management on Native American lands, including giving tribal governments authority to contract directly with the USDI for services that the tribes desired. The rationale for this was that as tribal contracts increased,

the BIA's contracting role would decrease. Nonetheless, the secretary of the interior has retained the right to decline to enter into any contract if the tribal organization is deficient in certain resources and would not be able to perform the service (P.L. 93-638, sec. 102 (a)). The authority of the secretary of the interior to contract directly with tribes for forest management activities was explicitly addressed in P.L. 101-630 where:

"The Secretary shall undertake forest land management activities on Indian forest land, either directly or through contracts, cooperative agreements, or grants under the Indian Self-Determination Act..." (P.L. 101-630, sec. 305 (a)).

The secretary of the interior has other management objectives that specifically relate to forestry. The objectives are also described in Public Law 101-630. Among the objectives are:

"...the development, maintenance, and enhancement of Indian forest land in a perpetually productive state in accordance with the principles of sustained yield and with the standards and objectives set forth in forest management plans by providing effective management and protection through the application of sound silvicultural and economic principles..." (P.L. 101-630, sec. 305 (b) (1)).

"...the regulation of Indian forest lands through the development and implementation, with the full and active consultation and participation of the appropriate Indian tribe, of forest management plans which are supported by written tribal objectives and forest marketing programs." (P.L. 101-630, sec. 305 (b) (2)).

"...the retention of Indian forest land in its natural state when an Indian tribe determines that the recreational, cultural, aesthetic, or traditional values of the Indian forest land represents the highest and best use of the land." (P.L. 101-630, sec. 305 (b) (5)).

While the level of direct BIA involvement varies from reservation to reservation in Minnesota, tribes must approve timber sales from their lands. At the same time, because the BIA manages land held in trust by the United States government, the tribes that contract must meet the same standards as the BIA. For instance, these standards include hiring professional foresters and accepting silvicultural prescriptions. Further, the BIA must approve all actions on the lands held in trust.

Although there is sometimes still significant BIA involvement for standards aimed at hiring professional foresters and accepting sound silvicultural prescriptions, Native American lands are now managed in a manner more similar to NIPF lands than those of the USDA Forest Service.

Another area affecting the Native American's resource decisionmaking is the myriad of state, county and federal programs that are directed at their own land bases. Examples are programs directed at forest roads, timber management, land administration, cooperative county forest management, wildfire protection and management, pest management, wildlife management, recreation management, and public affairs. These provide opportunities, but also add complexity to planning and management.

4.8

Summary and Implications

Natural resources management decisionmaking in Minnesota is based on a wide range of policies, programs, regulations, planning, coordination, and public participation. The primary parties involved are:

- the counties;
- the state, mainly through the MNDNR;
- the federal government, mainly through the USDA Forest Service;
- the forest industry landowners; and
- the NIPF group.

These four groups embody almost all of the decisionmaking mechanisms that influence the direction of natural resources management in Minnesota.

Some key considerations that can impact the status of forest land management are as follows:

- Minnesota has a substantial forest resource base today;
- the complexity of the decisionmaking mechanisms and their perceived overlapping nature, both organizationally and functionally, can create the potential for duplicative and inefficient resource program delivery; and
- the decisionmaking process seems to have grown inherently more complex in the past decade—the state could experience escalating difficulties in the statewide resources management decisionmaking area over time.

Some important considerations for more effective management of the state's forest resource base may lie in the following areas:

- common visions and goals for the statewide forest resources and related issues do not seem to exist;
- the NIPF forest lands could be more effectively managed, particularly with respect to goals, objectives, base investments, commitment to using expert advice, and commitment to voluntary BMPs. At present, on-the-ground timber harvesting and forest management standards and practices are highly variable;
- the potential difficulty of the USDA Forest Service to fully implement RPA/NFMA, which can lead to a significant amount of decisionmaking being made from outside the agency that in turn diminishes the agency's authority; and
- the state appears to have a complex set of overlapping mechanisms for resource decisionmaking and organizing support of management, which can interfere with the evolution of common visions and goals for statewide forest resources and related issues.

This last point could be the most critical in the long-run. Minnesota's forest resources need to function in a coordinated manner to optimize benefits to society. To the degree that the USDA Forest Service, the NIPF group, the counties, the MNDNR, and other interested parties, such as the forest products industry, conservation groups, the tourism and resort industry, etc., cannot go forward under well-articulated and common visions and goals, guidelines, and directions, the state's forest resources run the risk of inadequately providing for the values and services needed by society.